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A Closed-Loop Optimal Neural-Network Controller to Optimise Rotorcraft Aeromechanical Behaviour Volume 2: Output from Two Sample Cases

Jane Anne Leyland

March 2001

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Appendix D

Listing of the INPUT and OUTPUT for Sample Case 1

Test Data from the BO-105 IBC Test Programme

Control Variable (Scalar): Two-per-rev Phase Angle

State Variable (Scalar): Scalar Vibration Metric

Appendix D

```
$CDATA
!
!
!
!  *****   Start of Case  1  Input Data   *****
!
!
!
!  *****   Input Group 2:   Overall Trajectory (Excluding Learning and
!                           Control Trajectories) Propagation Parameters   ***
!
 NL2     =        1,        1,
 TINIT   =        0.000,             TFINL   =       92.000,
!
 TBLMAX       =       93,
!
 TTBL(1)      =    0.000,   TTBL(2)      =    1.000,   TTBL(3)      =    2.000,
 TTBL(4)      =    3.000,   TTBL(5)      =    4.000,   TTBL(6)      =    5.000,
 TTBL(7)      =    6.000,   TTBL(8)      =    7.000,   TTBL(9)      =    8.000,
 TTBL(10)     =    9.000,   TTBL(11)     =   10.000,   TTBL(12)     =   11.000,
 TTBL(13)     =   12.000,
!
 TTBL(14)     =   13.000,   TTBL(15)     =   14.000,   TTBL(16)     =   15.000,
 TTBL(17)     =   16.000,   TTBL(18)     =   17.000,   TTBL(19)     =   18.000,
 TTBL(20)     =   19.000,   TTBL(21)     =   20.000,   TTBL(22)     =   21.000,
 TTBL(23)     =   22.000,   TTBL(24)     =   23.000,   TTBL(25)     =   24.000,
 TTBL(26)     =   25.000,
!
 TTBL(27)     =   26.000,   TTBL(28)     =   27.000,   TTBL(29)     =   28.000,
 TTBL(30)     =   29.000,   TTBL(31)     =   30.000,   TTBL(32)     =   31.000,
 TTBL(33)     =   32.000,   TTBL(34)     =   33.000,   TTBL(35)     =   34.000,
 TTBL(36)     =   35.000,   TTBL(37)     =   36.000,   TTBL(38)     =   37.000,
 TTBL(39)     =   38.000,
!
 TTBL(40)     =   39.000,   TTBL(41)     =   40.000,   TTBL(42)     =   41.000,
 TTBL(43)     =   42.000,   TTBL(44)     =   43.000,   TTBL(45)     =   44.000,
 TTBL(46)     =   45.000,   TTBL(47)     =   46.000,   TTBL(48)     =   47.000,
 TTBL(49)     =   48.000,   TTBL(50)     =   49.000,   TTBL(51)     =   50.000,
 TTBL(52)     =   51.000,
!
 TTBL(53)     =   52.000,   TTBL(54)     =   53.000,   TTBL(55)     =   54.000,
 TTBL(56)     =   55.000,   TTBL(57)     =   56.000,   TTBL(58)     =   57.000,
 TTBL(59)     =   58.000,   TTBL(60)     =   59.000,   TTBL(61)     =   60.000,
 TTBL(62)     =   61.000,   TTBL(63)     =   62.000,   TTBL(64)     =   63.000,
 TTBL(65)     =   64.000,
!
 TTBL(66)     =   65.000,   TTBL(67)     =   66.000,   TTBL(68)     =   67.000,
 TTBL(69)     =   68.000,   TTBL(70)     =   69.000,   TTBL(71)     =   70.000,
 TTBL(72)     =   71.000,   TTBL(73)     =   72.000,   TTBL(74)     =   73.000,
 TTBL(75)     =   74.000,   TTBL(76)     =   75.000,   TTBL(77)     =   76.000,
 TTBL(78)     =   77.000,   TTBL(79)     =   78.000,   TTBL(80)     =   79.000,
 TTBL(81)     =   80.000,   TTBL(82)     =   81.000,   TTBL(83)     =   82.000,
 TTBL(84)     =   83.000,   TTBL(85)     =   84.000,   TTBL(86)     =   85.000,
 TTBL(87)     =   86.000,   TTBL(88)     =   87.000,   TTBL(89)     =   88.000,
 TTBL(90)     =   89.000,   TTBL(91)     =   90.000,   TTBL(92)     =   91.000,
 TTBL(93)     =   92.000,
!
!
 XTBL(1,1)    =    0.000,   XTBL(1,2)    =   30.000,   XTBL(1,3)    =   60.000,
 XTBL(1,4)    =   90.000,   XTBL(1,5)    =  120.000,   XTBL(1,6)    =  150.000,
 XTBL(1,7)    =  180.000,   XTBL(1,8)    =  210.000,   XTBL(1,9)    =  240.000,
 XTBL(1,10)   =  270.000,   XTBL(1,11)   =  300.000,   XTBL(1,12)   =  330.000,
 XTBL(1,13)   =  360.000,
!
 XTBL(1,14)   =    0.000,   XTBL(1,15)   =   30.000,   XTBL(1,16)   =   60.000,
 XTBL(1,17)   =   90.000,   XTBL(1,18)   =  120.000,   XTBL(1,19)   =  150.000,
 XTBL(1,20)   =  180.000,   XTBL(1,21)   =  210.000,   XTBL(1,22)   =  240.000,
 XTBL(1,23)   =  270.000,   XTBL(1,24)   =  300.000,   XTBL(1,25)   =  330.000,
 XTBL(1,26)   =  360.000,
```

```
!
 XTBL(1,27)  =    0.000,   XTBL(1,28)  =   30.000,   XTBL(1,29)  =   60.000,
 XTBL(1,30)  =   90.000,   XTBL(1,31)  =  120.000,   XTBL(1,32)  =  150.000,
 XTBL(1,33)  =  180.000,   XTBL(1,34)  =  210.000,   XTBL(1,35)  =  240.000,
 XTBL(1,36)  =  270.000,   XTBL(1,37)  =  300.000,   XTBL(1,38)  =  330.000,
 XTBL(1,39)  =  360.000,
!
 XTBL(1,40)  =    0.000,   XTBL(1,41)  =   30.000,   XTBL(1,42)  =   60.000,
 XTBL(1,43)  =   90.000,   XTBL(1,44)  =  120.000,   XTBL(1,45)  =  150.000,
 XTBL(1,46)  =  180.000,   XTBL(1,47)  =  210.000,   XTBL(1,48)  =  240.000,
 XTBL(1,49)  =  270.000,   XTBL(1,50)  =  300.000,   XTBL(1,51)  =  330.000,
 XTBL(1,52)  =  360.000,
!
 XTBL(1,53)  =    0.000,   XTBL(1,54)  =   30.000,   XTBL(1,55)  =   60.000,
 XTBL(1,56)  =   90.000,   XTBL(1,57)  =  120.000,   XTBL(1,58)  =  150.000,
 XTBL(1,59)  =  180.000,   XTBL(1,60)  =  210.000,   XTBL(1,61)  =  240.000,
 XTBL(1,62)  =  270.000,   XTBL(1,63)  =  300.000,   XTBL(1,64)  =  330.000,
 XTBL(1,65)  =  360.000,
!
 XTBL(1,66)  =    0.000,   XTBL(1,67)  =   15.000,   XTBL(1,68)  =   30.000,
 XTBL(1,69)  =   45.000,   XTBL(1,70)  =   60.000,   XTBL(1,71)  =   75.000,
 XTBL(1,72)  =   90.000,   XTBL(1,73)  =  105.000,   XTBL(1,74)  =  120.000,
 XTBL(1,75)  =  135.000,   XTBL(1,76)  =  150.000,   XTBL(1,77)  =  165.000,
 XTBL(1,78)  =  180.000,   XTBL(1,79)  =  195.000,   XTBL(1,80)  =  210.000,
 XTBL(1,81)  =  225.000,   XTBL(1,82)  =  240.000,   XTBL(1,83)  =  255.000,
 XTBL(1,84)  =  270.000,   XTBL(1,85)  =  285.000,   XTBL(1,86)  =  300.000,
 XTBL(1,87)  =  315.000,   XTBL(1,88)  =  330.000,   XTBL(1,89)  =  345.000,
 XTBL(1,90)  =  360.000,   XTBL(1,91)  =    0.000,   XTBL(1,92)  =   15.000,
 XTBL(1,93)  =   30.000,
!
!
 YTBL(1,1)   =  1130.94,   YTBL(1,2)   =  1209.76,   YTBL(1,3)   =  1131.23,
 YTBL(1,4)   =   990.52,   YTBL(1,5)   =   794.12,   YTBL(1,6)   =   596.51,
 YTBL(1,7)   =   454.53,   YTBL(1,8)   =   546.45,   YTBL(1,9)   =   211.01,
 YTBL(1,10)  =   224.45,   YTBL(1,11)  =   341.66,   YTBL(1,12)  =   607.38,
 YTBL(1,13)  =  1130.94,
!
 YTBL(1,14)  =  1130.94,   YTBL(1,15)  =  1209.76,   YTBL(1,16)  =  1131.23,
 YTBL(1,17)  =   990.52,   YTBL(1,18)  =   794.12,   YTBL(1,19)  =   596.51,
 YTBL(1,20)  =   454.53,   YTBL(1,21)  =   546.45,   YTBL(1,22)  =   211.01,
 YTBL(1,23)  =   224.45,   YTBL(1,24)  =   341.66,   YTBL(1,25)  =   607.38,
 YTBL(1,26)  =  1130.94,
!
 YTBL(1,27)  =  1130.94,   YTBL(1,28)  =  1209.76,   YTBL(1,29)  =  1131.23,
 YTBL(1,30)  =   990.52,   YTBL(1,31)  =   794.12,   YTBL(1,32)  =   596.51,
 YTBL(1,33)  =   454.53,   YTBL(1,34)  =   546.45,   YTBL(1,35)  =   211.01,
 YTBL(1,36)  =   224.45,   YTBL(1,37)  =   341.66,   YTBL(1,38)  =   607.38,
 YTBL(1,39)  =  1130.94,
!
 YTBL(1,40)  =  1130.94,   YTBL(1,41)  =  1209.76,   YTBL(1,42)  =  1131.23,
 YTBL(1,43)  =   990.52,   YTBL(1,44)  =   794.12,   YTBL(1,45)  =   596.51,
 YTBL(1,46)  =   454.53,   YTBL(1,47)  =   546.45,   YTBL(1,48)  =   211.01,
 YTBL(1,49)  =   224.45,   YTBL(1,50)  =   341.66,   YTBL(1,51)  =   607.38,
 YTBL(1,52)  =  1130.94,
!
 YTBL(1,53)  =  1130.94,   YTBL(1,54)  =  1209.76,   YTBL(1,55)  =  1131.23,
 YTBL(1,56)  =   990.52,   YTBL(1,57)  =   794.12,   YTBL(1,58)  =   596.51,
 YTBL(1,59)  =   454.53,   YTBL(1,60)  =   546.45,   YTBL(1,61)  =   211.01,
 YTBL(1,62)  =   224.45,   YTBL(1,63)  =   341.66,   YTBL(1,64)  =   607.38,
 YTBL(1,65)  =  1130.94,
!
!
!
! *****   Input Group 3:   Learning Trajectory Propagation Parameters   *****
!
 DLFREQ  =        1,
 DLLGTH  =       13,
 DLLGTH  =       65,
 LDELAY  =        0,
```

```
 NNLID   =        1,
 NNLID   =       65,
 STMODL  =        3,
 TLINIT  =        0.000,            TLFINL  =       64.000,
 TLSTEP  =        1.000,
 TLTYPE  =        0,
!
 WTSNNL(1)=       1.000,   1.000,   1.000,   1.000,   0.950,
 WTSNNL(6)=       0.900,   0.850,   0.800,   0.750,   0.700,
 WTSNNL(11)=      0.600,   0.500,   0.400,   0.400,   0.400,
!
 WTSNNL(1)=       0.900,   0.950,   1.000,   1.000,   1.000,
 WTSNNL(6)=       1.000,   0.950,   0.900,   0.800,   0.700,
 WTSNNL(11)=      0.600,   0.500,   0.400,   0.400,   0.400,
!
 WTSNNL(1)=   300*1.000,
!
!
!
!  *****   Input Group 4:   Controlled Trajectory Propagation Parameters   ***
!
 DCFREQ  =        1,
 DCLGTH  =       13,
 DCLGTH  =        1,
 CDELAY  =        0,
 CVTID   =        0,
 NNCID   =        0,
 STMODC  =        3,
 TCINIT  =       65.000,           TCFINL  =       92.000,
 TCSTEP  =        1.000,
 TCTYPE  =        0,
!
 WTSNNC(1)=       1.000,   1.000,   1.000,   1.000,   0.950,
 WTSNNC(6)=       0.900,   0.850,   0.800,   0.750,   0.700,
 WTSNNC(11)=      0.600,   0.500,   0.400,   0.400,   0.400,
!
 WTSNNC(1)=       0.900,   0.950,   1.000,   1.000,   1.000,
 WTSNNC(6)=       1.000,   0.950,   0.900,   0.800,   0.700,
 WTSNNC(11)=      0.600,   0.500,   0.400,   0.400,   0.400,
!
 WTSNNC(1)=   300*1.000,
!
!
!
!  *****   Input Group 5:   Neural Network Parameters   *****
!
 AN(1,1) =  14*0.850,     AN(1,2) =   5*0.850,     AN(1,3) =     1.000,
 BN(1,1) = 14*30.000,     BN(1,2) =   5*0.500,
 BN(1,1) = 14*15.000,     BN(1,2) =   5*0.500,
 CN(1,1) =  14*1.000,     CN(1,2) =   5*0.500,     CN(1,3) =     0.000,
!
 CW(1, 1,1) =    0.071429,
 CW(1, 2,1) =    0.071429,
 CW(1, 3,1) =    0.071429,
 CW(1, 4,1) =    0.071429,
 CW(1, 5,1) =    0.071429,
 CW(1, 6,1) =    0.071429,
 CW(1, 7,1) =    0.071429,
 CW(1, 8,1) =    0.071429,
 CW(1, 9,1) =    0.071429,
 CW(1,10,1) =    0.071429,
 CW(1,11,1) =    0.071429,
 CW(1,12,1) =    0.071429,
 CW(1,13,1) =    0.071429,
 CW(1,14,1) =    0.071429,
!
 CW( 1,1,2) =    0.014286,    0.014286,    0.014286,    0.014286,    0.014286,
 CW( 6,1,2) =    0.014286,    0.014286,    0.014286,    0.014286,    0.014286,
 CW(11,1,2) =    0.014286,    0.014286,    0.014286,    0.014286,
```

```
 CW( 1,2,2) =    0.014286,    0.014286,    0.014286,    0.014286,    0.014286,
 CW( 6,2,2) =    0.014286,    0.014286,    0.014286,    0.014286,    0.014286,
 CW(11,2,2) =    0.014286,    0.014286,    0.014286,    0.014286,
 CW( 1,3,2) =    0.014286,    0.014286,    0.014286,    0.014286,    0.014286,
 CW( 6,3,2) =    0.014286,    0.014286,    0.014286,    0.014286,    0.014286,
 CW(11,3,2) =    0.014286,    0.014286,    0.014286,    0.014286,
 CW( 1,4,2) =    0.014286,    0.014286,    0.014286,    0.014286,    0.014286,
 CW( 6,4,2) =    0.014286,    0.014286,    0.014286,    0.014286,    0.014286,
 CW(11,4,2) =    0.014286,    0.014286,    0.014286,    0.014286,
 CW( 1,5,2) =    0.014286,    0.014286,    0.014286,    0.014286,    0.014286,
 CW( 6,5,2) =    0.014286,    0.014286,    0.014286,    0.014286,    0.014286,
 CW(11,5,2) =    0.014286,    0.014286,    0.014286,    0.014286,
!
 CW( 1,1,3) =  140.000000,  140.000000,  140.000000,  140.000000,  140.000000,
!
 NFUNCT(1,1)=  14*2,      NFUNCT(1,2)=   5*2,      NFUNCT(1,3)=      1,
 NI       =        1,  14,   5,
 NJ       =            14,   5,   1,
 NK       =        3,
!
 XN0( 1,1)  =  -15.000000,   15.000000,   45.000000,   75.000000,  105.000000,
 XN0( 6,1)  =  135.000000,  165.000000,  195.000000,  225.000000,  255.000000,
 XN0(10,1)  =  285.000000,  315.000000,  345.000000,  375.000000,
 XN0( 1,2)  =    0.000000,    0.000000,    0.000000,    0.000000,    0.000000,
 XN0( 1,3)  =    0.000000,
!
 YN0( 1,1)  =    0.000000,    0.000000,    0.000000,    0.000000,    0.000000,
 YN0( 6,1)  =    0.000000,    0.000000,    0.000000,    0.000000,    0.000000,
 YN0(10,1)  =    0.000000,    0.000000,    0.000000,    0.000000,
 YN0( 1,2)  =    0.500000,    0.500000,    0.500000,    0.500000,    0.500000,
 YN0( 1,3)  =    0.000000,
!
!
!
!  *****   Input Group 7:   Neural-Net Optimisation Parameters
!                           During the Learning Trajectory       *****
!
!
!
 IJKCVL(1, 1,1) =   1,
 IJKCVL(1, 2,1) =   1,
 IJKCVL(1, 3,1) =   1,
 IJKCVL(1, 4,1) =   1,
 IJKCVL(1, 5,1) =   1,
 IJKCVL(1, 6,1) =   1,
 IJKCVL(1, 7,1) =   1,
 IJKCVL(1, 8,1) =   1,
 IJKCVL(1, 9,1) =   1,
 IJKCVL(1,10,1) =   1,
 IJKCVL(1,11,1) =   1,
 IJKCVL(1,12,1) =   1,
 IJKCVL(1,13,1) =   1,
 IJKCVL(1,14,1) =   1,
!
 IJKCVL( 1,1,2) =   1,   1,   1,   1,   1,
 IJKCVL( 6,1,2) =   1,   1,   1,   1,   1,
 IJKCVL(11,1,2) =   1,   1,   1,   1,
 IJKCVL( 1,2,2) =   1,   1,   1,   1,   1,
 IJKCVL( 6,2,2) =   1,   1,   1,   1,   1,
 IJKCVL(11,2,2) =   1,   1,   1,   1,
 IJKCVL( 1,3,2) =   1,   1,   1,   1,   1,
 IJKCVL( 6,3,2) =   1,   1,   1,   1,   1,
 IJKCVL(11,3,2) =   1,   1,   1,   1,
 IJKCVL( 1,4,2) =   1,   1,   1,   1,   1,
 IJKCVL( 6,4,2) =   1,   1,   1,   1,   1,
 IJKCVL(11,4,2) =   1,   1,   1,   1,
 IJKCVL( 1,5,2) =   1,   1,   1,   1,   1,
 IJKCVL( 6,5,2) =   1,   1,   1,   1,   1,
 IJKCVL(11,5,2) =   1,   1,   1,   1,
```

```
!
 IJKCVL( 1,1,2) =   1,   1,   1,   1,   1,
 IJKCVL( 6,1,2) =   0,   0,   0,   0,   0,
 IJKCVL(11,1,2) =   0,   0,   0,   0,
 IJKCVL( 1,2,2) =   0,   0,   1,   1,   1,
 IJKCVL( 6,2,2) =   1,   1,   0,   0,   0,
 IJKCVL(11,2,2) =   0,   0,   0,   0,
 IJKCVL( 1,3,2) =   0,   0,   0,   0,   1,
 IJKCVL( 6,3,2) =   1,   1,   1,   1,   1,
 IJKCVL(11,3,2) =   0,   0,   0,   0,
 IJKCVL( 1,4,2) =   0,   0,   0,   0,   0,
 IJKCVL( 6,4,2) =   0,   0,   1,   1,   1,
 IJKCVL(11,4,2) =   1,   1,   0,   0,
 IJKCVL( 1,5,2) =   0,   0,   0,   0,   0,
 IJKCVL( 6,5,2) =   0,   0,   0,   0,   1,
 IJKCVL(11,5,2) =   1,   1,   1,   1,
!
 IJKCVL( 1,1,3) =   1,   1,   1,   1,   1,
!
!
 SCVNNL(1, 1,1) =   1.0000,
 SCVNNL(1, 2,1) =   1.0000,
 SCVNNL(1, 3,1) =   1.0000,
 SCVNNL(1, 4,1) =   1.0000,
 SCVNNL(1, 5,1) =   1.0000,
 SCVNNL(1, 6,1) =   1.0000,
 SCVNNL(1, 7,1) =   1.0000,
 SCVNNL(1, 8,1) =   1.0000,
 SCVNNL(1, 9,1) =   1.0000,
 SCVNNL(1,10,1) =   1.0000,
 SCVNNL(1,11,1) =   1.0000,
 SCVNNL(1,12,1) =   1.0000,
 SCVNNL(1,13,1) =   1.0000,
 SCVNNL(1,14,1) =   1.0000,
!
 SCVNNL( 1,1,2) =   1.0000,   1.0000,   1.0000,   1.0000,   1.0000,
 SCVNNL( 6,1,2) =   1.0000,   1.0000,   1.0000,   1.0000,   1.0000,
 SCVNNL(11,1,2) =   1.0000,   1.0000,   1.0000,   1.0000,
 SCVNNL( 1,2,2) =   1.0000,   1.0000,   1.0000,   1.0000,   1.0000,
 SCVNNL( 6,2,2) =   1.0000,   1.0000,   1.0000,   1.0000,   1.0000,
 SCVNNL(11,2,2) =   1.0000,   1.0000,   1.0000,   1.0000,
 SCVNNL( 1,3,2) =   1.0000,   1.0000,   1.0000,   1.0000,   1.0000,
 SCVNNL( 6,3,2) =   1.0000,   1.0000,   1.0000,   1.0000,   1.0000,
 SCVNNL(11,3,2) =   1.0000,   1.0000,   1.0000,   1.0000,
 SCVNNL( 1,4,2) =   1.0000,   1.0000,   1.0000,   1.0000,   1.0000,
 SCVNNL( 6,4,2) =   1.0000,   1.0000,   1.0000,   1.0000,   1.0000,
 SCVNNL(11,4,2) =   1.0000,   1.0000,   1.0000,   1.0000,
 SCVNNL( 1,5,2) =   1.0000,   1.0000,   1.0000,   1.0000,   1.0000,
 SCVNNL( 6,5,2) =   1.0000,   1.0000,   1.0000,   1.0000,   1.0000,
 SCVNNL(11,5,2) =   1.0000,   1.0000,   1.0000,   1.0000,
!
 SCVNNL( 1,1,3) =   1.0000,   1.0000,   1.0000,   1.0000,   1.0000,
!
!
 JJECL(1)       =   1,
 WTNNL(1)       =   1.0D-6,
!
!
 AMAXNNL(1, 1,1) =   5.0D-1,
 AMAXNNL(1, 2,1) =   5.0D-1,
 AMAXNNL(1, 3,1) =   5.0D-1,
 AMAXNNL(1, 4,1) =   5.0D-1,
 AMAXNNL(1, 5,1) =   5.0D-1,
 AMAXNNL(1, 6,1) =   5.0D-1,
 AMAXNNL(1, 7,1) =   5.0D-1,
 AMAXNNL(1, 8,1) =   5.0D-1,
 AMAXNNL(1, 9,1) =   5.0D-1,
 AMAXNNL(1,10,1) =   5.0D-1,
 AMAXNNL(1,11,1) =   5.0D-1,
```

```
 AMAXNNL(1,12,1) =   5.0D-1,
 AMAXNNL(1,13,1) =   5.0D-1,
 AMAXNNL(1,14,1) =   5.0D-1,
!
 AMAXNNL( 1,1,2) =   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,
 AMAXNNL( 5,1,2) =   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,
 AMAXNNL(11,1,2) =   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,
 AMAXNNL( 1,2,2) =   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,
 AMAXNNL( 5,2,2) =   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,
 AMAXNNL(11,2,2) =   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,
 AMAXNNL( 1,3,2) =   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,
 AMAXNNL( 5,3,2) =   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,
 AMAXNNL(11,3,2) =   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,
 AMAXNNL( 1,4,2) =   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,
 AMAXNNL( 5,4,2) =   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,
 AMAXNNL(11,4,2) =   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,
 AMAXNNL( 1,5,2) =   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,
 AMAXNNL( 5,5,2) =   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,
 AMAXNNL(11,5,2) =   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,   1.0D-1,
!
 AMAXNNL( 1,1,3) =   1.0D+3,   1.0D+3,   1.0D+3,   1.0D+3,   1.0D+3,
!
!
 AMINNNL(1, 1,1) =  -5.0D-1,
 AMINNNL(1, 2,1) =  -5.0D-1,
 AMINNNL(1, 3,1) =  -5.0D-1,
 AMINNNL(1, 4,1) =  -5.0D-1,
 AMINNNL(1, 5,1) =  -5.0D-1,
 AMINNNL(1, 6,1) =  -5.0D-1,
 AMINNNL(1, 7,1) =  -5.0D-1,
 AMINNNL(1, 8,1) =  -5.0D-1,
 AMINNNL(1, 9,1) =  -5.0D-1,
 AMINNNL(1,10,1) =  -5.0D-1,
 AMINNNL(1,11,1) =  -5.0D-1,
 AMINNNL(1,12,1) =  -5.0D-1,
 AMINNNL(1,13,1) =  -5.0D-1,
 AMINNNL(1,14,1) =  -5.0D-1,
!
 AMINNNL( 1,1,2) =  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,
 AMINNNL( 6,1,2) =  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,
 AMINNNL(11,1,2) =  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,
 AMINNNL( 1,2,2) =  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,
 AMINNNL( 6,2,2) =  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,
 AMINNNL(11,2,2) =  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,
 AMINNNL( 1,3,2) =  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,
 AMINNNL( 6,3,2) =  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,
 AMINNNL(11,3,2) =  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,
 AMINNNL( 1,4,2) =  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,
 AMINNNL( 6,4,2) =  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,
 AMINNNL(11,4,2) =  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,
 AMINNNL( 1,5,2) =  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,
 AMINNNL( 6,5,2) =  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,
 AMINNNL(11,5,2) =  -1.0D-1,  -1.0D-1,  -1.0D-1,  -1.0D-1,
!
 AMINNNL( 1,1,3) =  -1.0D+3,  -1.0D+3,  -1.0D+3,  -1.0D+3,  -1.0D+3,
!
!
 MITNNNL       =  25,
 MITNNNL       =   8,
 MITNNNL       =  50,
 MITNNNL       = 100,
 MITNNNL       = 200,
 MITNNNL       = 300,
 OUTNNL        =   3,
 OUTNNL        =   0,
 OUTNNL        =   1,
 OUTNNL        =   2,
!
!
```

```
!
!  *****   End of Case  1  Input Data   *****
!
$END
$CDATA
!
!  *****   Start of Case  2  Input Data   *****
!
 MULT   =         1,
 MULT   =         0,
!
!  *****   End of Case  2  Input Data   *****
!
$END
$CDATA
!
!  *****   Start of Case  3  Input Data   *****
!
 MULT   =         1,
 MULT   =         0,
!
!  *****   End of Case  3  Input Data   *****
!
$END
$CDATA
!
!  *****   Start of Case  4  Input Data   *****
!
 MULT   =         1,
 MULT   =         0,
!
!  *****   End of Case  4  Input Data   *****
!
$END
```

```
START RUN.

 *****   START TRAJECTORY   *****


 *****   TRAJ DEBUG POINT  = 105,     PHASE  =   1   *****

    0.00000000D+00      0.00000000D+00      0.00000000D+00


 *****   TRAJ DEBUG POINT  = 111,     PHASE  =   1   *****

    0.00000000D+00      0.00000000D+00      0.00000000D+00

    0.00000000D+00
    0.11309400D+04


 *****   TRAJ DEBUG POINT  = 200,     PHASE  =   1   *****

 *****   TRAJ DEBUG POINT  = 300,     PHASE  =   1   *****


 *****   TRAJ DEBUG POINT  = 370,     PHASE  =   1   *****

    0.00000000D+00      0.00000000D+00      0.00000000D+00

    0.00000000D+00
    0.21859014D+03


    0.00000000D+00
    0.11309400D+04


 *****   TRAJ DEBUG POINT  = 400,     PHASE  =   1   *****

 *****   TRAJ DEBUG POINT  = 500,     PHASE  =   1   *****

 *****   TRAJ DEBUG POINT  = 600,     PHASE  =   1   *****


 *****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

 *****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

 *****   PHASE  =  2      TABS  =   0.00000D+00      TREL  =   0.00000D+00
                          PINDX =   0.00000D+00

 *****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

 *****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


 *****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

    0.10000000D+01      0.10000000D+01      0.10000000D+01

    0.30000000D+02
    0.22161044D+03


    0.30000000D+02
    0.12097600D+04

    0.00000000D+00
```

```
 0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.10000D+01      TREL  =   0.10000D+01
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.20000000D+01      0.20000000D+01      0.20000000D+01

   0.60000000D+02
   0.22461600D+03


   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.20000D+01      TREL  =   0.20000D+01
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.30000000D+01      0.30000000D+01      0.30000000D+01

   0.90000000D+02
   0.22758464D+03
```

```
   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.30000D+01      TREL  =   0.30000D+01
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.40000000D+01      0.40000000D+01      0.40000000D+01

   0.12000000D+03
   0.23051459D+03


   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****
```

```
*****   PHASE  =  2       TABS  =   0.40000D+01       TREL  =   0.40000D+01
                          PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.50000000D+01      0.50000000D+01      0.50000000D+01

   0.15000000D+03
   0.23341035D+03


   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2       TABS  =   0.50000D+01       TREL  =   0.50000D+01
                          PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.60000000D+01      0.60000000D+01      0.60000000D+01

   0.18000000D+03
   0.23626032D+03


   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03
```

```
 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.60000D+01      TREL  =   0.60000D+01
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.70000000D+01      0.70000000D+01      0.70000000D+01

   0.21000000D+03
   0.23902201D+03


   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04
```

```
*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.70000D+01      TREL  =   0.70000D+01
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.80000000D+01      0.80000000D+01      0.80000000D+01

   0.24000000D+03
   0.24162641D+03


   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.80000D+01      TREL  =   0.80000D+01
```

```
                          PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.90000000D+01      0.90000000D+01      0.90000000D+01

   0.27000000D+03
   0.24400032D+03


   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.90000D+01      TREL  =   0.90000D+01
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.10000000D+02      0.10000000D+02      0.10000000D+02
```

```
 0.30000000D+03
 0.24609342D+03


 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,    NNID  = 65  *****

***** PHASE = 2      TABS =  0.10000D+02      TREL =  0.10000D+02
                     PINDX =  0.00000D+00

***** TRAJ DEBUG POINT = 200,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 300,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 370,    PHASE =  2  *****

   0.11000000D+02      0.11000000D+02      0.11000000D+02

   0.33000000D+03
   0.24789566D+03


   0.33000000D+03
   0.60738000D+03
```

```
 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,    NNID  = 65  *****

***** PHASE = 2      TABS =  0.11000D+02      TREL =  0.11000D+02
                     PINDX =  0.00000D+00

***** TRAJ DEBUG POINT = 200,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 300,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 370,    PHASE =  2  *****

  0.12000000D+02      0.12000000D+02      0.12000000D+02

  0.36000000D+03
  0.24943905D+03


  0.36000000D+03
  0.11309400D+04

  0.33000000D+03
  0.60738000D+03
```

```
 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


***** TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

***** PHASE  =  2      TABS  =   0.12000D+02      TREL  =   0.12000D+02
                      PINDX =   0.00000D+00

***** TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


***** TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.13000000D+02      0.13000000D+02      0.13000000D+02

   0.00000000D+00
   0.21859014D+03


   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
```

```
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,    NNID  = 65  *****

***** PHASE = 2      TABS =  0.13000D+02      TREL =  0.13000D+02
                     PINDX =  0.00000D+00

***** TRAJ DEBUG POINT = 200,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 300,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 370,    PHASE =  2  *****

   0.14000000D+02      0.14000000D+02      0.14000000D+02

   0.30000000D+02
   0.22161044D+03


   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04
```

```
 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,    NNID  = 65  *****

***** PHASE = 2      TABS =  0.14000D+02      TREL =  0.14000D+02
                     PINDX =  0.00000D+00

***** TRAJ DEBUG POINT = 200,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 300,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 370,    PHASE =  2  *****

   0.15000000D+02      0.15000000D+02      0.15000000D+02

   0.60000000D+02
   0.22461600D+03
```

```
 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,    NNID  = 65  *****

***** PHASE = 2      TABS =  0.15000D+02     TREL =  0.15000D+02
                     PINDX =  0.00000D+00

***** TRAJ DEBUG POINT = 200,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 300,    PHASE =  2  *****
```

```
*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.16000000D+02      0.16000000D+02      0.16000000D+02

   0.90000000D+02
   0.22758464D+03


   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****
```

```
*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.16000D+02      TREL  =   0.16000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.17000000D+02      0.17000000D+02      0.17000000D+02

   0.12000000D+03
   0.23051459D+03


   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04
```

```
   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.17000D+02      TREL  =   0.17000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.18000000D+02      0.18000000D+02      0.18000000D+02

   0.15000000D+03
   0.23341035D+03


   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03
```

```
   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.18000D+02      TREL  =   0.18000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.19000000D+02      0.19000000D+02      0.19000000D+02

   0.18000000D+03
   0.23626032D+03


   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
```

```
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,    NNID  = 65  *****

***** PHASE = 2      TABS =  0.19000D+02      TREL =  0.19000D+02
                     PINDX =  0.00000D+00

***** TRAJ DEBUG POINT = 200,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 300,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 370,    PHASE =  2  *****

   0.20000000D+02      0.20000000D+02      0.20000000D+02

   0.21000000D+03
   0.23902201D+03
```

```
 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,     PHASE =   2   *****

***** TRAJ DEBUG POINT = 500,     PHASE =   2   *****
```

```
*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.20000D+02      TREL  =   0.20000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.21000000D+02      0.21000000D+02      0.21000000D+02

   0.24000000D+03
   0.24162641D+03


   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03
```

```
 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.21000D+02      TREL  =   0.21000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.22000000D+02      0.22000000D+02      0.22000000D+02

   0.27000000D+03
   0.24400032D+03


   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
```

```
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,    NNID  = 65  *****

***** PHASE = 2      TABS =  0.22000D+02     TREL =  0.22000D+02
                     PINDX =  0.00000D+00

***** TRAJ DEBUG POINT = 200,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 300,    PHASE =  2  *****
```

```
*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.23000000D+02      0.23000000D+02      0.23000000D+02

   0.30000000D+03
   0.24609342D+03


   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03
```

```
  0.90000000D+02
  0.99052000D+03

  0.60000000D+02
  0.11312300D+04

  0.30000000D+02
  0.12097600D+04

  0.00000000D+00
  0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.23000D+02      TREL  =   0.23000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

  0.24000000D+02      0.24000000D+02      0.24000000D+02

  0.33000000D+03
  0.24789566D+03


  0.33000000D+03
  0.60738000D+03

  0.30000000D+03
  0.34166000D+03

  0.27000000D+03
  0.22445000D+03

  0.24000000D+03
  0.21101000D+03

  0.21000000D+03
  0.54645000D+03

  0.18000000D+03
  0.45453000D+03

  0.15000000D+03
  0.59651000D+03

  0.12000000D+03
  0.79412000D+03

  0.90000000D+02
  0.99052000D+03
```

```
 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,    NNID  = 65  *****

***** PHASE = 2      TABS =  0.24000D+02     TREL =  0.24000D+02
                     PINDX =  0.00000D+00

***** TRAJ DEBUG POINT = 200,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 300,    PHASE =  2  *****
```

```
*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.25000000D+02      0.25000000D+02      0.25000000D+02

   0.36000000D+03
   0.24943905D+03


   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
```

```
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.25000D+02      TREL  =   0.25000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.26000000D+02      0.26000000D+02      0.26000000D+02

   0.00000000D+00
   0.21859014D+03


   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03
```

```
 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****
```

```
*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2       TABS  =   0.26000D+02      TREL  =   0.26000D+02
                          PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.27000000D+02      0.27000000D+02      0.27000000D+02

   0.30000000D+02
   0.22161044D+03


   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03
```

```
 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


***** TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

***** PHASE  =  2      TABS  =   0.27000D+02      TREL  =   0.27000D+02
                      PINDX =   0.00000D+00

***** TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


***** TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.28000000D+02      0.28000000D+02      0.28000000D+02

   0.60000000D+02
   0.22461600D+03


   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
```

0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02

```
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.28000D+02      TREL  =   0.28000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.29000000D+02      0.29000000D+02      0.29000000D+02

   0.90000000D+02
   0.22758464D+03


   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03
```

```
 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,     PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,     PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,     PHASE =  2  *****
```

```
*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.29000D+02      TREL  =   0.29000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.30000000D+02      0.30000000D+02      0.30000000D+02

   0.12000000D+03
   0.23051459D+03


   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04
```

```
 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,    NNID  = 65  *****

***** PHASE = 2      TABS =  0.30000D+02      TREL =  0.30000D+02
                     PINDX =  0.00000D+00

***** TRAJ DEBUG POINT = 200,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 300,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 370,    PHASE =  2  *****

   0.31000000D+02      0.31000000D+02      0.31000000D+02
```

0.15000000D+03
0.23341035D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03

```
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.31000D+02      TREL  =   0.31000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.32000000D+02      0.32000000D+02      0.32000000D+02

   0.18000000D+03
   0.23626032D+03


   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03
```

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

```
   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.32000D+02      TREL  =   0.32000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.33000000D+02      0.33000000D+02      0.33000000D+02

   0.21000000D+03
   0.23902201D+03


   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04
```

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

```
   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.33000D+02      TREL  =   0.33000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.34000000D+02      0.34000000D+02      0.34000000D+02

   0.24000000D+03
   0.24162641D+03


   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
```

0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02

```
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.34000D+02      TREL  =   0.34000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.35000000D+02      0.35000000D+02      0.35000000D+02

   0.27000000D+03
   0.24400032D+03


   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04
```

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

```
   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.35000D+02      TREL  =   0.35000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.36000000D+02      0.36000000D+02      0.36000000D+02

   0.30000000D+03
   0.24609342D+03


   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04
```

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

```
   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.36000D+02      TREL  =   0.36000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.37000000D+02      0.37000000D+02      0.37000000D+02

   0.33000000D+03
   0.24789566D+03


   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
```

0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03

```
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.37000D+02      TREL  =   0.37000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.38000000D+02      0.38000000D+02      0.38000000D+02

   0.36000000D+03
   0.24943905D+03


   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03
```

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

```
   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,    NNID  = 65  *****

***** PHASE = 2      TABS =  0.38000D+02      TREL =  0.38000D+02
                     PINDX =  0.00000D+00

***** TRAJ DEBUG POINT = 200,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 300,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 370,    PHASE =  2  *****

   0.39000000D+02      0.39000000D+02      0.39000000D+02

   0.00000000D+00
   0.21859014D+03


   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03
```

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

```
   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.39000D+02      TREL  =   0.39000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.40000000D+02      0.40000000D+02      0.40000000D+02

   0.30000000D+02
   0.22161044D+03


   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
```

0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02

```
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,    NNID  = 65  *****

***** PHASE = 2      TABS =  0.40000D+02      TREL =  0.40000D+02
                    PINDX =  0.00000D+00

***** TRAJ DEBUG POINT = 200,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 300,    PHASE =  2  *****
```

```
*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.41000000D+02       0.41000000D+02       0.41000000D+02

   0.60000000D+02
   0.22461600D+03


   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03
```

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

```
*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.41000D+02      TREL  =   0.41000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.42000000D+02      0.42000000D+02      0.42000000D+02

   0.90000000D+02
   0.22758464D+03


   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03
```

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

```
   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


***** TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


***** TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

***** PHASE  =  2      TABS  =   0.42000D+02      TREL  =   0.42000D+02
                      PINDX =   0.00000D+00

***** TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


***** TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.43000000D+02      0.43000000D+02      0.43000000D+02

   0.12000000D+03
   0.23051459D+03


   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
```

0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00

```
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,    NNID  = 65  *****

***** PHASE = 2      TABS =  0.43000D+02      TREL =  0.43000D+02
                     PINDX =  0.00000D+00

***** TRAJ DEBUG POINT = 200,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 300,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 370,    PHASE =  2  *****

   0.44000000D+02      0.44000000D+02      0.44000000D+02

   0.15000000D+03
   0.23341035D+03
```

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

```
*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.44000D+02      TREL  =   0.44000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.45000000D+02      0.45000000D+02      0.45000000D+02

   0.18000000D+03
   0.23626032D+03


   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03
```

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

```
 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.45000D+02      TREL  =   0.45000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.46000000D+02      0.46000000D+02      0.46000000D+02

   0.21000000D+03
   0.23902201D+03


   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
```

0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03

0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

***** TRAJ DEBUG POINT = 400, PHASE = 2 *****

***** TRAJ DEBUG POINT = 500, PHASE = 2 *****

***** TRAJ DEBUG POINT = 600, PHASE = 2 *****

***** TRAJ DEBUG POINT = 602, PHASE = 2 *****

```
*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.46000D+02      TREL  =   0.46000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.47000000D+02      0.47000000D+02      0.47000000D+02

   0.24000000D+03
   0.24162641D+03


   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03
```

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

```
 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,     PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,     PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,     PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,     PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,     NNID  = 65  *****

***** PHASE = 2      TABS =  0.47000D+02      TREL =  0.47000D+02
                     PINDX =  0.00000D+00

***** TRAJ DEBUG POINT = 200,     PHASE =  2  *****

***** TRAJ DEBUG POINT = 300,     PHASE =  2  *****


***** TRAJ DEBUG POINT = 370,     PHASE =  2  *****

   0.48000000D+02      0.48000000D+02      0.48000000D+02

   0.27000000D+03
   0.24400032D+03


   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03
```

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

```
 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,     PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,     PHASE =  2  *****
```

```
*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.48000D+02      TREL  =   0.48000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.49000000D+02      0.49000000D+02      0.49000000D+02

   0.30000000D+03
   0.24609342D+03


   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
```

0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03

```
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.49000D+02      TREL  =   0.49000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.50000000D+02      0.50000000D+02      0.50000000D+02

   0.33000000D+03
   0.24789566D+03


   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03
```

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

```
 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.50000D+02      TREL  =   0.50000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

  0.51000000D+02      0.51000000D+02      0.51000000D+02

  0.36000000D+03
  0.24943905D+03


  0.36000000D+03
  0.11309400D+04

  0.33000000D+03
  0.60738000D+03

  0.30000000D+03
  0.34166000D+03

  0.27000000D+03
  0.22445000D+03

  0.24000000D+03
  0.21101000D+03

  0.21000000D+03
  0.54645000D+03

  0.18000000D+03
  0.45453000D+03

  0.15000000D+03
  0.59651000D+03

  0.12000000D+03
  0.79412000D+03

  0.90000000D+02
  0.99052000D+03
```

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

```
 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,    NNID  = 65  *****
```

```
*****   PHASE  =  2       TABS  =   0.51000D+02       TREL  =   0.51000D+02
                          PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.52000000D+02       0.52000000D+02       0.52000000D+02

   0.00000000D+00
   0.21859014D+03


   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
```

0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03

```
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,    NNID  = 65  *****

***** PHASE = 2      TABS =  0.52000D+02      TREL =  0.52000D+02
                     PINDX =  0.00000D+00

***** TRAJ DEBUG POINT = 200,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 300,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 370,    PHASE =  2  *****

   0.53000000D+02      0.53000000D+02      0.53000000D+02

   0.30000000D+02
   0.22161044D+03


   0.30000000D+02
   0.12097600D+04
```

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

```
 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


***** TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

***** PHASE  =  2      TABS  =   0.53000D+02      TREL  =   0.53000D+02
                      PINDX =   0.00000D+00

***** TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


***** TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.54000000D+02      0.54000000D+02      0.54000000D+02

   0.60000000D+02
   0.22461600D+03


   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03
```

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

```
   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.54000D+02      TREL  =   0.54000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.55000000D+02      0.55000000D+02      0.55000000D+02

   0.90000000D+02
   0.22758464D+03


   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
```

0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03

0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

```
*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.55000D+02      TREL  =   0.55000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

  0.56000000D+02      0.56000000D+02      0.56000000D+02

  0.12000000D+03
  0.23051459D+03


  0.12000000D+03
  0.79412000D+03

  0.90000000D+02
  0.99052000D+03

  0.60000000D+02
  0.11312300D+04

  0.30000000D+02
  0.12097600D+04

  0.00000000D+00
  0.11309400D+04

  0.36000000D+03
  0.11309400D+04

  0.33000000D+03
  0.60738000D+03

  0.30000000D+03
  0.34166000D+03

  0.27000000D+03
  0.22445000D+03

  0.24000000D+03
  0.21101000D+03

  0.21000000D+03
  0.54645000D+03

  0.18000000D+03
  0.45453000D+03

  0.15000000D+03
  0.59651000D+03

  0.12000000D+03
  0.79412000D+03
```

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

```
 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,     PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,     PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,     PHASE =  2  *****
```

```
*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.56000D+02      TREL  =   0.56000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.57000000D+02      0.57000000D+02      0.57000000D+02

   0.15000000D+03
   0.23341035D+03


   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03
```

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

```
 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,    NNID  = 65  *****
```

```
*****   PHASE  =  2      TABS  =   0.57000D+02      TREL  =   0.57000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.58000000D+02      0.58000000D+02      0.58000000D+02

   0.18000000D+03
   0.23626032D+03


   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
```

0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03

```
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 602,    NNID  = 65  *****
```

```
*****   PHASE  =  2       TABS  =   0.58000D+02       TREL  =   0.58000D+02
                          PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,      PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,      PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,      PHASE  =   2   *****

   0.59000000D+02       0.59000000D+02       0.59000000D+02

   0.21000000D+03
   0.23902201D+03


   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03
```

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

```
 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 500,    PHASE =  2  *****

***** TRAJ DEBUG POINT = 600,    PHASE =  2  *****


***** TRAJ DEBUG POINT = 602,    PHASE =  2  *****
```

```
*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.59000D+02      TREL  =   0.59000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.60000000D+02      0.60000000D+02      0.60000000D+02

   0.24000000D+03
   0.24162641D+03


   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03
```

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

```
 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04

 0.36000000D+03
 0.11309400D+04

 0.33000000D+03
 0.60738000D+03

 0.30000000D+03
 0.34166000D+03

 0.27000000D+03
 0.22445000D+03

 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT = 400,     PHASE =   2   *****

***** TRAJ DEBUG POINT = 500,     PHASE =   2   *****
```

```
*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.60000D+02      TREL  =   0.60000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.61000000D+02      0.61000000D+02      0.61000000D+02

   0.27000000D+03
   0.24400032D+03


   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
```

0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03

0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00

```
  0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.61000D+02      TREL  =   0.61000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

  0.62000000D+02      0.62000000D+02      0.62000000D+02

  0.30000000D+03
  0.24609342D+03


  0.30000000D+03
  0.34166000D+03

  0.27000000D+03
  0.22445000D+03

  0.24000000D+03
  0.21101000D+03

  0.21000000D+03
  0.54645000D+03

  0.18000000D+03
  0.45453000D+03

  0.15000000D+03
  0.59651000D+03

  0.12000000D+03
  0.79412000D+03

  0.90000000D+02
  0.99052000D+03

  0.60000000D+02
  0.11312300D+04

  0.30000000D+02
  0.12097600D+04

  0.00000000D+00
  0.11309400D+04

  0.36000000D+03
  0.11309400D+04

  0.33000000D+03
  0.60738000D+03
```

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

```
   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

*****   PHASE  =  2      TABS  =   0.62000D+02      TREL  =   0.62000D+02
                         PINDX =   0.00000D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.63000000D+02      0.63000000D+02      0.63000000D+02

   0.33000000D+03
   0.24789566D+03


   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03
```

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

```
 0.24000000D+03
 0.21101000D+03

 0.21000000D+03
 0.54645000D+03

 0.18000000D+03
 0.45453000D+03

 0.15000000D+03
 0.59651000D+03

 0.12000000D+03
 0.79412000D+03

 0.90000000D+02
 0.99052000D+03

 0.60000000D+02
 0.11312300D+04

 0.30000000D+02
 0.12097600D+04

 0.00000000D+00
 0.11309400D+04


***** TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


***** TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 602,     NNID   =  65   *****

***** PHASE  =  2      TABS  =   0.63000D+02      TREL  =   0.63000D+02
                      PINDX =   0.00000D+00

***** TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 300,     PHASE  =   3   *****


***** TRAJ DEBUG POINT  = 370,     PHASE  =   3   *****

   0.64000000D+02      0.64000000D+02      0.64000000D+02

   0.36000000D+03
   0.24943905D+03


   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
```

0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03

0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02

```
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   3   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   3   *****


-------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
-------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =  300
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
```

NA - NUMBER OF ACTIVE CONSTRAINTS
I - NUMBER OF LINE SEARCH ITERATIONS
ALPHA - STEPLENGTH PARAMETER
DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
DLAN - MAXIMUM NORM OF LAGRANGIAN GRADIENT
KT - KUHN-TUCKER OPTIMALITY CRITERION

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.23606063D+02	0.00D+00	0	0	0.00D+00	0.00D+00	0.18D+02	0.61D+02
2	0.85811128D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D+01	0.11D+01
3	0.87182036D+01	0.00D+00	0	2	0.45D+00	0.00D+00	0.24D+01	0.66D-01
4	0.86893721D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.26D+01	0.95D-02
5	0.86791534D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.24D+01	0.64D-01
6	0.85778756D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.28D+01	0.44D+00
7	0.85687721D+01	0.00D+00	0	4	0.50D-01	0.00D+00	0.15D+01	0.20D-02
8	0.85677355D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.15D+01	0.15D-02
9	0.85662120D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.15D+01	0.68D-02
10	0.85604711D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.15D+01	0.95D-02
11	0.85511326D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.15D+01	0.51D-01
12	0.85016053D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+01	0.23D+00
13	0.82889104D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.54D+00	0.57D+00
14	0.79206025D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D+00	0.29D+00
15	0.77263435D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.49D+00	0.12D+00
16	0.76183887D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.58D+00	0.22D+00
17	0.75754518D+01	0.00D+00	0	2	0.45D+00	0.00D+00	0.26D+00	0.59D-01
18	0.75239589D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.76D+00	0.85D-01
19	0.74677219D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.61D+00	0.28D+00
20	0.74601641D+01	0.00D+00	0	2	0.42D+00	0.00D+00	0.48D+00	0.66D-01
21	0.74425185D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.90D+00	0.13D+00
22	0.74272790D+01	0.00D+00	0	2	0.12D+00	0.00D+00	0.46D+00	0.48D+00
23	0.74200698D+01	0.00D+00	0	3	0.30D-01	0.00D+00	0.94D+00	0.82D-01
24	0.74092616D+01	0.00D+00	0	2	0.16D+00	0.00D+00	0.37D+00	0.21D-01
25	0.74044426D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D+00	0.91D-02
26	0.74015234D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.25D+00	0.46D-02
27	0.74005996D+01	0.00D+00	0	2	0.47D+00	0.00D+00	0.27D+00	0.24D-02
28	0.73983930D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.23D-01
29	0.73964069D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.12D+00	0.41D-02
30	0.73960496D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.13D+00	0.13D-02
31	0.73956257D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.89D-01	0.61D-03
32	0.73953658D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.46D-01	0.85D-04
33	0.73953055D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D-01	0.53D-04
34	0.73952729D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D-01	0.22D-04
35	0.73952533D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D-01	0.12D-03
36	0.73951633D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.41D-01	0.13D-03
37	0.73950640D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.20D-03
38	0.73949141D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.59D-01	0.22D-03
39	0.73947514D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.31D-03
40	0.73945240D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.55D-01	0.30D-03
41	0.73942960D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.72D-01	0.48D-03
42	0.73939302D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.81D-01	0.73D-03
43	0.73933797D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.54D-01	0.99D-03
44	0.73926114D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.81D-01	0.18D-02
45	0.73911932D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.39D-02
46	0.73880806D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.26D+00	0.90D-02
47	0.73809454D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D+00	0.16D-01
48	0.73661126D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D+00	0.82D-01
49	0.72992846D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+01	0.16D+00
50	0.63674757D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.51D+01	0.22D+01
51	0.58728819D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.53D+01	0.15D+01
52	0.55694387D+01	0.00D+00	0	2	0.47D+00	0.00D+00	0.28D+01	0.73D+00
53	0.55406507D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.33D+01	0.11D+01
54	0.53125027D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.40D+01	0.12D+01
55	0.51244790D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D+01	0.10D+01
56	0.48206834D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.75D+01	0.24D+01
57	0.42336013D+01	0.00D+00	0	2	0.43D+00	0.00D+00	0.61D+01	0.51D+00
58	0.40455681D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.67D+01	0.12D+00
59	0.39734638D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.58D+01	0.18D+00

60	0.38683815D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D+01	0.19D+00
61	0.36518994D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.47D+01	0.12D+01
62	0.35975766D+01	0.00D+00	0	3	0.65D-01	0.00D+00	0.55D+01	0.18D+00
63	0.35827392D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.60D+01	0.13D+00
64	0.35619386D+01	0.00D+00	0	2	0.37D+00	0.00D+00	0.57D+01	0.13D-01
65	0.35565304D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.60D+01	0.32D-02
66	0.35537109D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.61D+01	0.23D-01
67	0.35377145D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.59D+01	0.19D-01
68	0.35213771D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.61D+01	0.29D-01
69	0.35169005D+01	0.00D+00	0	2	0.25D+00	0.00D+00	0.62D+01	0.12D-01
70	0.35136742D+01	0.00D+00	0	2	0.49D+00	0.00D+00	0.64D+01	0.50D-02
71	0.35095308D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.65D+01	0.70D-02
72	0.35037235D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D+01	0.34D-01
73	0.34736095D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.65D+01	0.16D-01
74	0.34632005D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.69D+01	0.42D-01
75	0.34380029D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.72D+01	0.24D-01
76	0.34244339D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.68D+01	0.10D-01
77	0.34167254D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.67D+01	0.17D-01
78	0.34004301D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.72D+01	0.76D-01
79	0.33491080D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.73D+01	0.59D-01
80	0.33447075D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.77D+01	0.82D-01
81	0.33383033D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.79D+01	0.97D-01
82	0.33339074D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.74D+01	0.18D+00
83	0.33014998D+01	0.00D+00	0	2	0.26D+00	0.00D+00	0.80D+01	0.32D+00
84	0.32570988D+01	0.00D+00	0	2	0.19D+00	0.00D+00	0.69D+01	0.23D+00
85	0.32220087D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.81D+01	0.48D-02
86	0.32201486D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.77D+01	0.27D-01
87	0.32164748D+01	0.00D+00	0	2	0.19D+00	0.00D+00	0.77D+01	0.61D-01
88	0.32125339D+01	0.00D+00	0	2	0.11D+00	0.00D+00	0.74D+01	0.14D-01
89	0.32113663D+01	0.00D+00	0	2	0.11D+00	0.00D+00	0.76D+01	0.65D-02
90	0.32099559D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.78D+01	0.54D-02
91	0.32083921D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.77D+01	0.16D-02
92	0.32079659D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.77D+01	0.92D-03
93	0.32073563D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.77D+01	0.38D-03
94	0.32070590D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.78D+01	0.82D-03
95	0.32060317D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.78D+01	0.29D-02
96	0.31964980D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.74D+01	0.48D+00
97	0.30306968D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.17D+02	0.73D+01
98	0.27078492D+01	0.00D+00	0	2	0.11D+00	0.00D+00	0.11D+02	0.46D+00
99	0.23704229D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.78D+01	0.34D+00
100	0.23462097D+01	0.00D+00	0	2	0.16D+00	0.00D+00	0.91D+01	0.38D+00
101	0.22947279D+01	0.00D+00	0	2	0.17D+00	0.00D+00	0.71D+01	0.29D+00
102	0.22685028D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.68D+01	0.49D+00
103	0.22560082D+01	0.00D+00	0	3	0.36D-01	0.00D+00	0.56D+01	0.77D-01
104	0.22171304D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.51D+01	0.26D-01
105	0.22161696D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.60D+01	0.16D-01
106	0.22060690D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.60D+01	0.29D-02
107	0.22042744D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.58D+01	0.16D-02
108	0.22029649D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.59D+01	0.20D-02
109	0.22018202D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.61D+01	0.25D-03
110	0.22016398D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.61D+01	0.35D-03
111	0.22014882D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.61D+01	0.73D-03
112	0.22012562D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.60D+01	0.41D-03
113	0.22009228D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.61D+01	0.52D-03
114	0.22006605D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D+01	0.17D-05
115	0.22006597D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D+01	0.59D-06
116	0.22006591D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D+01	0.45D-05
117	0.22006555D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D+01	0.11D-04
118	0.22006465D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D+01	0.28D-04
119	0.22006238D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D+01	0.75D-04
120	0.22005633D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D+01	0.19D-03
121	0.22004063D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D+01	0.51D-03
122	0.21999956D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D+01	0.71D-03
123	0.21994612D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D+01	0.15D-02
124	0.21983899D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.65D+01	0.11D-02
125	0.21975673D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.65D+01	0.14D-02
126	0.21964780D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D+01	0.32D-02
127	0.21939551D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.62D+01	0.58D-02
128	0.21895517D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.60D+01	0.61D-02

129	0.21854782D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.60D+01	0.34D-02
130	0.21836361D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D+01	0.34D-03
131	0.21833962D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D+01	0.12D-03
132	0.21833310D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D+01	0.25D-05
133	0.21833295D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D+01	0.12D-06
134	0.21833295D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D+01	0.18D-07
135	0.21833295D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D+01	0.12D-06
136	0.21833294D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D+01	0.65D-06
137	0.21833287D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D+01	0.38D-06
138	0.21833285D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D+01	0.31D-07
139	0.21833285D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D+01	0.31D-08

* FINAL CONVERGENCE ANALYSIS

OBJECTIVE FUNCTION VALUE: F(X) = 0.21833285D+01

APPROXIMATION OF SOLUTION: X =

-0.13181350D-01	0.19061999D+00	0.13944846D+00	0.50000000D+00
-0.54702340D-01	0.69982334D-01	0.71426339D-01	0.71429000D-01
0.71429000D-01	0.71429000D-01	0.71429000D-01	0.71429000D-01
0.71429000D-01	-0.10288019D+00	0.10000000D+00	-0.10000000D+00
0.10000000D+00	0.10000000D+00	-0.10000000D+00	-0.10000000D+00
-0.83087131D-01	-0.78719934D-02	0.59793559D-01	-0.82683248D-02
0.59785160D-01	-0.10366121D-01	0.59791930D-01	0.59791930D-01
-0.99689145D-01	0.59791930D-01	-0.99689145D-01	0.19756821D+01
0.77822002D+01	0.50369782D+01	-0.99689145D-01	-0.46067490D-02
-0.99689145D-01	-0.46067490D-02	-0.46067490D-02	-0.10000000D+00
0.10000000D+04	0.10000000D+04	0.99474700D+03	0.97579001D+03
0.94103086D+03			

APPROXIMATION OF MULTIPLIERS: U =

0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.49591157D+01
0.00000000D+00	0.00000000D+00	0.49484037D+01	0.53022085D+01
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.76665807D-04
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.23139169D+01	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.39997272D-01
0.00000000D+00	0.31034586D+01	0.31817660D+01	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.10085652D-02	0.40607951D-03	0.00000000D+00
0.00000000D+00	0.00000000D+00		

DISTANCE FROM LOWER BOUND: XL-X =

-0.48681865D+00	-0.69061999D+00	-0.63944846D+00	-0.10000000D+01
-0.44529766D+00	-0.56998233D+00	-0.57142634D+00	-0.57142900D+00
-0.57142900D+00	-0.57142900D+00	-0.57142900D+00	-0.57142900D+00
-0.57142900D+00	-0.39711981D+00	-0.20000000D+00	0.00000000D+00
-0.20000000D+00	-0.20000000D+00	0.00000000D+00	0.00000000D+00
-0.16912869D-01	-0.92128007D-01	-0.15979356D+00	-0.91731675D-01
-0.15978516D+00	-0.89633879D-01	-0.15979193D+00	-0.15979193D+00
-0.31085496D-03	-0.15979193D+00	-0.31085496D-03	-0.20756821D+01
-0.78822002D+01	-0.51369782D+01	-0.31085496D-03	-0.95393251D-01
-0.31085496D-03	-0.95393251D-01	-0.95393251D-01	0.00000000D+00
-0.20000000D+04	-0.20000000D+04	-0.19947470D+04	-0.19757900D+04
-0.19410309D+04			

DISTANCE FROM UPPER BOUND: XU-X =

0.51318135D+00	0.30938001D+00	0.36055154D+00	0.00000000D+00
0.55470234D+00	0.43001767D+00	0.42857366D+00	0.42857100D+00

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      0.42857100D+00  0.42857100D+00  0.42857100D+00  0.42857100D+00
      0.42857100D+00  0.60288019D+00  0.00000000D+00  0.20000000D+00
      0.00000000D+00  0.00000000D+00  0.20000000D+00  0.20000000D+00
      0.18308713D+00  0.10787199D+00  0.40206441D-01  0.10826832D+00
      0.40214840D-01  0.11036612D+00  0.40208070D-01  0.40208070D-01
      0.19968915D+00  0.40208070D-01  0.19968915D+00  0.98024318D+02
      0.92217800D+02  0.94963022D+02  0.19968915D+00  0.10460675D+00
      0.19968915D+00  0.10460675D+00  0.10460675D+00  0.20000000D+00
      0.00000000D+00  0.00000000D+00  0.52529964D+01  0.24209994D+02
      0.58969142D+02
   NUMBER OF FUNC-CALLS:  NFUNC = 175
   NUMBER OF GRAD-CALLS:  NGRAD = 139
   NUMBER OF QL-CALLS:    NQL   = 139


***** TRAJ DEBUG POINT  = 489,     PHASE  =   3,     ICODE  =   0   *****

   0.64000000D+02      0.64000000D+02      0.64000000D+02

   0.36000000D+03
   0.70413393D+03


   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03

   0.30000000D+03
   0.34166000D+03

   0.27000000D+03
   0.22445000D+03

   0.24000000D+03
   0.21101000D+03

   0.21000000D+03
   0.54645000D+03

   0.18000000D+03
   0.45453000D+03

   0.15000000D+03
   0.59651000D+03

   0.12000000D+03
   0.79412000D+03

   0.90000000D+02
   0.99052000D+03

   0.60000000D+02
   0.11312300D+04

   0.30000000D+02
   0.12097600D+04

   0.00000000D+00
   0.11309400D+04

   0.36000000D+03
   0.11309400D+04

   0.33000000D+03
   0.60738000D+03
```

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

0.90000000D+02
0.99052000D+03

0.60000000D+02
0.11312300D+04

0.30000000D+02
0.12097600D+04

0.00000000D+00
0.11309400D+04

0.36000000D+03
0.11309400D+04

0.33000000D+03
0.60738000D+03

0.30000000D+03
0.34166000D+03

0.27000000D+03
0.22445000D+03

0.24000000D+03
0.21101000D+03

0.21000000D+03
0.54645000D+03

0.18000000D+03
0.45453000D+03

0.15000000D+03
0.59651000D+03

0.12000000D+03
0.79412000D+03

```
  0.90000000D+02
  0.99052000D+03

  0.60000000D+02
  0.11312300D+04

  0.30000000D+02
  0.12097600D+04

  0.00000000D+00
  0.11309400D+04

 -0.13181350D-01      0.19061999D+00      0.13944846D+00      0.50000000D+00
 -0.54702340D-01      0.69982334D-01      0.71426339D-01      0.71429000D-01
  0.71429000D-01      0.71429000D-01      0.71429000D-01      0.71429000D-01
  0.71429000D-01     -0.10288019D+00      0.10000000D+00     -0.10000000D+00
  0.10000000D+00      0.10000000D+00     -0.10000000D+00     -0.10000000D+00
 -0.83087131D-01     -0.78719934D-02      0.59793559D-01     -0.82683248D-02
  0.59785160D-01     -0.10366121D-01      0.59791930D-01      0.59791930D-01
 -0.99689145D-01      0.59791930D-01     -0.99689145D-01      0.19756821D+01
  0.77822002D+01      0.50369782D+01     -0.99689145D-01     -0.46067490D-02
 -0.99689145D-01     -0.46067490D-02     -0.46067490D-02     -0.10000000D+00
  0.10000000D+04      0.10000000D+04      0.99474700D+03      0.97579001D+03
  0.94103086D+03

  0.21833285D+01

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   3   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   3   *****

*****   TRAJ DEBUG POINT  = 145,     PHASE  =   5   *****

  0.65000000D+02      0.65000000D+02      0.00000000D+00

*****   TRAJ DEBUG POINT  = 161,     PHASE  =   5   *****

  0.65000000D+02      0.65000000D+02      0.00000000D+00

  0.00000000D+00
  0.10940368D+04

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   5   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   5   *****

*****   TRAJ DEBUG POINT  = 370,     PHASE  =   5   *****

  0.65000000D+02      0.65000000D+02      0.00000000D+00

  0.00000000D+00
  0.10940368D+04


  0.00000000D+00
  0.10940368D+04


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   5   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   5,     ICODE  =   0   *****
```

```
   0.65000000D+02       0.65000000D+02       0.00000000D+00

   0.00000000D+00
   0.10940368D+04


   0.00000000D+00
   0.10940368D+04



   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6       TABS  =   0.65000D+02      TREL  =   0.00000D+00
                          PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.66000000D+02       0.66000000D+02       0.10000000D+01

   0.15000000D+02
   0.10814805D+04


   0.15000000D+02
   0.10814805D+04



*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.66000000D+02       0.66000000D+02       0.10000000D+01

   0.15000000D+02
   0.10814805D+04


   0.15000000D+02
   0.10814805D+04



   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6       TABS  =   0.66000D+02      TREL  =   0.10000D+01
                          PINDX =   0.21833D+01
```

```
*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.67000000D+02      0.67000000D+02      0.20000000D+01

   0.30000000D+02
   0.10653740D+04


   0.30000000D+02
   0.10653740D+04


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.67000000D+02      0.67000000D+02      0.20000000D+01

   0.30000000D+02
   0.10653740D+04


   0.30000000D+02
   0.10653740D+04


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.67000D+02      TREL  =   0.20000D+01
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.68000000D+02      0.68000000D+02      0.30000000D+01

   0.45000000D+02
   0.10449595D+04


   0.45000000D+02
   0.10449595D+04


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****
```

```
   0.68000000D+02      0.68000000D+02      0.30000000D+01

   0.45000000D+02
   0.10449595D+04


   0.45000000D+02
   0.10449595D+04


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.68000D+02      TREL  =   0.30000D+01
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.69000000D+02      0.69000000D+02      0.40000000D+01

   0.60000000D+02
   0.10200728D+04


   0.60000000D+02
   0.10200728D+04


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.69000000D+02      0.69000000D+02      0.40000000D+01

   0.60000000D+02
   0.10200728D+04


   0.60000000D+02
   0.10200728D+04


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.69000D+02      TREL  =   0.40000D+01
                         PINDX =   0.21833D+01
```

```
*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.70000000D+02      0.70000000D+02      0.50000000D+01

   0.75000000D+02
   0.99158605D+03


   0.75000000D+02
   0.99158605D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.70000000D+02      0.70000000D+02      0.50000000D+01

   0.75000000D+02
   0.99158605D+03


   0.75000000D+02
   0.99158605D+03


   0.21833285D+01


*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.70000D+02      TREL  =   0.50000D+01
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.71000000D+02      0.71000000D+02      0.60000000D+01

   0.90000000D+02
   0.96089285D+03


   0.90000000D+02
   0.96089285D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****
```

```
   0.71000000D+02      0.71000000D+02      0.60000000D+01

   0.90000000D+02
   0.96089285D+03


   0.90000000D+02
   0.96089285D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.71000D+02      TREL  =   0.60000D+01
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.72000000D+02      0.72000000D+02      0.70000000D+01

   0.10500000D+03
   0.92704363D+03


   0.10500000D+03
   0.92704363D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.72000000D+02      0.72000000D+02      0.70000000D+01

   0.10500000D+03
   0.92704363D+03


   0.10500000D+03
   0.92704363D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.72000D+02      TREL  =   0.70000D+01
                         PINDX =   0.21833D+01
```

```
*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.73000000D+02      0.73000000D+02      0.80000000D+01

   0.12000000D+03
   0.87995493D+03


   0.12000000D+03
   0.87995493D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.73000000D+02      0.73000000D+02      0.80000000D+01

   0.12000000D+03
   0.87995493D+03


   0.12000000D+03
   0.87995493D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.73000D+02      TREL  =   0.80000D+01
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.74000000D+02      0.74000000D+02      0.90000000D+01

   0.13500000D+03
   0.79308924D+03


   0.13500000D+03
   0.79308924D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****
```

```
   0.74000000D+02      0.74000000D+02      0.90000000D+01

   0.13500000D+03
   0.79308924D+03


   0.13500000D+03
   0.79308924D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.74000D+02      TREL  =   0.90000D+01
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.75000000D+02      0.75000000D+02      0.10000000D+02

   0.15000000D+03
   0.65470412D+03


   0.15000000D+03
   0.65470412D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.75000000D+02      0.75000000D+02      0.10000000D+02

   0.15000000D+03
   0.65470412D+03


   0.15000000D+03
   0.65470412D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.75000D+02      TREL  =   0.10000D+02
                         PINDX =   0.21833D+01
```

```
*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.76000000D+02      0.76000000D+02      0.11000000D+02

   0.16500000D+03
   0.53356767D+03


   0.16500000D+03
   0.53356767D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.76000000D+02      0.76000000D+02      0.11000000D+02

   0.16500000D+03
   0.53356767D+03


   0.16500000D+03
   0.53356767D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.76000D+02      TREL  =   0.11000D+02
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.77000000D+02      0.77000000D+02      0.12000000D+02

   0.18000000D+03
   0.47690524D+03


   0.18000000D+03
   0.47690524D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****
```

```
   0.77000000D+02      0.77000000D+02      0.12000000D+02

   0.18000000D+03
   0.47690524D+03


   0.18000000D+03
   0.47690524D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.77000D+02      TREL  =   0.12000D+02
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.78000000D+02      0.78000000D+02      0.13000000D+02

   0.19500000D+03
   0.45970175D+03


   0.19500000D+03
   0.45970175D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.78000000D+02      0.78000000D+02      0.13000000D+02

   0.19500000D+03
   0.45970175D+03


   0.19500000D+03
   0.45970175D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.78000D+02      TREL  =   0.13000D+02
                         PINDX =   0.21833D+01
```

```
*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.79000000D+02      0.79000000D+02      0.14000000D+02

   0.21000000D+03
   0.45835000D+03


   0.21000000D+03
   0.45835000D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.79000000D+02      0.79000000D+02      0.14000000D+02

   0.21000000D+03
   0.45835000D+03


   0.21000000D+03
   0.45835000D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.79000D+02      TREL  =   0.14000D+02
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.80000000D+02      0.80000000D+02      0.15000000D+02

   0.22500000D+03
   0.46398673D+03


   0.22500000D+03
   0.46398673D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****
```

```
   0.80000000D+02      0.80000000D+02      0.15000000D+02

   0.22500000D+03
   0.46398673D+03


   0.22500000D+03
   0.46398673D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.80000D+02      TREL  =   0.15000D+02
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.81000000D+02      0.81000000D+02      0.16000000D+02

   0.24000000D+03
   0.47428732D+03


   0.24000000D+03
   0.47428732D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.81000000D+02      0.81000000D+02      0.16000000D+02

   0.24000000D+03
   0.47428732D+03


   0.24000000D+03
   0.47428732D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.81000D+02      TREL  =   0.16000D+02
                         PINDX =   0.21833D+01
```

```
*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.82000000D+02       0.82000000D+02       0.17000000D+02

   0.25500000D+03
   0.48907239D+03


   0.25500000D+03
   0.48907239D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.82000000D+02       0.82000000D+02       0.17000000D+02

   0.25500000D+03
   0.48907239D+03


   0.25500000D+03
   0.48907239D+03


   0.21833285D+01


*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.82000D+02      TREL  =   0.17000D+02
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.83000000D+02       0.83000000D+02       0.18000000D+02

   0.27000000D+03
   0.50873759D+03


   0.27000000D+03
   0.50873759D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****
```

```
   0.83000000D+02      0.83000000D+02      0.18000000D+02

   0.27000000D+03
   0.50873759D+03


   0.27000000D+03
   0.50873759D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.83000D+02      TREL  =   0.18000D+02
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.84000000D+02      0.84000000D+02      0.19000000D+02

   0.28500000D+03
   0.53360184D+03


   0.28500000D+03
   0.53360184D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.84000000D+02      0.84000000D+02      0.19000000D+02

   0.28500000D+03
   0.53360184D+03


   0.28500000D+03
   0.53360184D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.84000D+02      TREL  =   0.19000D+02
                         PINDX =   0.21833D+01
```

```
*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.85000000D+02      0.85000000D+02      0.20000000D+02

   0.30000000D+03
   0.56349614D+03


   0.30000000D+03
   0.56349614D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.85000000D+02      0.85000000D+02      0.20000000D+02

   0.30000000D+03
   0.56349614D+03


   0.30000000D+03
   0.56349614D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.85000D+02      TREL  =   0.20000D+02
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.86000000D+02      0.86000000D+02      0.21000000D+02

   0.31500000D+03
   0.59747961D+03


   0.31500000D+03
   0.59747961D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****
```

```
   0.86000000D+02      0.86000000D+02      0.21000000D+02

   0.31500000D+03
   0.59747961D+03


   0.31500000D+03
   0.59747961D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.86000D+02      TREL  =   0.21000D+02
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.87000000D+02      0.87000000D+02      0.22000000D+02

   0.33000000D+03
   0.63378649D+03


   0.33000000D+03
   0.63378649D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.87000000D+02      0.87000000D+02      0.22000000D+02

   0.33000000D+03
   0.63378649D+03


   0.33000000D+03
   0.63378649D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.87000D+02      TREL  =   0.22000D+02
                         PINDX =   0.21833D+01
```

```
*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.88000000D+02      0.88000000D+02      0.23000000D+02

   0.34500000D+03
   0.67010773D+03


   0.34500000D+03
   0.67010773D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.88000000D+02      0.88000000D+02      0.23000000D+02

   0.34500000D+03
   0.67010773D+03


   0.34500000D+03
   0.67010773D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.88000D+02      TREL  =   0.23000D+02
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.89000000D+02      0.89000000D+02      0.24000000D+02

   0.36000000D+03
   0.70413393D+03


   0.36000000D+03
   0.70413393D+03


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****
```

```
   0.89000000D+02      0.89000000D+02      0.24000000D+02

   0.36000000D+03
   0.70413393D+03


   0.36000000D+03
   0.70413393D+03


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.89000D+02      TREL  =   0.24000D+02
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.90000000D+02      0.90000000D+02      0.25000000D+02

   0.00000000D+00
   0.10940368D+04


   0.00000000D+00
   0.10940368D+04


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.90000000D+02      0.90000000D+02      0.25000000D+02

   0.00000000D+00
   0.10940368D+04


   0.00000000D+00
   0.10940368D+04


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.90000D+02      TREL  =   0.25000D+02
                         PINDX =   0.21833D+01
```

```
*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.91000000D+02      0.91000000D+02      0.26000000D+02

   0.15000000D+02
   0.10814805D+04


   0.15000000D+02
   0.10814805D+04


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.91000000D+02      0.91000000D+02      0.26000000D+02

   0.15000000D+02
   0.10814805D+04


   0.15000000D+02
   0.10814805D+04


   0.21833285D+01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   0   *****

*****   PHASE  =  6      TABS  =   0.91000D+02      TREL  =   0.26000D+02
                         PINDX =   0.21833D+01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   7   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   7   *****

   0.92000000D+02      0.92000000D+02      0.27000000D+02

   0.30000000D+02
   0.10653740D+04


   0.30000000D+02
   0.10653740D+04


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   7   *****

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   7,     ICODE  =   0   *****
```

```
     0.92000000D+02       0.92000000D+02       0.27000000D+02

     0.30000000D+02
     0.10653740D+04


     0.30000000D+02
     0.10653740D+04



     0.21833285D+01

  *****   NORMAL EXIT FROM OPTIMNN   *****

END of RUN.
```

Appendix E

Listing of the INPUT and OUTPUT for Sample Case 2

Synthesised Trajectory Data

Control 3-Vector:

$$\begin{bmatrix} \text{Serpentine Curve} \\ \text{Ramp Function} \\ \text{Enveloped Sinusoid} \end{bmatrix}$$

State 4-Vector:

$$\begin{bmatrix} \text{Serpentine Curve + Enveloped Sinusoid} \\ \text{Ramp Function + Serpentine Curve} \\ \text{Ramp Function + Enveloped Sinusoid} \\ \text{Enveloped Sinusoid} \end{bmatrix}$$

Appendix E

```
$CDATA
!
!  *****   Start of Case  1  Input Data   *****
!
!  *****   Input Group 2:   Overall Trajectory (Excluding Learning and
!                           Control Trajectories) Propagation Parameters   ***
!
 TINIT   =        0.000,            TFINL   =      300.000,
 TINIT   =        0.000,            TFINL   =     1000.000,
 TINIT   =        0.000,            TFINL   =       25.000,
!
!  *****   Input Group 3:   Learning Trajectory Propagation Parameters   *****
!
 DLFREQ  =        1,
 DLLGTH  =        7,
 LDELAY  =        0,
 NNLID   =        2,
 NNLID   =        1,
 TLINIT  =        0.000,            TLFINL  =      100.000,
 TLINIT  =        0.000,            TLFINL  =       20.000,
 TLSTEP  =        1.000,
 TLTYPE  =        1,
 WTSNNL(1)=       1.000,   0.910,   0.810,   0.700,   0.580,
 WTSNNL(6)=       0.460,   0.350,   0.250,   0.150,   0.100,
 WTSNNL(11)=      0.010,   0.010,   0.010,   0.010,   0.010,
 WTSNNL(1)=       0.800,   0.950,   1.000,   1.000,   0.800,
 WTSNNL(6)=       0.700,   0.450,   0.150,   0.100,   0.100,
 WTSNNL(11)=      0.010,   0.010,   0.010,   0.010,   0.010,
!
!  *****   Input Group 4:   Controlled Trajectory Propagation Parameters   ***
!
 CVTID   =        2,
 CVTID   =        1,
 DCFREQ  =        1,
 DCLGTH  =       10,
 NNCID   =        2,
 NNCID   =        1,
 TCINIT  =      100.000,            TCFINL  =      300.000,
 TCINIT  =        0.000,            TCFINL  =        5.000,
 TCSTEP  =        1.000,
 TCTYPE  =        1,
 UPDATE  =        1,
 UPDATE  =        0,
 WTSNNC(1)=       1.000,   0.910,   0.810,   0.700,   0.580,
 WTSNNC(6)=       0.460,   0.350,   0.250,   0.150,   0.100,
 WTSNNC(11)=      0.010,   0.010,   0.010,   0.010,   0.010,
 WTSNNC(1)=       0.800,   0.950,   1.000,   1.000,   0.800,
 WTSNNC(6)=       0.700,   0.450,   0.150,   0.100,   0.100,
 WTSNNC(11)=      0.010,   0.010,   0.010,   0.010,   0.010,
!
!  *****   Input Group 5:   Neural Network Parameters   *****
!
 AN(1,1) =  8*0.850,      AN(1,2) =  5*0.850,      AN(1,3) =  4*1.000,
 BN(1,1) =  8*3.000,      BN(1,2) = 5*15.000,      BN(1,3) =  4*0.500,
 CN(1,1) =  8*0.500,      CN(1,2) =  5*0.500,      CN(1,3) =  4*0.000,
 DN(1,1) = 8*-1.0D+6,     DN(1,2) = 5*-1.0D+6,     DN(1,3) = 4*-1.0D+6,
!
 CW(1,1,1)=    1.000,    1.000,    1.000,
 CW(1,2,1)=    1.000,    1.000,    1.000,
 CW(1,3,1)=    1.000,    1.000,    1.000,
 CW(1,4,1)=    1.000,    1.000,    1.000,
 CW(1,5,1)=    1.000,    1.000,    1.000,
 CW(1,6,1)=    1.000,    1.000,    1.000,
 CW(1,7,1)=    1.000,    1.000,    1.000,
 CW(1,8,1)=    1.000,    1.000,    1.000,
 CW(1,1,2)=    1.000,    1.000,    1.000,    1.000,    1.000,    1.000,
 CW(7,1,2)=    1.000,    1.000,
 CW(1,2,2)=    1.000,    1.000,    1.000,    1.000,    1.000,    1.000,
 CW(7,2,2)=    1.000,    1.000,
```

```
 CW(1,3,2)=   1.000,   1.000,   1.000,   1.000,   1.000,   1.000,
 CW(7,3,2)=   1.000,   1.000,
 CW(1,4,2)=   1.000,   1.000,   1.000,   1.000,   1.000,   1.000,
 CW(7,4,2)=   1.000,   1.000,
 CW(1,5,2)=   1.000,   1.000,   1.000,   1.000,   1.000,   1.000,
 CW(7,5,2)=   1.000,   1.000,
 CW(1,1,3)=   1.000,   1.000,   1.000,   1.000,   1.000,
 CW(1,2,3)=   1.000,   1.000,   1.000,   1.000,   1.000,
 CW(1,3,3)=   1.000,   1.000,   1.000,   1.000,   1.000,
 CW(1,4,3)=   1.000,   1.000,   1.000,   1.000,   1.000,
!
 CW(1,1,1)=   1.000,   0.000,   0.000,
 CW(1,2,1)=   1.000,   0.000,   0.000,
 CW(1,3,1)=   1.000,   1.000,   0.000,
 CW(1,4,1)=   1.000,   1.000,   1.000,
 CW(1,5,1)=   1.000,   1.000,   1.000,
 CW(1,6,1)=   0.000,   1.000,   1.000,
 CW(1,7,1)=   0.000,   0.000,   1.000,
 CW(1,8,1)=   0.000,   0.000,   1.000,
 CW(1,1,2)=   1.000,   1.000,   1.000,   0.000,   0.000,   0.000,
 CW(7,1,2)=   0.000,   0.000,
 CW(1,2,2)=   1.000,   1.000,   1.000,   1.000,   1.000,   0.000,
 CW(7,2,2)=   0.000,   0.000,
 CW(1,3,2)=   1.000,   1.000,   1.000,   1.000,   1.000,   1.000,
 CW(7,3,2)=   1.000,   1.000,
 CW(1,4,2)=   0.000,   0.000,   0.000,   1.000,   1.000,   1.000,
 CW(7,4,2)=   1.000,   1.000,
 CW(1,5,2)=   0.000,   0.000,   0.000,   0.000,   1.000,   1.000,
 CW(7,5,2)=   1.000,   1.000,
 CW(1,1,3)=   1.000,   1.000,   1.000,   1.000,   1.000,
 CW(1,2,3)=   1.000,   1.000,   1.000,   1.000,   1.000,
 CW(1,3,3)=   1.000,   1.000,   1.000,   1.000,   1.000,
 CW(1,4,3)=   1.000,   1.000,   1.000,   1.000,   1.000,
!
 NFUNCT(1,1)=   8*2,     NFUNCT(1,2)=   5*2,     NFUNCT(1,3)=   4*1,
 NI      =        3,   8,    5,
 NJ      =             8,    5,    4,
 NK      =        3,
 XN0(1,1)=  8*0.000,     XN0(1,2)=  5*0.000,     XN0(1,3)=  4*0.000,
 YN0(1,1)=  8*0.500,     YN0(1,2)=  5*0.500,     YN0(1,3)=  4*0.000,
!
!  ------------------------------------------------------------------------
!  *****   Input Group 6:   Analytic Trajectory Synthesis Parameters   *****
!  ------------------------------------------------------------------------
!
!  *****                    Plant Input Vector   *****
!
 NL2(1)  =        3,
 NL3(1,1)     =   1,
 IFUNCT(1,1,1)=   2,
 A(1,1,1)     =   0.700,          B(1,1,1)     =   2.000,
 X0(1,1,1)    =   0.000,          Y0(1,1,1)    =   0.000,
 PHASE(1,1,1) =   4.000,          PERIOD(1,1,1)=   8.000,
!
!  ------------------------------------------------------------------------
 NL3(2,1)     =   1,
 IFUNCT(1,2,1)=   1,
 A(1,2,1)     =   0.000,          B(1,2,1)     =   0.000,
 C(1,2,1)     =   2.000,          D(1,2,1)     =   0.500,
 X0(1,2,1)    =   0.000,          Y0(1,2,1)    =   0.000,
 PHASE(1,2,1) =   2.000,          PERIOD(1,2,1)=   4.000,
!
!  ------------------------------------------------------------------------
 NL3(3,1)=        1,
 IFUNCT(1,3,1)=   5,
 A(1,3,1)     =   0.000,          B(1,3,1)     =   0.500,
 C(1,3,1)     =   0.250,          D(1,3,1)     =  -1.0D+6,
 ALPHA(1,3,1) =   0.000,          PSI(1,3,1)   =   0.000,
 NN(1,3,1)    =   2.0D+8,         PHI(1,3,1)   =   0.500,
```

```
OMEGA(1,3,1) =   1.000,
X0(1,3,1)    =   0.000,          Y0(1,3,1)     =   0.000,
PHASE(1,3,1) =   0.000,          PERIOD(1,3,1)=   2.0D+6,
!
!  ------------------------------------------------------------------------
!  *****                  Plant Output Vector   *****
!  ------------------------------------------------------------------------
!
 NL2(2)  =        4,
 NL3(1,2)=        2,
 IFUNCT(1,1,2)=   2,
 A(1,1,2)     =   0.700,          B(1,1,2)      =   2.500,
 X0(1,1,2)    =   0.000,          Y0(1,1,2)     =   0.250,
 PHASE(1,1,2) =   5.000,          PERIOD(1,1,2)=   8.000,
!
 IFUNCT(2,1,2)=   5,
 A(2,1,2)     =   2.000,          B(2,1,2)      =   0.0625,
 C(2,1,2)     =   0.125,          D(2,1,2)      =  -1.0D+6,
 ALPHA(2,1,2) =   1.000,          PSI(2,1,2)    =   0.000,
 NN(2,1,2)    =   2.0D+8,         PHI(2,1,2)    =   0.250,
 OMEGA(2,1,2) =   1.000,
 X0(2,1,2)    =   0.000,          Y0(2,1,2)     =   0.000,
 PHASE(2,1,2) =   0.000,          PERIOD(2,1,2)=   5.000,
!
!  ------------------------------------------------------------------------
 NL3(2,2)=        2,
 IFUNCT(1,2,2)=   1,
 A(1,2,2)     =   0.000,          B(1,2,2)      =   0.000,
 C(1,2,2)     =   2.000,          D(1,2,2)      =   0.125,
 X0(1,2,2)    =   0.000,          Y0(1,2,2)     =   0.0625,
 PHASE(1,2,2) =   1.000,          PERIOD(1,2,2)=   4.000,
!
 IFUNCT(2,2,2)=   2,
 A(2,2,2)     =   0.700,          B(2,2,2)      =   1.000,
 X0(2,2,2)    =   0.000,          Y0(2,2,2)     =   0.125,
 PHASE(2,2,2) =   6.000,          PERIOD(2,2,2)=   8.000,
!
!  ------------------------------------------------------------------------
 NL3(3,2)=        2,
 IFUNCT(1,3,2)=   1,
 A(1,3,2)     =   0.000,          B(1,3,2)      =   0.000,
 C(1,3,2)     =   2.000,          D(1,3,2)      =   0.750,
 X0(1,3,2)    =   1.000,          Y0(1,3,2)     =   0.125,
 PHASE(1,3,2) =   2.000,          PERIOD(1,3,2)=   4.000,
!
 IFUNCT(2,3,2)=   5,
 A(2,3,2)     =   2.000,          B(2,3,2)      =   0.080,
 C(2,3,2)     =   0.0625,         D(2,3,2)      =  -1.0D+6,
 ALPHA(2,3,2) =   1.000,          PSI(2,3,2)    =   0.000,
 NN(2,3,2)    =   2.0D+8,         PHI(2,3,2)    =   0.000,
 OMEGA(2,3,2) =   1.000,
 X0(2,3,2)    =   0.000,          Y0(2,3,2)     =   0.000,
 PHASE(2,3,2) =   0.000,          PERIOD(2,3,2)=   5.000,
!
!  ------------------------------------------------------------------------
 NL3(4,2)=        1,
 IFUNCT(1,4,2)=   5,
 A(1,4,2)     =   2.000,          B(1,4,2)      =   0.040,
 C(1,4,2)     =   0.0625,         D(1,4,2)      =  -1.0D+6,
 ALPHA(1,4,2) =   1.000,          PSI(1,4,2)    =   0.000,
 NN(1,4,2)    =   2.0D+8,         PHI(1,4,2)    =   0.000,
 OMEGA(1,4,2) =   1.000,
 X0(1,4,2)    =   0.000,          Y0(1,4,2)     =   0.000,
 PHASE(1,4,2) =   0.000,          PERIOD(1,4,2)=   5.000,
!  ------------------------------------------------------------------------
!
!  *****   Input Group 7:   Neural-Net Optimisation Parameters
!                           During the Learning Trajectory       *****
!
```

```
 IJKCVL(1,1,1)=   1,   1,   1,
 IJKCVL(1,2,1)=   1,   1,   1,
 IJKCVL(1,3,1)=   1,   1,   1,
 IJKCVL(1,4,1)=   1,   1,   1,
 IJKCVL(1,5,1)=   1,   1,   1,
 IJKCVL(1,6,1)=   1,   1,   1,
 IJKCVL(1,7,1)=   1,   1,   1,
 IJKCVL(1,8,1)=   1,   1,   1,
 IJKCVL(1,1,2)=   1,   1,   1,   1,   1,   1,   1,   1,
 IJKCVL(1,2,2)=   1,   1,   1,   1,   1,   1,   1,   1,
 IJKCVL(1,3,2)=   1,   1,   1,   1,   1,   1,   1,   1,
 IJKCVL(1,4,2)=   1,   1,   1,   1,   1,   1,   1,   1,
 IJKCVL(1,5,2)=   1,   1,   1,   1,   1,   1,   1,   1,
 IJKCVL(1,1,3)=   1,   1,   1,   1,   1,
 IJKCVL(1,2,3)=   1,   1,   1,   1,   1,
 IJKCVL(1,3,3)=   1,   1,   1,   1,   1,
 IJKCVL(1,4,3)=   1,   1,   1,   1,   1,
!
 IJKCVL(1,1,1)=   1,   0,   0,
 IJKCVL(1,2,1)=   1,   0,   0,
 IJKCVL(1,3,1)=   1,   1,   0,
 IJKCVL(1,4,1)=   1,   1,   1,
 IJKCVL(1,5,1)=   1,   1,   1,
 IJKCVL(1,6,1)=   0,   1,   1,
 IJKCVL(1,7,1)=   0,   0,   1,
 IJKCVL(1,8,1)=   0,   0,   1,
 IJKCVL(1,1,2)=   1,   1,   1,   0,   0,   0,   0,   0,
 IJKCVL(1,2,2)=   1,   1,   1,   1,   1,   0,   0,   0,
 IJKCVL(1,3,2)=   1,   1,   1,   1,   1,   1,   1,   1,
 IJKCVL(1,4,2)=   0,   0,   0,   1,   1,   1,   1,   1,
 IJKCVL(1,5,2)=   0,   0,   0,   0,   1,   1,   1,   1,
 IJKCVL(1,1,3)=   1,   1,   1,   1,   1,
 IJKCVL(1,2,3)=   1,   1,   1,   1,   1,
 IJKCVL(1,3,3)=   1,   1,   1,   1,   1,
 IJKCVL(1,4,3)=   1,   1,   1,   1,   1,
!
 SCVNNL(1,1,1)=   1.000,     1.000,     1.000,
 SCVNNL(1,2,1)=   1.000,     1.000,     1.000,
 SCVNNL(1,3,1)=   1.000,     1.000,     1.000,
 SCVNNL(1,4,1)=   1.000,     1.000,     1.000,
 SCVNNL(1,5,1)=   1.000,     1.000,     1.000,
 SCVNNL(1,6,1)=   1.000,     1.000,     1.000,
 SCVNNL(1,7,1)=   1.000,     1.000,     1.000,
 SCVNNL(1,8,1)=   1.000,     1.000,     1.000,
 SCVNNL(1,1,2)=   1.000,     1.000,     1.000,     1.000,
 SCVNNL(5,1,2)=   1.000,     1.000,     1.000,     1.000,
 SCVNNL(1,2,2)=   1.000,     1.000,     1.000,     1.000,
 SCVNNL(5,2,2)=   1.000,     1.000,     1.000,     1.000,
 SCVNNL(1,3,2)=   1.000,     1.000,     1.000,     1.000,
 SCVNNL(5,3,2)=   1.000,     1.000,     1.000,     1.000,
 SCVNNL(1,4,2)=   1.000,     1.000,     1.000,     1.000,
 SCVNNL(5,4,2)=   1.000,     1.000,     1.000,     1.000,
 SCVNNL(1,5,2)=   1.000,     1.000,     1.000,     1.000,
 SCVNNL(5,5,2)=   1.000,     1.000,     1.000,     1.000,
 SCVNNL(1,1,3)=   1.000,     1.000,     1.000,     1.000,     1.000,
 SCVNNL(1,2,3)=   1.000,     1.000,     1.000,     1.000,     1.000,
 SCVNNL(1,3,3)=   1.000,     1.000,     1.000,     1.000,     1.000,
 SCVNNL(1,4,3)=   1.000,     1.000,     1.000,     1.000,     1.000,
 JJECL(1)     =   1,   1,   1,   1,
 WTNNL(1)     =   1.000,     1.000,     1.000,     1.000,
 AMAXNNL(1,1,1)=  5.0D+0,    5.0D+0,    5.0D+0,
 AMAXNNL(1,2,1)=  5.0D+0,    5.0D+0,    5.0D+0,
 AMAXNNL(1,3,1)=  5.0D+0,    5.0D+0,    5.0D+0,
 AMAXNNL(1,4,1)=  5.0D+0,    5.0D+0,    5.0D+0,
 AMAXNNL(1,5,1)=  5.0D+0,    5.0D+0,    5.0D+0,
 AMAXNNL(1,6,1)=  5.0D+0,    5.0D+0,    5.0D+0,
 AMAXNNL(1,7,1)=  5.0D+0,    5.0D+0,    5.0D+0,
 AMAXNNL(1,8,1)=  5.0D+0,    5.0D+0,    5.0D+0,
 AMAXNNL(1,1,2)=  5.0D+0,    5.0D+0,    5.0D+0,    5.0D+0,
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AMAXNNL(5,1,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNL(1,2,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNL(5,2,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNL(1,3,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNL(5,3,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNL(1,4,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNL(5,4,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNL(1,5,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNL(5,5,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNL(1,1,3)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNL(1,2,3)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNL(1,3,3)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNL(1,4,3)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMINNNL(1,1,1)= -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(1,2,1)= -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(1,3,1)= -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(1,4,1)= -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(1,5,1)= -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(1,6,1)= -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(1,7,1)= -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(1,8,1)= -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(1,1,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(5,1,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(1,2,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(5,2,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(1,3,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(5,3,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(1,4,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(5,4,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(1,5,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(5,5,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(1,1,3)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(1,2,3)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(1,3,3)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNL(1,4,3)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
MITNNNL       =  25,
MITNNNL       =   8,
MITNNNL       = 100,
MITNNNL       =  50,
OUTNNL        =   3,
OUTNNL        =   0,
OUTNNL        =   1,
OUTNNL        =   2,
!
!  *****   Input Group 8:   Neural-Net Optimisation Parameters
!                           During the Controlled Trajectory       *****
!
 IJKCVC(1,1,1)=   1,   1,   1,
 IJKCVC(1,2,1)=   1,   1,   1,
 IJKCVC(1,3,1)=   1,   1,   1,
 IJKCVC(1,4,1)=   1,   1,   1,
 IJKCVC(1,5,1)=   1,   1,   1,
 IJKCVC(1,6,1)=   1,   1,   1,
 IJKCVC(1,7,1)=   1,   1,   1,
 IJKCVC(1,8,1)=   1,   1,   1,
 IJKCVC(1,1,2)=   1,   1,   1,   1,   1,   1,   1,   1,   1,
 IJKCVC(1,2,2)=   1,   1,   1,   1,   1,   1,   1,   1,   1,
 IJKCVC(1,3,2)=   1,   1,   1,   1,   1,   1,   1,   1,   1,
 IJKCVC(1,4,2)=   1,   1,   1,   1,   1,   1,   1,   1,   1,
 IJKCVC(1,5,2)=   1,   1,   1,   1,   1,   1,   1,   1,   1,
 IJKCVC(1,1,3)=   1,   1,   1,   1,   1,
 IJKCVC(1,2,3)=   1,   1,   1,   1,   1,
 IJKCVC(1,3,3)=   1,   1,   1,   1,   1,
 IJKCVC(1,4,3)=   1,   1,   1,   1,   1,
!
 IJKCVC(1,1,1)=   1,   0,   0,
 IJKCVC(1,2,1)=   1,   0,   0,
 IJKCVC(1,3,1)=   1,   1,   0,
 IJKCVC(1,4,1)=   1,   1,   1,
```

```
IJKCVC(1,5,1)=   1,   1,   1,
IJKCVC(1,6,1)=   0,   1,   1,
IJKCVC(1,7,1)=   0,   0,   1,
IJKCVC(1,8,1)=   0,   0,   1,
IJKCVC(1,1,2)=   1,   1,   1,   0,   0,   0,   0,   0,
IJKCVC(1,2,2)=   1,   1,   1,   1,   1,   0,   0,   0,
IJKCVC(1,3,2)=   1,   1,   1,   1,   1,   1,   1,   1,
IJKCVC(1,4,2)=   0,   0,   0,   1,   1,   1,   1,   1,
IJKCVC(1,5,2)=   0,   0,   0,   0,   1,   1,   1,   1,
IJKCVC(1,1,3)=   1,   1,   1,   1,   1,
IJKCVC(1,2,3)=   1,   1,   1,   1,   1,
IJKCVC(1,3,3)=   1,   1,   1,   1,   1,
IJKCVC(1,4,3)=   1,   1,   1,   1,   1,
!
SCVNNC(1,1,1)=   1.000,    1.000,    1.000,
SCVNNC(1,2,1)=   1.000,    1.000,    1.000,
SCVNNC(1,3,1)=   1.000,    1.000,    1.000,
SCVNNC(1,4,1)=   1.000,    1.000,    1.000,
SCVNNC(1,5,1)=   1.000,    1.000,    1.000,
SCVNNC(1,6,1)=   1.000,    1.000,    1.000,
SCVNNC(1,7,1)=   1.000,    1.000,    1.000,
SCVNNC(1,8,1)=   1.000,    1.000,    1.000,
SCVNNC(1,1,2)=   1.000,    1.000,    1.000,    1.000,
SCVNNC(5,1,2)=   1.000,    1.000,    1.000,    1.000,
SCVNNC(1,2,2)=   1.000,    1.000,    1.000,    1.000,
SCVNNC(5,2,2)=   1.000,    1.000,    1.000,    1.000,
SCVNNC(1,3,2)=   1.000,    1.000,    1.000,    1.000,
SCVNNC(5,3,2)=   1.000,    1.000,    1.000,    1.000,
SCVNNC(1,4,2)=   1.000,    1.000,    1.000,    1.000,
SCVNNC(5,4,2)=   1.000,    1.000,    1.000,    1.000,
SCVNNC(1,5,2)=   1.000,    1.000,    1.000,    1.000,
SCVNNC(5,5,2)=   1.000,    1.000,    1.000,    1.000,
SCVNNC(1,1,3)=   1.000,    1.000,    1.000,    1.000,    1.000,
SCVNNC(1,2,3)=   1.000,    1.000,    1.000,    1.000,    1.000,
SCVNNC(1,3,3)=   1.000,    1.000,    1.000,    1.000,    1.000,
SCVNNC(1,4,3)=   1.000,    1.000,    1.000,    1.000,    1.000,
JJECC(1)     =   1,   1,   1,   1,
WINNC(1)     =   1.000,    1.000,    1.000,    1.000,
AMAXNNC(1,1,1)=  5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(1,2,1)=  5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(1,3,1)=  5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(1,4,1)=  5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(1,5,1)=  5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(1,6,1)=  5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(1,7,1)=  5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(1,8,1)=  5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(1,1,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(5,1,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(1,2,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(5,2,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(1,3,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(5,3,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(1,4,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(5,4,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(1,5,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(5,5,2)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(1,1,3)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(1,2,3)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(1,3,3)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMAXNNC(1,4,3)=  5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,   5.0D+0,
AMINNNC(1,1,1)= -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNC(1,2,1)= -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNC(1,3,1)= -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNC(1,4,1)= -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNC(1,5,1)= -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNC(1,6,1)= -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNC(1,7,1)= -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNC(1,8,1)= -5.0D+0,  -5.0D+0,  -5.0D+0,
AMINNNC(1,1,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
```

```
 AMINNNC(5,1,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
 AMINNNC(1,2,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
 AMINNNC(5,2,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
 AMINNNC(1,3,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
 AMINNNC(5,3,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
 AMINNNC(1,4,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
 AMINNNC(5,4,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
 AMINNNC(1,5,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
 AMINNNC(5,5,2)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
 AMINNNC(1,1,3)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
 AMINNNC(1,2,3)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
 AMINNNC(1,3,3)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
 AMINNNC(1,4,3)= -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,  -5.0D+0,
 MITNNNC       =  25,
 MITNNNC       =   8,
 MITNNNC       = 100,
 MITNNNC       =  50,
 OUTNNC        =   3,
 OUTNNC        =   0,
 OUTNNC        =   1,
 OUTNNC        =   2,
!
!  *****   Input Group 9:   Control Optimisation Parameters
!                           During the Controlled Trajectory       *****
!
 ICV(1)        =   1,   1,   1,
 SCVC(1)       =   1.000,    1.000,    1.000,
 JEC(1)        =   1,   1,   1,   1,
 WTC(1)        =   1.000,    1.000,    1.000,    1.000,
 AMAXC(1)      =  5.0D+0,   5.0D+0,   5.0D+0,
 AMINC(1)      = -5.0D+0,  -5.0D+0,  -5.0D+0,
 MITNC         =  25,
 MITNC         =   8,
 MITNC         = 100,
 MITNC         =  50,
 OUTC          =   3,
 OUTC          =   0,
 OUTC          =   1,
 OUTC          =   2,
 MULT   =          1,
 MULT   =          0,
!
!  *****   End of Case  1  Input Data   *****
!
$END
$CDATA
!
!  *****   Start of Case  2  Input Data   *****
!
 MULT   =          1,
 MULT   =          0,
!
!  *****   End of Case  2  Input Data   *****
!
$END
$CDATA
!
!  *****   Start of Case  3  Input Data   *****
!
 MULT   =          1,
 MULT   =          0,
!
!  *****   End of Case  3  Input Data   *****
!
$END
$CDATA
!
!  *****   Start of Case  4  Input Data   *****
!
```

```
 MULT    =          1,
 MULT    =          0,
!
!  *****    End of Case  4  Input Data    *****
!
$END
```

```
START RUN.

 *****   START TRAJECTORY   *****


 *****   TRAJ DEBUG POINT  = 105,     PHASE  =   1   *****

   0.00000000D+00      0.00000000D+00      0.00000000D+00


 *****   TRAJ DEBUG POINT  = 111,     PHASE  =   1   *****

   0.00000000D+00      0.00000000D+00      0.00000000D+00

  -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
  -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01


 *****   TRAJ DEBUG POINT  = 200,     PHASE  =   1   *****

 *****   TRAJ DEBUG POINT  = 300,     PHASE  =   1   *****


 *****   TRAJ DEBUG POINT  = 370,     PHASE  =   1   *****

   0.00000000D+00      0.00000000D+00      0.00000000D+00

  -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
   0.28854403D+01      0.28854403D+01      0.28854403D+01      0.28854403D+01


  -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
  -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01


 *****   TRAJ DEBUG POINT  = 400,     PHASE  =   1   *****

 *****   TRAJ DEBUG POINT  = 412,     PHASE  =   1   *****



------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
     DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
     KT    - KUHN-TUCKER OPTIMALITY CRITERION
```

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.32848025D+02	0.00D+00	0	0	0.00D+00	0.00D+00	0.39D+01	0.18D+03
2	0.55755369D-01	0.00D+00	0	2	0.39D+00	0.00D+00	0.15D+00	0.11D+00
3	0.36695739D-03	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D-01	0.18D-02
4	0.13363581D-05	0.00D+00	0	2	0.40D+00	0.00D+00	0.67D-03	0.27D-05
5	0.50793019D-11	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D-05	0.10D-10

```
* FINAL CONVERGENCE ANALYSIS

   OBJECTIVE FUNCTION VALUE:  F(X) =   0.50793019D-11
   APPROXIMATION OF SOLUTION:  X =
      0.10724227D+01  0.10724227D+01  0.10654851D+01  0.10602703D+01
      0.10806461D+01  0.10964154D+01  0.10887378D+01  0.11187371D+01
      0.10985955D+01  0.10443687D+01  0.10593685D+01  0.10492975D+01
      0.10537118D+01  0.10537118D+01  0.84864589D+00  0.84974242D+00
      0.85437267D+00  0.84864589D+00  0.84974242D+00  0.85437267D+00
      0.88331124D+00  0.88416996D+00  0.88776687D+00  0.89978903D+00
      0.90290608D+00  0.89988240D+00  0.89980994D+00  0.90293934D+00
      0.89990389D+00  0.89945021D+00  0.88204891D+00  0.87838755D+00
      0.87784342D+00  0.84808780D+00  0.84340858D+00  0.84271676D+00
      0.84808780D+00  0.84340858D+00  0.84271676D+00  0.18310156D-01
      0.31985386D-01 -0.30757647D+00  0.70685863D-01 -0.24413789D-01
     -0.10144799D-01 -0.36445051D+00  0.30236034D-01 -0.11481978D+00
     -0.99294180D-01 -0.48480242D+00 -0.55357078D-01 -0.28410163D-01
     -0.14085561D-01 -0.36976956D+00  0.26452291D-01 -0.71570330D-02
      0.68719938D-02 -0.34147631D+00  0.46573792D-01
   APPROXIMATION OF MULTIPLIERS:  U =
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00
   DISTANCE FROM LOWER BOUND:  XL-X =
     -0.60724227D+01 -0.60724227D+01 -0.60654851D+01 -0.60602703D+01
     -0.60806461D+01 -0.60964154D+01 -0.60887378D+01 -0.61187371D+01
     -0.60985955D+01 -0.60443687D+01 -0.60593685D+01 -0.60492975D+01
     -0.60537118D+01 -0.60537118D+01 -0.58486459D+01 -0.58497424D+01
     -0.58543727D+01 -0.58486459D+01 -0.58497424D+01 -0.58543727D+01
     -0.58833112D+01 -0.58841700D+01 -0.58877669D+01 -0.58997890D+01
     -0.59029061D+01 -0.58998824D+01 -0.58998099D+01 -0.59029393D+01
     -0.58999039D+01 -0.58994502D+01 -0.58820489D+01 -0.58783875D+01
     -0.58778434D+01 -0.58480878D+01 -0.58434086D+01 -0.58427168D+01
```

```
  -0.58480878D+01 -0.58434086D+01 -0.58427168D+01 -0.50183102D+01
  -0.50319854D+01 -0.46924235D+01 -0.50706859D+01 -0.49755862D+01
  -0.49898552D+01 -0.46355495D+01 -0.50302360D+01 -0.48851802D+01
  -0.49007058D+01 -0.45151976D+01 -0.49446429D+01 -0.49715898D+01
  -0.49859144D+01 -0.46302304D+01 -0.50264523D+01 -0.49928430D+01
  -0.50068720D+01 -0.46585237D+01 -0.50465738D+01
 DISTANCE FROM UPPER BOUND:  XU-X =
    0.39275773D+01  0.39275773D+01  0.39345149D+01  0.39397297D+01
    0.39193539D+01  0.39035846D+01  0.39112622D+01  0.38812629D+01
    0.39014045D+01  0.39556313D+01  0.39406315D+01  0.39507025D+01
    0.39462882D+01  0.39462882D+01  0.41513541D+01  0.41502576D+01
    0.41456273D+01  0.41513541D+01  0.41502576D+01  0.41456273D+01
    0.41166888D+01  0.41158300D+01  0.41122331D+01  0.41002110D+01
    0.40970939D+01  0.41001176D+01  0.41001901D+01  0.40970607D+01
    0.41000961D+01  0.41005498D+01  0.41179511D+01  0.41216125D+01
    0.41221566D+01  0.41519122D+01  0.41565914D+01  0.41572832D+01
    0.41519122D+01  0.41565914D+01  0.41572832D+01  0.49816898D+01
    0.49680146D+01  0.53075765D+01  0.49293141D+01  0.50244138D+01
    0.50101448D+01  0.53644505D+01  0.49697640D+01  0.51148198D+01
    0.50992942D+01  0.54848024D+01  0.50553571D+01  0.50284102D+01
    0.50140856D+01  0.53697696D+01  0.49735477D+01  0.50071570D+01
    0.49931280D+01  0.53414763D+01  0.49534262D+01
 NUMBER OF FUNC-CALLS:  NFUNC =   7
 NUMBER OF GRAD-CALLS:  NGRAD =   5
 NUMBER OF QL-CALLS:    NQL   =   5


*****  TRAJ DEBUG POINT  = 489,     PHASE  =   1,     ICODE  =   0   *****

  0.00000000D+00      0.00000000D+00      0.00000000D+00

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93270670D-01     -0.52598839D-01     -0.10624985D+01      0.62501162D-01


 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  0.10724227D+01      0.10724227D+01      0.10654851D+01      0.10602703D+01
  0.10806461D+01      0.10964154D+01      0.10887378D+01      0.11187371D+01
  0.10985955D+01      0.10443687D+01      0.10593685D+01      0.10492975D+01
  0.10537118D+01      0.10537118D+01      0.84864589D+00      0.84974242D+00
  0.85437267D+00      0.84864589D+00      0.84974242D+00      0.85437267D+00
  0.88331124D+00      0.88416996D+00      0.88776687D+00      0.89978903D+00
  0.90290608D+00      0.89988240D+00      0.89980994D+00      0.90293934D+00
  0.89990389D+00      0.89945021D+00      0.88204891D+00      0.87838755D+00
  0.87784342D+00      0.84808780D+00      0.84340858D+00      0.84271676D+00
  0.84808780D+00      0.84340858D+00      0.84271676D+00      0.18310156D-01
  0.31985386D-01     -0.30757647D+00      0.70685863D-01     -0.24413789D-01
 -0.10144799D-01     -0.36445051D+00      0.30236034D-01     -0.11481978D+00
 -0.99294180D-01     -0.48480242D+00     -0.55357078D-01     -0.28410163D-01
 -0.14085561D-01     -0.36976956D+00      0.26452291D-01     -0.71570330D-02
  0.68719938D-02     -0.34147631D+00      0.46573792D-01

  0.50793019D-11


*****  TRAJ DEBUG POINT  = 500,     PHASE  =   1   *****

*****  TRAJ DEBUG POINT  = 600,     PHASE  =   1   *****


*****  TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****  TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****  PHASE  =  2      TABS  =   0.00000D+00      TREL  =   0.00000D+00
```

```
                          PINDX =   0.50793D-11

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

  0.10000000D+01      0.10000000D+01      0.10000000D+01

 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.93852858D-01     -0.53010507D-01     -0.10671443D+01      0.62572062D-01


 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   2   *****
```

START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM

PARAMETERS:

```
MODE =  0
ACC =   0.1490E-07
SCBOU =   0.1000E+04
MAXFUN =  5
MAXIT =   50
IPRINT =   2
```

OUTPUT IN THE FOLLOWING ORDER:

```
IT    - ITERATION NUMBER
F     - OBJECTIVE FUNCTION VALUE
SCV   - SUM OF CONSTRAINT VIOLATION
NA    - NUMBER OF ACTIVE CONSTRAINTS
I     - NUMBER OF LINE SEARCH ITERATIONS
ALPHA - STEPLENGTH PARAMETER
DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
KT    - KUHN-TUCKER OPTIMALITY CRITERION
```

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.12700007D+00	0.00D+00	0	0	0.00D+00	0.00D+00	0.38D+00	0.66D+00
2	0.68678997D-01	0.00D+00	0	2	0.18D+00	0.00D+00	0.12D-02	0.34D-05
3	0.68675746D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.85D-03	0.38D-04
4	0.68662199D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.76D-02	0.82D-04
5	0.68582255D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.57D-02	0.44D-03
6	0.68161925D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D-02	0.19D-02
7	0.66559427D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.55D-02	0.30D-02
8	0.64665663D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.26D-01	0.12D-02
9	0.63848517D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.27D-01	0.50D-02
10	0.61483244D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.89D-01	0.76D-02
11	0.59025952D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.36D-01	0.26D-02
12	0.57641953D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.85D-02	0.25D-03
13	0.57404158D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.83D-02	0.21D-02

14	0.56310141D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.38D-01	0.77D-02
15	0.48649137D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.44D-01	0.47D-01
16	0.39971882D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.25D+00	0.22D+00
17	0.16503067D-01	0.00D+00	0	2	0.16D+00	0.00D+00	0.13D+00	0.87D-01
18	0.84393483D-02	0.00D+00	0	2	0.18D+00	0.00D+00	0.11D+00	0.26D-01
19	0.51246640D-02	0.00D+00	0	2	0.19D+00	0.00D+00	0.57D-01	0.14D-01
20	0.34778363D-02	0.00D+00	0	2	0.14D+00	0.00D+00	0.50D-01	0.50D-02
21	0.73950324D-03	0.00D+00	0	1	0.10D+01	0.00D+00	0.25D-01	0.92D-03
22	0.17666546D-03	0.00D+00	0	1	0.10D+01	0.00D+00	0.56D-02	0.13D-03
23	0.11891479D-03	0.00D+00	0	1	0.10D+01	0.00D+00	0.85D-03	0.36D-05
24	0.11678087D-03	0.00D+00	0	1	0.10D+01	0.00D+00	0.65D-03	0.11D-05
25	0.11575427D-03	0.00D+00	0	1	0.10D+01	0.00D+00	0.70D-03	0.74D-05
26	0.10911110D-03	0.00D+00	0	1	0.10D+01	0.00D+00	0.82D-03	0.43D-04
27	0.78243403D-04	0.00D+00	0	1	0.10D+01	0.00D+00	0.15D-02	0.40D-04
28	0.47818946D-04	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D-02	0.50D-04
29	0.13791362D-04	0.00D+00	0	1	0.10D+01	0.00D+00	0.15D-02	0.21D-04
30	0.11907603D-05	0.00D+00	0	1	0.10D+01	0.00D+00	0.70D-03	0.18D-05
31	0.12674763D-06	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D-03	0.15D-06
32	0.40323061D-07	0.00D+00	0	1	0.10D+01	0.00D+00	0.81D-04	0.11D-07

- FINAL CONVERGENCE ANALYSIS

```
OBJECTIVE FUNCTION VALUE:  F(X) =  0.40323061D-07
APPROXIMATION OF SOLUTION:  X =
   0.30336876D+01  0.30336876D+01  0.28900494D+01  0.26289970D+01
   0.30989760D+01 -0.27497524D+01 -0.17341879D+01 -0.23965550D+01
  -0.24686736D+01  0.12304162D+01  0.13207686D+01  0.12644094D+01
   0.99027445D+00  0.99027546D+00  0.23599621D+01  0.17810642D+01
   0.14815902D+01  0.23599641D+01  0.17810642D+01  0.14815902D+01
   0.36177132D+01  0.11762698D+01 -0.88482973D+00  0.11573512D+01
  -0.72095474D+00 -0.14189308D+01  0.14929538D+01 -0.10357820D+01
  -0.20573518D+01 -0.57038080D+00 -0.12706420D+01 -0.14606177D+01
  -0.71535606D+00  0.10642531D+01  0.11096923D+01  0.97969315D+00
   0.10642531D+01  0.11096923D+01  0.97969315D+00  0.97278994D+00
  -0.48949818D+00 -0.40111116D+01  0.19129389D+00  0.18498487D+00
  -0.14744975D+00 -0.24481360D+01  0.34360267D-01 -0.51732463D+00
   0.12118592D+00  0.14262932D+01 -0.99253192D-01 -0.78861980D+00
   0.39419496D+00  0.34953112D+01 -0.62598844D-01 -0.47272066D+00
   0.24392956D+00  0.16240231D+01 -0.12567273D-01
APPROXIMATION OF MULTIPLIERS:  U =
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
```

```
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00
 DISTANCE FROM LOWER BOUND:  XL-X =
  -0.80336876D+01 -0.80336876D+01 -0.78900494D+01 -0.76289970D+01
  -0.80989760D+01 -0.22502476D+01 -0.32658121D+01 -0.26034450D+01
  -0.25313264D+01 -0.62304162D+01 -0.63207686D+01 -0.62644094D+01
  -0.59902745D+01 -0.59902755D+01 -0.73599621D+01 -0.67810642D+01
  -0.64815902D+01 -0.73599641D+01 -0.67810642D+01 -0.64815902D+01
  -0.86177132D+01 -0.61762698D+01 -0.41151703D+01 -0.61573512D+01
  -0.42790453D+01 -0.35810692D+01 -0.64929538D+01 -0.39642180D+01
  -0.29426482D+01 -0.44296192D+01 -0.37293580D+01 -0.35393823D+01
  -0.42846439D+01 -0.60642531D+01 -0.61096923D+01 -0.59796932D+01
  -0.60642531D+01 -0.61096923D+01 -0.59796931D+01 -0.59727899D+01
  -0.45105018D+01 -0.98888837D+00 -0.51912939D+01 -0.51849849D+01
  -0.48525502D+01 -0.25518640D+01 -0.50343603D+01 -0.44826754D+01
  -0.51211859D+01 -0.64262932D+01 -0.49007468D+01 -0.42113802D+01
  -0.53941950D+01 -0.84953112D+01 -0.49374012D+01 -0.45272793D+01
  -0.52439296D+01 -0.66240231D+01 -0.49874327D+01
 DISTANCE FROM UPPER BOUND:  XU-X =
   0.19663124D+01  0.19663124D+01  0.21099506D+01  0.23710030D+01
   0.19010240D+01  0.77497524D+01  0.67341879D+01  0.73965550D+01
   0.74686736D+01  0.37695838D+01  0.36792314D+01  0.37355906D+01
   0.40097255D+01  0.40097245D+01  0.26400379D+01  0.32189358D+01
   0.35184098D+01  0.26400359D+01  0.32189358D+01  0.35184098D+01
   0.13822868D+01  0.38237302D+01  0.58848297D+01  0.38426488D+01
   0.57209547D+01  0.64189308D+01  0.35070462D+01  0.60357820D+01
   0.70573518D+01  0.55703808D+01  0.62706420D+01  0.64606177D+01
   0.57153561D+01  0.39357469D+01  0.38903077D+01  0.40203068D+01
   0.39357469D+01  0.38903077D+01  0.40203069D+01  0.40272101D+01
   0.54894982D+01  0.90111116D+01  0.48087061D+01  0.48150151D+01
   0.51474498D+01  0.74481360D+01  0.49656397D+01  0.55173246D+01
   0.48788141D+01  0.35737068D+01  0.50992532D+01  0.57886198D+01
   0.46058050D+01  0.15046888D+01  0.50625988D+01  0.54727207D+01
   0.47560704D+01  0.33759769D+01  0.50125673D+01
 NUMBER OF FUNC-CALLS:  NFUNC =  37
 NUMBER OF GRAD-CALLS:  NGRAD =  32
 NUMBER OF QL-CALLS:    NQL   =  32


***** TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   0   *****

  0.10000000D+01      0.10000000D+01      0.10000000D+01

 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.17452183D+00     -0.12461157D-01     -0.67932397D+00      0.50028183D-01


 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  0.30336876D+01      0.30336876D+01      0.28900494D+01      0.26289970D+01
  0.30989760D+01     -0.27497524D+01     -0.17341879D+01     -0.23965550D+01
 -0.24686736D+01      0.12304162D+01      0.13207686D+01      0.12644094D+01
  0.99027445D+00      0.99027546D+00      0.23599621D+01      0.17810642D+01
  0.14815902D+01      0.23599641D+01      0.17810642D+01      0.14815902D+01
  0.36177132D+01      0.11762698D+01     -0.88482973D+00      0.11573512D+01
 -0.72095474D+00     -0.14189308D+01      0.14929538D+01     -0.10357820D+01
 -0.20573518D+01     -0.57038080D+00     -0.12706420D+01     -0.14606177D+01
 -0.71535606D+00      0.10642531D+01      0.11096923D+01      0.97969315D+00
  0.10642531D+01      0.11096923D+01      0.97969315D+00      0.97278994D+00
 -0.48949818D+00     -0.40111116D+01      0.19129389D+00      0.18498487D+00
 -0.14744975D+00     -0.24481360D+01      0.34360267D-01     -0.51732463D+00
  0.12118592D+00      0.14262932D+01     -0.99253192D-01     -0.78861980D+00
  0.39419496D+00      0.34953112D+01     -0.62598844D-01     -0.47272066D+00
```

```
   0.24392956D+00      0.16240231D+01     -0.12567273D-01

   0.40323061D-07

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****   PHASE  =  2       TABS  =   0.10000D+01      TREL  =   0.10000D+01
                          PINDX =   0.40323D-07

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.20000000D+01      0.20000000D+01      0.20000000D+01

  -0.62360802D+00      0.00000000D+00     -0.25000000D+00
  -0.25785143D+00      0.29254014D-01     -0.28107257D+00      0.37025722D-01


  -0.62360802D+00      0.00000000D+00     -0.25000000D+00
  -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

  -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
  -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

  -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
  -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   2   *****



-------------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
-------------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
     DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
```

KT - KUHN-TUCKER OPTIMALITY CRITERION

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.19152984D-02	0.00D+00	0	0	0.00D+00	0.00D+00	0.41D-01	0.86D-02
2	0.13722876D-02	0.00D+00	0	2	0.13D+00	0.00D+00	0.27D-02	0.29D-04
3	0.13441498D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.31D-02	0.32D-03
4	0.12888676D-02	0.00D+00	0	2	0.35D+00	0.00D+00	0.13D-01	0.38D-03
5	0.95153175D-03	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D-01	0.11D-02
6	0.39290317D-03	0.00D+00	0	1	0.10D+01	0.00D+00	0.21D-02	0.24D-04
7	0.39122429D-03	0.00D+00	0	2	0.14D+00	0.00D+00	0.10D-02	0.29D-05
8	0.38890372D-03	0.00D+00	0	1	0.10D+01	0.00D+00	0.46D-03	0.73D-05
9	0.38330731D-03	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D-02	0.11D-04
10	0.37529690D-03	0.00D+00	0	1	0.10D+01	0.00D+00	0.21D-02	0.99D-05
11	0.36873343D-03	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D-02	0.43D-05
12	0.36775644D-03	0.00D+00	0	2	0.45D+00	0.00D+00	0.12D-02	0.71D-05
13	0.36647383D-03	0.00D+00	0	2	0.36D+00	0.00D+00	0.24D-03	0.16D-06
14	0.36637413D-03	0.00D+00	0	1	0.10D+01	0.00D+00	0.58D-04	0.13D-07

- FINAL CONVERGENCE ANALYSIS

```
OBJECTIVE FUNCTION VALUE:  F(X) =  0.36637413D-03
APPROXIMATION OF SOLUTION:  X =
   0.30312914D+01  0.30312914D+01  0.28914844D+01  0.26292349D+01
   0.31011132D+01 -0.27418055D+01 -0.17286860D+01 -0.23898778D+01
  -0.24689777D+01  0.12320900D+01  0.13235876D+01  0.12645389D+01
   0.99031815D+00  0.99031916D+00  0.23583205D+01  0.17749024D+01
   0.14791851D+01  0.23583225D+01  0.17749024D+01  0.14791851D+01
   0.36135302D+01  0.11578154D+01 -0.89214650D+00  0.11452263D+01
  -0.72581663D+00 -0.14154377D+01  0.14782417D+01 -0.10417325D+01
  -0.20533083D+01 -0.57203752D+00 -0.12751389D+01 -0.14574565D+01
  -0.71654881D+00  0.10644206D+01  0.11092284D+01  0.97965497D+00
   0.10644206D+01  0.11092283D+01  0.97965498D+00  0.11589688D+01
  -0.44461837D+00 -0.39686464D+01  0.17979934D+00  0.33482351D+00
  -0.11142312D+00 -0.24143680D+01  0.25133046D-01 -0.65744188D+00
   0.87195178D-01  0.13921271D+01 -0.90551846D-01 -0.99820277D+00
   0.34334643D+00  0.34446045D+01 -0.49580862D-01 -0.56295344D+00
   0.22187316D+00  0.16011688D+01 -0.69207226D-02
APPROXIMATION OF MULTIPLIERS:  U =
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
```

```
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00
 DISTANCE FROM LOWER BOUND:  XL-X =
  -0.80312914D+01 -0.80312914D+01 -0.78914844D+01 -0.76292349D+01
  -0.81011132D+01 -0.22581945D+01 -0.32713140D+01 -0.26101222D+01
  -0.25310223D+01 -0.62320900D+01 -0.63235876D+01 -0.62645389D+01
  -0.59903181D+01 -0.59903192D+01 -0.73583205D+01 -0.67749024D+01
  -0.64791851D+01 -0.73583225D+01 -0.67749024D+01 -0.64791851D+01
  -0.86135302D+01 -0.61578154D+01 -0.41078535D+01 -0.61452263D+01
  -0.42741834D+01 -0.35845623D+01 -0.64782417D+01 -0.39582675D+01
  -0.29466917D+01 -0.44279625D+01 -0.37248611D+01 -0.35425435D+01
  -0.42834512D+01 -0.60644206D+01 -0.61092284D+01 -0.59796550D+01
  -0.60644206D+01 -0.61092283D+01 -0.59796550D+01 -0.61589688D+01
  -0.45553816D+01 -0.10313536D+01 -0.51797993D+01 -0.53348235D+01
  -0.48885769D+01 -0.25856320D+01 -0.50251330D+01 -0.43425581D+01
  -0.50871952D+01 -0.63921271D+01 -0.49094482D+01 -0.40017972D+01
  -0.53433464D+01 -0.84446045D+01 -0.49504191D+01 -0.44370466D+01
  -0.52218732D+01 -0.66011688D+01 -0.49930793D+01
 DISTANCE FROM UPPER BOUND:  XU-X =
   0.19687086D+01  0.19687086D+01  0.21085156D+01  0.23707651D+01
   0.18988868D+01  0.77418055D+01  0.67286860D+01  0.73898778D+01
   0.74689777D+01  0.37679100D+01  0.36764124D+01  0.37354611D+01
   0.40096819D+01  0.40096808D+01  0.26416795D+01  0.32250976D+01
   0.35208149D+01  0.26416775D+01  0.32250976D+01  0.35208149D+01
   0.13864698D+01  0.38421846D+01  0.58921465D+01  0.38547737D+01
   0.57258166D+01  0.64154377D+01  0.35217583D+01  0.60417325D+01
   0.70533083D+01  0.55720375D+01  0.62751389D+01  0.64574565D+01
   0.57165488D+01  0.39355794D+01  0.38907716D+01  0.40203450D+01
   0.39355794D+01  0.38907717D+01  0.40203450D+01  0.38410312D+01
   0.54446184D+01  0.89686464D+01  0.48202007D+01  0.46651765D+01
   0.51114231D+01  0.74143680D+01  0.49748670D+01  0.56574419D+01
   0.49128048D+01  0.36078729D+01  0.50905518D+01  0.59982028D+01
   0.46566536D+01  0.15553955D+01  0.50495809D+01  0.55629534D+01
   0.47781268D+01  0.33988312D+01  0.50069207D+01
 NUMBER OF FUNC-CALLS:  NFUNC =  19
 NUMBER OF GRAD-CALLS:  NGRAD =  14
 NUMBER OF QL-CALLS:    NQL   =  14


*****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   0   *****

  0.20000000D+01      0.20000000D+01      0.20000000D+01

 -0.62360802D+00      0.00000000D+00     -0.25000000D+00
 -0.29462717D+00      0.20010240D-01     -0.29230231D+00      0.39401868D-01


 -0.62360802D+00      0.00000000D+00     -0.25000000D+00
 -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  0.30312914D+01      0.30312914D+01      0.28914844D+01      0.26292349D+01
  0.31011132D+01     -0.27418055D+01     -0.17286860D+01     -0.23898778D+01
 -0.24689777D+01      0.12320900D+01      0.13235876D+01      0.12645389D+01
  0.99031815D+00      0.99031916D+00      0.23583205D+01      0.17749024D+01
  0.14791851D+01      0.23583225D+01      0.17749024D+01      0.14791851D+01
  0.36135302D+01      0.11578154D+01     -0.89214650D+00      0.11452263D+01
 -0.72581663D+00     -0.14154377D+01      0.14782417D+01     -0.10417325D+01
 -0.20533083D+01     -0.57203752D+00     -0.12751389D+01     -0.14574565D+01
 -0.71654881D+00      0.10644206D+01      0.11092284D+01      0.97965497D+00
  0.10644206D+01      0.11092283D+01      0.97965498D+00      0.11589688D+01
 -0.44461837D+00     -0.39686464D+01      0.17979934D+00      0.33482351D+00
```

```
 -0.11142312D+00     -0.24143680D+01      0.25133046D-01     -0.65744188D+00
  0.87195178D-01      0.13921271D+01     -0.90551846D-01     -0.99820277D+00
  0.34334643D+00      0.34446045D+01     -0.49580862D-01     -0.56295344D+00
  0.22187316D+00      0.16011688D+01     -0.69207226D-02

  0.36637413D-03

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****   PHASE  =  2       TABS  =   0.20000D+01      TREL  =   0.20000D+01
                          PINDX =   0.36637D-03

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

  0.30000000D+01      0.30000000D+01      0.30000000D+01

 -0.93959732D+00      0.25000000D+00     -0.25000000D+00
 -0.37525662D+00      0.48401168D-01      0.13091317D-01      0.30458200D-01


 -0.93959732D+00      0.25000000D+00     -0.25000000D+00
 -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

 -0.62360802D+00      0.00000000D+00     -0.25000000D+00
 -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   2   *****


------------------------------------------------------------------------
 START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
------------------------------------------------------------------------

 PARAMETERS:
    MODE =  0
    ACC =   0.1490E-07
    SCBOU =   0.1000E+04
    MAXFUN =  5
    MAXIT =   50
    IPRINT =   2

 OUTPUT IN THE FOLLOWING ORDER:
    IT     - ITERATION NUMBER
    F      - OBJECTIVE FUNCTION VALUE
```

SCV - SUM OF CONSTRAINT VIOLATION
NA - NUMBER OF ACTIVE CONSTRAINTS
I - NUMBER OF LINE SEARCH ITERATIONS
ALPHA - STEPLENGTH PARAMETER
DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
DLAN - MAXIMUM NORM OF LAGRANGIAN GRADIENT
KT - KUHN-TUCKER OPTIMALITY CRITERION

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.24534045D-01	0.00D+00	0	0	0.00D+00	0.00D+00	0.13D+00	0.11D+00
2	0.19554024D-01	0.00D+00	0	2	0.10D+00	0.00D+00	0.22D-01	0.11D-02
3	0.18655494D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.23D-01	0.26D-01
4	0.14461601D-01	0.00D+00	0	2	0.30D+00	0.00D+00	0.77D-01	0.47D-02
5	0.11525950D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.33D-01	0.11D-02
6	0.10833930D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.96D-02	0.25D-03
7	0.10691005D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D-01	0.18D-02
8	0.10448012D-01	0.00D+00	0	2	0.27D+00	0.00D+00	0.23D-01	0.44D-03
9	0.10041017D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.21D-01	0.17D-02
10	0.89889903D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.47D-02	0.17D-03
11	0.88989906D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D-02	0.15D-03
12	0.88897072D-02	0.00D+00	0	2	0.12D+00	0.00D+00	0.26D-02	0.31D-04
13	0.88598360D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.26D-02	0.18D-03
14	0.86880678D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.27D-02	0.85D-03
15	0.78987993D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.35D-02	0.32D-02
16	0.59376961D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.27D-01	0.63D-03
17	0.54686864D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.16D-01	0.41D-03
18	0.52098327D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.29D-02	0.12D-03
19	0.51506042D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.87D-02	0.51D-04
20	0.51251958D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D-02	0.57D-05
21	0.51223076D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.91D-03	0.86D-06
22	0.51217791D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.26D-03	0.44D-06
23	0.51213875D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.46D-03	0.27D-05
24	0.51193332D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.15D-02	0.41D-05
25	0.51161203D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.23D-02	0.71D-05
26	0.51109724D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.26D-02	0.65D-05
27	0.51063273D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D-02	0.46D-05
28	0.51031910D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.57D-03	0.24D-05
29	0.51014154D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.72D-03	0.32D-05
30	0.50988288D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D-02	0.94D-05
31	0.50912705D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.35D-02	0.25D-04
32	0.50707868D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.65D-02	0.77D-04
33	0.50073141D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D-01	0.27D-03
34	0.47753568D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.25D-01	0.15D-02
35	0.45990558D-02	0.00D+00	0	2	0.12D+00	0.00D+00	0.29D-01	0.28D-02
36	0.44278237D-02	0.00D+00	0	2	0.10D+00	0.00D+00	0.31D-01	0.18D-02
37	0.42750062D-02	0.00D+00	0	2	0.10D+00	0.00D+00	0.31D-01	0.98D-03
38	0.40477474D-02	0.00D+00	0	2	0.30D+00	0.00D+00	0.29D-01	0.43D-03
39	0.37835849D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.24D-01	0.56D-03
40	0.33395025D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D-01	0.72D-03
41	0.28595934D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D-01	0.30D-03
42	0.27374602D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D-01	0.56D-03
43	0.26540774D-02	0.00D+00	0	2	0.23D+00	0.00D+00	0.29D-02	0.11D-03
44	0.26309387D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.86D-02	0.56D-04
45	0.26000264D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.72D-02	0.31D-04
46	0.25824279D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D-02	0.31D-04
47	0.25549720D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.15D-02	0.12D-03
48	0.24780829D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.25D-02	0.65D-04
49	0.24310066D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.35D-02	0.58D-04

**MORE THAN MAXIT ITERATIONS

- FINAL CONVERGENCE ANALYSIS

OBJECTIVE FUNCTION VALUE: F(X) = 0.23919049D-02
APPROXIMATION OF SOLUTION: X =
0.27247524D+01 0.27247507D+01 0.40183669D+00 0.21788361D+01
0.24037658D+01 -0.60580898D+00 -0.22009939D+01 -0.23901899D+01

```
 -0.21000520D+01  0.12848460D+01  0.15257821D+01  0.11129236D+01
  0.96436986D+00  0.96437091D+00  0.28198169D+01  0.13827862D+01
  0.10354076D+01  0.28198182D+01  0.13827866D+01  0.10354046D+01
  0.39591146D+01  0.12059219D+01 -0.10037631D+01  0.15200294D+01
 -0.84565403D+00 -0.18719269D+01  0.20342477D+01 -0.90694537D+00
 -0.22764427D+01 -0.34141706D+00 -0.15533590D+01 -0.21185315D+01
 -0.95428100D+00  0.11028584D+01  0.11916909D+01  0.10674624D+01
  0.11028573D+01  0.11916864D+01  0.10674633D+01  0.50000000D+01
  0.42539482D+00 -0.32970571D+01  0.38512352D-01 -0.13823298D+01
 -0.65141491D+00 -0.36583617D+01  0.13991297D+00  0.95918891D+00
  0.61201179D+00  0.26688040D+01 -0.20477837D+00 -0.15647261D+01
  0.39034913D+00  0.44649185D+01 -0.84033412D-01 -0.45521851D+01
 -0.70463028D+00  0.77621190D+00  0.15088209D+00
APPROXIMATION OF MULTIPLIERS:  U =
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.28427733D-04  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00
DISTANCE FROM LOWER BOUND:  XL-X =
 -0.77608013D+01 -0.77607995D+01 -0.55001340D+01 -0.72233480D+01
 -0.74795706D+01 -0.43495544D+01 -0.27727749D+01 -0.25527560D+01
 -0.29316785D+01 -0.63013619D+01 -0.65475282D+01 -0.61279474D+01
 -0.59660085D+01 -0.59660096D+01 -0.77744691D+01 -0.63678841D+01
 -0.60527332D+01 -0.77744704D+01 -0.63678845D+01 -0.60527302D+01
 -0.89337835D+01 -0.61960974D+01 -0.40009487D+01 -0.65063671D+01
 -0.41621443D+01 -0.31427776D+01 -0.70264898D+01 -0.40918558D+01
 -0.27203682D+01 -0.46427128D+01 -0.34622912D+01 -0.29146512D+01
 -0.40558134D+01 -0.61020670D+01 -0.61875988D+01 -0.60595095D+01
 -0.61020659D+01 -0.61875943D+01 -0.60595104D+01 -0.99446585D+01
 -0.54209697D+01 -0.17194452D+01 -0.50369799D+01 -0.36251608D+01
 -0.43567841D+01 -0.13571996D+01 -0.51366559D+01 -0.59552293D+01
 -0.56034259D+01 -0.76385644D+01 -0.47985906D+01 -0.34703653D+01
 -0.53849781D+01 -0.94196496D+01 -0.49198590D+01 -0.50702847D+00
 -0.43018312D+01 -0.57524842D+01 -0.51512475D+01
DISTANCE FROM UPPER BOUND:  XU-X =
  0.22391987D+01  0.22392005D+01  0.44998660D+01  0.27766520D+01
  0.25204294D+01  0.56504456D+01  0.72272251D+01  0.74472440D+01
  0.70683215D+01  0.36986381D+01  0.34524718D+01  0.38720526D+01
  0.40339915D+01  0.40339904D+01  0.22255309D+01  0.36321159D+01
  0.39472668D+01  0.22255296D+01  0.36321155D+01  0.39472698D+01
  0.10662165D+01  0.38039026D+01  0.59990513D+01  0.34936329D+01
  0.58378557D+01  0.68572224D+01  0.29735102D+01  0.59081442D+01
  0.72796318D+01  0.53572872D+01  0.65377088D+01  0.70853488D+01
```

```
    0.59441866D+01  0.38979330D+01  0.38124012D+01  0.39404905D+01
    0.38979341D+01  0.38124057D+01  0.39404896D+01  0.55341531D-01
    0.45790303D+01  0.82805548D+01  0.49630201D+01  0.63748392D+01
    0.56432159D+01  0.86428004D+01  0.48633441D+01  0.40447707D+01
    0.43965741D+01  0.23614356D+01  0.52014094D+01  0.65296347D+01
    0.46150219D+01  0.58035041D+00  0.50801410D+01  0.94929715D+01
    0.56981688D+01  0.42475158D+01  0.48487525D+01
 NUMBER OF FUNC-CALLS:  NFUNC =  59
 NUMBER OF GRAD-CALLS:  NGRAD =  50
 NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   3   *****

    0.30000000D+01      0.30000000D+01      0.30000000D+01

   -0.93959732D+00      0.25000000D+00     -0.25000000D+00
   -0.49998084D+00      0.33271375D-01      0.81503420D-01      0.31788791D-01


   -0.93959732D+00      0.25000000D+00     -0.25000000D+00
   -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

   -0.62360802D+00      0.00000000D+00     -0.25000000D+00
   -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

   -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
   -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

   -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
   -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

    0.27247524D+01      0.27247507D+01      0.40183669D+00      0.21788361D+01
    0.24037658D+01     -0.60580898D+00     -0.22009939D+01     -0.23901899D+01
   -0.21000520D+01      0.12848460D+01      0.15257821D+01      0.11129236D+01
    0.96436986D+00      0.96437091D+00      0.28198169D+01      0.13827862D+01
    0.10354076D+01      0.28198182D+01      0.13827866D+01      0.10354046D+01
    0.39591146D+01      0.12059219D+01     -0.10037631D+01      0.15200294D+01
   -0.84565403D+00     -0.18719269D+01      0.20342477D+01     -0.90694537D+00
   -0.22764427D+01     -0.34141706D+00     -0.15533590D+01     -0.21185315D+01
   -0.95428100D+00      0.11028584D+01      0.11916909D+01      0.10674624D+01
    0.11028573D+01      0.11916864D+01      0.10674633D+01      0.50000000D+01
    0.42539482D+00     -0.32970571D+01      0.38512352D-01     -0.13823298D+01
   -0.65141491D+00     -0.36583617D+01      0.13991297D+00      0.95918891D+00
    0.61201179D+00      0.26688040D+01     -0.20477837D+00     -0.15647261D+01
    0.39034913D+00      0.44649185D+01     -0.84033412D-01     -0.45521851D+01
   -0.70463028D+00      0.77621190D+00      0.15088209D+00

    0.23919049D-02


 *****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

 *****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


 *****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

 *****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

 *****   PHASE  =  2      TABS  =   0.30000D+01      TREL  =   0.30000D+01
                          PINDX =   0.23919D-02

 *****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****
```

```
*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

  0.40000000D+01      0.40000000D+01      0.40000000D+01

  0.00000000D+00      0.50000000D+00     -0.25000000D+00
 -0.81632869D-01      0.36596478D-01     -0.48443911D+00      0.41188106D-01


  0.00000000D+00      0.50000000D+00     -0.25000000D+00
 -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

 -0.93959732D+00      0.25000000D+00     -0.25000000D+00
 -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

 -0.62360802D+00      0.00000000D+00     -0.25000000D+00
 -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   2   *****
```

START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM

PARAMETERS:

```
MODE =  0
ACC =   0.1490E-07
SCBOU =   0.1000E+04
MAXFUN =  5
MAXIT =   50
IPRINT =   2
```

OUTPUT IN THE FOLLOWING ORDER:

```
IT    - ITERATION NUMBER
F     - OBJECTIVE FUNCTION VALUE
SCV   - SUM OF CONSTRAINT VIOLATION
NA    - NUMBER OF ACTIVE CONSTRAINTS
I     - NUMBER OF LINE SEARCH ITERATIONS
ALPHA - STEPLENGTH PARAMETER
DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
KT    - KUHN-TUCKER OPTIMALITY CRITERION
```

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.13121993D+01	0.00D+00	0	0	0.00D+00	0.00D+00	0.11D+01	0.71D+01
2	0.10778784D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.35D+00	0.24D+00
3	0.88757044D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.38D+00	0.25D+01
4	0.72554714D+00	0.00D+00	0	2	0.14D+00	0.00D+00	0.82D+00	0.68D+00
5	0.29137898D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.69D+00	0.39D+00
6	0.24415332D+00	0.00D+00	0	2	0.24D+00	0.00D+00	0.64D+00	0.74D+00
7	0.72431131D-01	0.00D+00	0	2	0.45D+00	0.00D+00	0.15D+00	0.22D-01
8	0.55302794D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.78D-01	0.31D-01

```
 9  0.33846205D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.17D+00  0.62D-01
10  0.30295525D-01  0.00D+00   0  2  0.11D+00  0.00D+00  0.19D+00  0.26D-01
11  0.14864936D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.14D+00  0.52D-02
12  0.11506651D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.48D-01  0.12D-02
13  0.10782682D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.92D-02  0.25D-03
14  0.10580903D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.10D-01  0.52D-03
15  0.10188320D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.21D-01  0.68D-03
16  0.96750852D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.25D-01  0.78D-03
17  0.91404736D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.17D-01  0.40D-03
18  0.88689432D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.59D-02  0.19D-03
19  0.87336180D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.49D-02  0.18D-03
20  0.85961507D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.82D-02  0.30D-03
21  0.83726872D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.12D-01  0.37D-03
22  0.81105367D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.11D-01  0.25D-03
23  0.79471770D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.54D-02  0.83D-04
24  0.78916522D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.19D-02  0.40D-04
25  0.78599997D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.24D-02  0.82D-04
26  0.77943131D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.52D-02  0.20D-03
27  0.76374547D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.98D-02  0.46D-03
28  0.72757340D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.16D-01  0.90D-03
29  0.65893193D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.22D-01  0.11D-02
30  0.58204850D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.24D-01  0.61D-03
31  0.54092378D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.15D-01  0.29D-03
32  0.52399539D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.55D-02  0.48D-04
33  0.52031370D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.35D-02  0.88D-04
34  0.51359193D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.46D-02  0.13D-03
35  0.50450005D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.52D-02  0.85D-04
36  0.49897950D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.30D-02  0.26D-04
37  0.49729116D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.13D-02  0.88D-05
38  0.49662204D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.13D-02  0.14D-04
39  0.49550898D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.24D-02  0.36D-04
40  0.49260059D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.42D-02  0.89D-04
41  0.48544029D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.72D-02  0.21D-03
42  0.46867394D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.11D-01  0.43D-03
43  0.43581414D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.14D-01  0.59D-03
44  0.39632140D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.15D-01  0.26D-03
45  0.37730062D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.58D-02  0.16D-03
46  0.36904493D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.25D-02  0.15D-04
47  0.36800570D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.18D-02  0.25D-04
48  0.36604659D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.42D-02  0.53D-04
49  0.36208058D-02  0.00D+00   0  1  0.10D+01  0.00D+00  0.69D-02  0.68D-04
     **MORE THAN MAXIT ITERATIONS


 * FINAL CONVERGENCE ANALYSIS

   OBJECTIVE FUNCTION VALUE:  F(X) =  0.35705635D-02
   APPROXIMATION OF SOLUTION:  X =
      0.12899893D+01  0.12899882D+01 -0.25466292D+01  0.11364445D+01
      0.66586758D+00 -0.50000000D+01 -0.28517180D+01 -0.29503088D+01
     -0.37726087D+01  0.13813885D+01  0.15740062D+01 -0.39770351D+00
      0.10053807D+01  0.10053832D+01  0.18343873D+01  0.85834843D+00
      0.13303879D+01  0.18343870D+01  0.85834986D+00  0.13303856D+01
      0.45463609D+01  0.68269542D+00 -0.56714843D+00  0.15959894D+01
     -0.88845538D+00 -0.16906075D+01  0.20282519D+01 -0.87038250D+00
     -0.19973486D+01  0.56022301D+00 -0.16201923D+01 -0.32672255D+01
     -0.23090408D+01  0.10892022D+01  0.10039669D+01  0.96857765D+00
      0.10892004D+01  0.10039637D+01  0.96857807D+00  0.47799617D+01
      0.40829282D+00 -0.22235937D+01  0.12146396D+00 -0.19298660D+01
     -0.49749931D+00 -0.33110759D+01  0.13029635D-01  0.64870738D+00
      0.59716774D+00  0.26370604D+01 -0.25181066D+00 -0.14977458D+01
      0.22920947D+00  0.40241599D+01 -0.33392223D-02 -0.44454999D+01
     -0.76451754D+00  0.42488946D+00  0.16210685D+00
   APPROXIMATION OF MULTIPLIERS:  U =
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.26043482D-03  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
```

```
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00
  DISTANCE FROM LOWER BOUND:  XL-X =
    -0.62906372D+01 -0.62906361D+01 -0.24435306D+01 -0.61048617D+01
    -0.56206507D+01  0.00000000D+00 -0.21600139D+01 -0.20543404D+01
    -0.11913450D+01 -0.63510033D+01 -0.65309561D+01 -0.45957537D+01
    -0.60059399D+01 -0.60059425D+01 -0.68341991D+01 -0.58862244D+01
    -0.63124457D+01 -0.68341988D+01 -0.58862259D+01 -0.63124434D+01
    -0.95357421D+01 -0.56542981D+01 -0.44545714D+01 -0.65988730D+01
    -0.41140415D+01 -0.33001015D+01 -0.70350039D+01 -0.41303992D+01
    -0.29972777D+01 -0.55658246D+01 -0.33697823D+01 -0.17118087D+01
    -0.26937947D+01 -0.60884516D+01 -0.60003629D+01 -0.59684039D+01
    -0.60884498D+01 -0.60003597D+01 -0.59684044D+01 -0.97728625D+01
    -0.54243813D+01 -0.27949316D+01 -0.51200801D+01 -0.30708699D+01
    -0.44855100D+01 -0.16873805D+01 -0.50269305D+01 -0.56457452D+01
    -0.55821555D+01 -0.76184181D+01 -0.47496204D+01 -0.35118394D+01
    -0.52449253D+01 -0.90350897D+01 -0.49808849D+01 -0.56244712D+00
    -0.42389381D+01 -0.54306779D+01 -0.51584455D+01
  DISTANCE FROM UPPER BOUND:  XU-X =
     0.37093628D+01  0.37093639D+01  0.75564694D+01  0.38951383D+01
     0.43793493D+01  0.10000000D+02  0.78399861D+01  0.79456596D+01
     0.88086550D+01  0.36489967D+01  0.34690439D+01  0.54042463D+01
     0.39940601D+01  0.39940575D+01  0.31658009D+01  0.41137756D+01
     0.36875543D+01  0.31658012D+01  0.41137741D+01  0.36875566D+01
     0.46425790D+00  0.43457019D+01  0.55454286D+01  0.34011270D+01
     0.58859585D+01  0.66998985D+01  0.29649961D+01  0.58696008D+01
     0.70027223D+01  0.44341754D+01  0.66302177D+01  0.82881913D+01
     0.73062053D+01  0.39115484D+01  0.39996371D+01  0.40315961D+01
     0.39115502D+01  0.39996403D+01  0.40315956D+01  0.22713748D+00
     0.45756187D+01  0.72050684D+01  0.48799199D+01  0.69291301D+01
     0.55144900D+01  0.83126195D+01  0.49730695D+01  0.43542548D+01
     0.44178445D+01  0.23815819D+01  0.52503796D+01  0.64881606D+01
     0.47550747D+01  0.96491030D+00  0.50191151D+01  0.94375529D+01
     0.57610619D+01  0.45693221D+01  0.48415545D+01
  NUMBER OF FUNC-CALLS:  NFUNC =  55
  NUMBER OF GRAD-CALLS:  NGRAD =  50
  NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****  TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   3     *****

   0.40000000D+01      0.40000000D+01      0.40000000D+01
```

```
 0.00000000D+00      0.50000000D+00     -0.25000000D+00
-0.92223099D+00      0.12814024D-01      0.47207015D+00      0.19922382D-01


 0.00000000D+00      0.50000000D+00     -0.25000000D+00
-0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

-0.93959732D+00      0.25000000D+00     -0.25000000D+00
-0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

-0.62360802D+00      0.00000000D+00     -0.25000000D+00
-0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

-0.44257113D+00     -0.25000000D+00     -0.25000000D+00
-0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

-0.33959976D+00     -0.50000000D+00     -0.25000000D+00
-0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

 0.12899893D+01      0.12899882D+01     -0.25466292D+01      0.11364445D+01
 0.66586758D+00     -0.50000000D+01     -0.28517180D+01     -0.29503088D+01
-0.37726087D+01      0.13813885D+01      0.15740062D+01     -0.39770351D+00
 0.10053807D+01      0.10053832D+01      0.18343873D+01      0.85834843D+00
 0.13303879D+01      0.18343870D+01      0.85834986D+00      0.13303856D+01
 0.45463609D+01      0.68269542D+00     -0.56714843D+00      0.15959894D+01
-0.88845538D+00     -0.16906075D+01      0.20282519D+01     -0.87038250D+00
-0.19973486D+01      0.56022301D+00     -0.16201923D+01     -0.32672255D+01
-0.23090408D+01      0.10892022D+01      0.10039669D+01      0.96857765D+00
 0.10892004D+01      0.10039637D+01      0.96857807D+00      0.47799617D+01
 0.40829282D+00     -0.22235937D+01      0.12146396D+00     -0.19298660D+01
-0.49749931D+00     -0.33110759D+01      0.13029635D-01      0.64870738D+00
 0.59716774D+00      0.26370604D+01     -0.25181066D+00     -0.14977458D+01
 0.22920947D+00      0.40241599D+01     -0.33392223D-02     -0.44454999D+01
-0.76451754D+00      0.42488946D+00      0.16210685D+00

 0.35705635D-02


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****   PHASE  =  2      TABS  =   0.40000D+01      TREL  =   0.40000D+01
                         PINDX =   0.35706D-02

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.50000000D+01      0.50000000D+01      0.50000000D+01

   0.93959732D+00      0.75000000D+00     -0.25000000D+00
  -0.91009247D+00      0.26512902D-01      0.51510329D+00      0.15184202D-01


   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
  -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01
```

```
 -0.93959732D+00      0.25000000D+00     -0.25000000D+00
 -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

 -0.62360802D+00      0.00000000D+00     -0.25000000D+00
 -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   2   *****


--------------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
--------------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
     DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
     KT    - KUHN-TUCKER OPTIMALITY CRITERION

IT        F           SCV      NA  I    ALPHA     DELTA      DLAN       KT
--------------------------------------------------------------------------------
 1  0.12629018D+01  0.00D+00   0   0  0.00D+00  0.00D+00  0.20D+01  0.58D+01
 2  0.10614939D+01  0.00D+00   0   2  0.10D+00  0.00D+00  0.49D+00  0.25D+00
 3  0.10103310D+01  0.00D+00   0   2  0.38D+00  0.00D+00  0.60D+00  0.12D+01
 4  0.72008899D+00  0.00D+00   0   2  0.46D+00  0.00D+00  0.67D+00  0.19D+00
 5  0.67564794D+00  0.00D+00   0   2  0.43D+00  0.00D+00  0.55D+00  0.92D+00
 6  0.57227970D+00  0.00D+00   0   2  0.22D+00  0.00D+00  0.78D-01  0.18D-01
 7  0.55542620D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.67D-01  0.91D-01
 8  0.48043465D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.75D-01  0.20D+00
 9  0.46563092D+00  0.00D+00   0   2  0.14D+00  0.00D+00  0.26D+00  0.22D+00
10  0.41687834D+00  0.00D+00   0   2  0.43D+00  0.00D+00  0.12D+00  0.11D-01
11  0.40850146D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.53D-01  0.21D-01
12  0.39199163D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.16D+00  0.30D-01
13  0.37015300D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.24D+00  0.40D-01
14  0.34063826D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.23D+00  0.38D-01
15  0.31348715D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.18D+00  0.30D-01
16  0.29260076D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.19D+00  0.23D-01
17  0.27265942D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.28D+00  0.78D-01
18  0.22589402D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.37D+00  0.33D-01
19  0.20409162D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.92D-01  0.20D-01
20  0.18892848D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.12D+00  0.22D-01
21  0.17338158D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.16D+00  0.19D-01
```

```
22  0.16020647D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.18D+00  0.16D-01
23  0.14939634D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.89D-01  0.12D-01
24  0.14036371D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.75D-01  0.15D-01
25  0.13058409D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.97D-01  0.98D-02
26  0.12385240D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.73D-01  0.91D-02
27  0.11706688D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.51D-01  0.13D-01
28  0.10790804D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.96D-01  0.14D-01
29  0.97796634D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.11D+00  0.14D-01
30  0.87703314D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.75D-01  0.95D-02
31  0.80829087D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.32D-01  0.10D-01
32  0.73233868D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.59D-01  0.15D-01
33  0.62954118D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.81D-01  0.11D-01
34  0.55293468D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.48D-01  0.60D-02
35  0.51026085D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.33D-01  0.67D-02
36  0.47359924D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.95D-01  0.55D-02
37  0.44283299D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.46D-01  0.39D-02
38  0.41186854D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.24D-01  0.51D-02
39  0.38242379D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.21D-01  0.12D-02
40  0.37190481D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.21D-01  0.69D-02
41  0.32553792D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.33D-01  0.39D-02
42  0.29526535D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.41D-01  0.58D-02
43  0.25430180D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.44D-01  0.32D-02
44  0.23152641D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.64D-01  0.51D-02
45  0.20825400D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.18D-01  0.14D-02
46  0.19672618D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.40D-01  0.40D-02
47  0.16896376D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.65D-01  0.31D-02
48  0.14682126D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.47D-01  0.20D-02
49  0.13328196D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.20D-01  0.10D-02
    **MORE THAN MAXIT ITERATIONS

* FINAL CONVERGENCE ANALYSIS

  OBJECTIVE FUNCTION VALUE:  F(X) =  0.12669003D-01
  APPROXIMATION OF SOLUTION:  X =
     0.38074545D+01  0.38074533D+01 -0.50000000D+01  0.15642435D+00
    -0.36959315D+00 -0.50000000D+01 -0.33990001D+01 -0.31266272D+01
    -0.45114332D+01  0.17221469D+01  0.18147103D+01 -0.51195972D+00
     0.96101345D+00  0.96101545D+00  0.32645792D+01 -0.23097901D+01
     0.25471435D+01  0.32645773D+01 -0.23097871D+01  0.25471390D+01
     0.50000000D+01 -0.35078231D+01  0.28778737D+01  0.23091973D+01
    -0.16539328D+01 -0.15354632D+01  0.27142855D+01 -0.16930518D+01
    -0.15109358D+01  0.99926738D+00 -0.20922198D+01 -0.37251173D+01
    -0.25198620D+01  0.36205731D-01  0.14010640D+01  0.14097594D+01
     0.36203569D-01  0.14010600D+01  0.14097603D+01  0.50000000D+01
    -0.72342161D+00 -0.30448403D+01  0.20161845D+00 -0.50000000D+01
     0.14469078D+01 -0.33698301D+01 -0.15196429D+00  0.42347016D+01
    -0.21643826D+01  0.23089308D+01  0.99272608D-01 -0.40523158D+01
     0.90589319D+00  0.46247951D+01 -0.12689870D+00 -0.45409986D+01
     0.12864481D+01  0.29731546D+00 -0.69034289D-01
  APPROXIMATION OF MULTIPLIERS:  U =
     0.00000000D+00  0.00000000D+00  0.54004249D-02  0.00000000D+00
     0.00000000D+00  0.65909393D-02  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.67761774D-02
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
```

```
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.67668047D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.33392281D-02  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00
 DISTANCE FROM LOWER BOUND:  XL-X =
  -0.87638081D+01 -0.87638069D+01  0.00000000D+00 -0.51675866D+01
  -0.46438923D+01  0.00000000D+00 -0.16012424D+01 -0.18696625D+01
  -0.54533562D+00 -0.67247535D+01 -0.68198554D+01 -0.44879508D+01
  -0.59625180D+01 -0.59625200D+01 -0.82538287D+01 -0.27407153D+01
  -0.75418217D+01 -0.82538268D+01 -0.27407183D+01 -0.75418172D+01
  -0.10000000D+02 -0.15997911D+01 -0.77924160D+01 -0.72905826D+01
  -0.33649166D+01 -0.34601279D+01 -0.76979495D+01 -0.33262146D+01
  -0.34775767D+01 -0.59907677D+01 -0.29221516D+01 -0.12760010D+01
  -0.24806894D+01 -0.50635554D+01 -0.63955268D+01 -0.63979002D+01
  -0.50635532D+01 -0.63955228D+01 -0.63979010D+01 -0.10000000D+02
  -0.42958229D+01 -0.19206287D+01 -0.51987918D+01  0.00000000D+00
  -0.64255581D+01 -0.16891395D+01 -0.48492991D+01 -0.91902149D+01
  -0.28663267D+01 -0.72916227D+01 -0.50953455D+01 -0.98076297D+00
  -0.58886315D+01 -0.96399570D+01 -0.48779568D+01 -0.50286238D+00
  -0.62436186D+01 -0.53262328D+01 -0.49361663D+01
 DISTANCE FROM UPPER BOUND:  XU-X =
   0.12361919D+01  0.12361931D+01  0.10000000D+02  0.48324134D+01
   0.53561077D+01  0.10000000D+02  0.83987576D+01  0.81303375D+01
   0.94546644D+01  0.32752465D+01  0.31801446D+01  0.55120492D+01
   0.40374820D+01  0.40374800D+01  0.17461713D+01  0.72592847D+01
   0.24581783D+01  0.17461732D+01  0.72592817D+01  0.24581828D+01
   0.00000000D+00  0.84002089D+01  0.22075840D+01  0.27094174D+01
   0.66350834D+01  0.65398721D+01  0.23020505D+01  0.66737854D+01
   0.65224233D+01  0.40092323D+01  0.70778484D+01  0.87239990D+01
   0.75193106D+01  0.49364446D+01  0.36044732D+01  0.36020998D+01
   0.49364468D+01  0.36044772D+01  0.36020990D+01  0.00000000D+00
   0.57041771D+01  0.80793713D+01  0.48012082D+01  0.10000000D+02
   0.35744419D+01  0.83108605D+01  0.51507009D+01  0.80978507D+00
   0.71336733D+01  0.27083773D+01  0.49046545D+01  0.90192370D+01
   0.41113685D+01  0.36004297D+00  0.51220432D+01  0.94971376D+01
   0.37563814D+01  0.46737672D+01  0.50638337D+01
 NUMBER OF FUNC-CALLS:  NFUNC =  57
 NUMBER OF GRAD-CALLS:  NGRAD =  50
 NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   3   *****

    0.50000000D+01      0.50000000D+01      0.50000000D+01

    0.93959732D+00      0.75000000D+00     -0.25000000D+00
    0.23254055D+00     -0.32851184D+00      0.81199227D+00      0.59653049D-01


    0.93959732D+00      0.75000000D+00     -0.25000000D+00
    0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01

    0.00000000D+00      0.50000000D+00     -0.25000000D+00
   -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

   -0.93959732D+00      0.25000000D+00     -0.25000000D+00
   -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01
```

```
 -0.62360802D+00      0.00000000D+00     -0.25000000D+00
 -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  0.38074545D+01      0.38074533D+01     -0.50000000D+01      0.15642435D+00
 -0.36959315D+00     -0.50000000D+01     -0.33990001D+01     -0.31266272D+01
 -0.45114332D+01      0.17221469D+01      0.18147103D+01     -0.51195972D+00
  0.96101345D+00      0.96101545D+00      0.32645792D+01     -0.23097901D+01
  0.25471435D+01      0.32645773D+01     -0.23097871D+01      0.25471390D+01
  0.50000000D+01     -0.35078231D+01      0.28778737D+01      0.23091973D+01
 -0.16539328D+01     -0.15354632D+01      0.27142855D+01     -0.16930518D+01
 -0.15109358D+01      0.99926738D+00     -0.20922198D+01     -0.37251173D+01
 -0.25198620D+01      0.36205731D-01      0.14010640D+01      0.14097594D+01
  0.36203569D-01      0.14010600D+01      0.14097603D+01      0.50000000D+01
 -0.72342161D+00     -0.30448403D+01      0.20161845D+00     -0.50000000D+01
  0.14469078D+01     -0.33698301D+01     -0.15196429D+00      0.42347016D+01
 -0.21643826D+01      0.23089308D+01      0.99272608D-01     -0.40523158D+01
  0.90589319D+00      0.46247951D+01     -0.12689870D+00     -0.45409986D+01
  0.12864481D+01      0.29731546D+00     -0.69034289D-01

  0.12669003D-01

***** TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


***** TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

***** PHASE  =  2      TABS  =   0.50000D+01      TREL  =   0.50000D+01
                      PINDX =   0.12669D-01

***** TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


***** TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.60000000D+01      0.60000000D+01      0.60000000D+01

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14048401D+00     -0.19368446D+00     -0.12642521D+00      0.57044832D-01


   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.11957107D+01      0.50000000D-01

   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
  -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

  -0.93959732D+00      0.25000000D+00     -0.25000000D+00
  -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

  -0.62360802D+00      0.00000000D+00     -0.25000000D+00
  -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01
```

```
 -0.44257113D+00      -0.25000000D+00      -0.25000000D+00
 -0.17449970D+00      -0.12308749D-01      -0.67928932D+00       0.50000000D-01

 -0.33959976D+00      -0.50000000D+00      -0.25000000D+00
 -0.93271871D-01      -0.52600027D-01      -0.10625000D+01       0.62500000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   2   *****
```

START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM

PARAMETERS:

- MODE = 0
- ACC = 0.1490E-07
- SCBOU = 0.1000E+04
- MAXFUN = 5
- MAXIT = 50
- IPRINT = 2

OUTPUT IN THE FOLLOWING ORDER:

- IT - ITERATION NUMBER
- F - OBJECTIVE FUNCTION VALUE
- SCV - SUM OF CONSTRAINT VIOLATION
- NA - NUMBER OF ACTIVE CONSTRAINTS
- I - NUMBER OF LINE SEARCH ITERATIONS
- ALPHA - STEPLENGTH PARAMETER
- DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
- DLAN - MAXIMUM NORM OF LAGRANGIAN GRADIENT
- KT - KUHN-TUCKER OPTIMALITY CRITERION

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.28445259D+01	0.00D+00	0	0	0.00D+00	0.00D+00	0.30D+01	0.13D+02
2	0.24446448D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.96D+00	0.15D+01
3	0.22766479D+01	0.00D+00	0	2	0.22D+00	0.00D+00	0.11D+01	0.33D+01
4	0.17592639D+01	0.00D+00	0	2	0.32D+00	0.00D+00	0.26D+00	0.28D+00
5	0.17312204D+01	0.00D+00	0	2	0.17D+00	0.00D+00	0.36D+00	0.66D+00
6	0.14046498D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.84D-01
7	0.13394300D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D+00	0.48D+00
8	0.13155778D+01	0.00D+00	0	2	0.14D+00	0.00D+00	0.29D+00	0.12D+00
9	0.12270399D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.75D-01
10	0.11756996D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.72D-01
11	0.11184535D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.11D+00
12	0.10521016D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D+00	0.44D-01
13	0.10136003D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.19D+00
14	0.89695330D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.25D+00	0.40D-01
15	0.86277530D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D+00	0.11D+00
16	0.79822708D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.30D-01
17	0.77268934D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.74D-01
18	0.70810205D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.25D+00
19	0.58152375D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.27D+00	0.53D-01
20	0.54118968D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.86D-01
21	0.47448172D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.15D+00	0.74D-01
22	0.41785281D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.21D+00	0.82D-01
23	0.36480279D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.45D-01
24	0.33169549D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.70D-01	0.40D-01
25	0.30228629D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.98D-01	0.33D-01
26	0.27774845D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.95D-01	0.52D-01
27	0.24703705D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.46D-01	0.93D-02
28	0.24064600D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.59D-01	0.11D-01

29	0.23223600D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.84D-01	0.17D-01
30	0.21937074D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.15D-01
31	0.20768138D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.26D-01
32	0.18986037D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.68D-01	0.16D-01
33	0.17791073D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.53D-01	0.23D-01
34	0.16145714D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.95D-01	0.21D-01
35	0.14588605D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D+00	0.31D-01
36	0.12417819D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D+00	0.29D-01
37	0.10252665D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.29D-01
38	0.85897731D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.34D-01	0.77D-02
39	0.80570464D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.56D-01	0.11D-01
40	0.74674656D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.68D-01	0.61D-02
41	0.70402215D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.85D-02
42	0.64292382D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.74D-02
43	0.59097308D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.54D-01	0.44D-02
44	0.56024298D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.44D-01	0.39D-02
45	0.53449241D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.31D-01	0.33D-02
46	0.50999587D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.29D-01	0.33D-02
47	0.48930044D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.32D-01	0.18D-02
48	0.47604552D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.20D-02
49	0.46243100D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.41D-01	0.13D-02

**MORE THAN MAXIT ITERATIONS

* FINAL CONVERGENCE ANALYSIS

OBJECTIVE FUNCTION VALUE: F(X) = 0.45205677D-01

APPROXIMATION OF SOLUTION: X =

0.50000000D+01	0.50000000D+01	-0.47255616D+01	-0.15633741D+01
-0.18421751D+01	-0.50000000D+01	-0.50000000D+01	-0.50000000D+01
-0.48266062D+01	0.41268165D+01	0.46655413D+01	-0.46189752D+01
0.67859486D+00	0.67859722D+00	0.47197906D+01	-0.33136605D+01
0.19619702D+01	0.47197894D+01	-0.33136563D+01	0.19619646D+01
0.50000000D+01	-0.50000000D+01	0.46741317D+01	0.47130065D+01
-0.49998170D+01	-0.28744837D+01	0.34437733D+01	-0.50000000D+01
-0.32307096D+01	0.19982206D+01	0.41780512D+01	-0.30144911D+01
-0.50000000D+01	-0.56568156D+00	0.26977723D+01	0.17850287D+01
-0.56568838D+00	0.26977672D+01	0.17850296D+01	0.50000000D+01
-0.17930031D+01	-0.10576558D+01	0.27568555D+00	-0.50000000D+01
0.13926607D+01	-0.33935646D+01	-0.13023402D+00	0.45962412D+01
0.31154991D+01	0.48764301D+01	-0.18641010D+00	-0.50000000D+01
0.67329083D+00	0.29483375D+01	-0.16128785D+00	-0.49600688D+01
-0.29759330D+01	-0.42308952D+01	0.15367369D+00	

APPROXIMATION OF MULTIPLIERS: U =

0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.72829123D-02	0.11652069D-01	0.16518531D-01
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.11391547D-01	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.30777207D-03
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.64318085D-02	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.18215393D-01
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.48755013D-02
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.10222452D-01
0.10222460D-01	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.65736064D-02
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.10332362D-01	0.00000000D+00

```
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00
 DISTANCE FROM LOWER BOUND:  XL-X =
  -0.10000000D+02 -0.10000000D+02 -0.31683297D+00 -0.34024761D+01
  -0.31454300D+01  0.00000000D+00  0.00000000D+00  0.00000000D+00
  -0.19897505D+00 -0.91254388D+01 -0.96670521D+01 -0.36436728D+00
  -0.56858118D+01 -0.56858141D+01 -0.97092787D+01 -0.17133889D+01
  -0.69198990D+01 -0.97092776D+01 -0.17133930D+01 -0.69198935D+01
  -0.10000000D+02  0.00000000D+00 -0.97060444D+01 -0.97330175D+01
  -0.10470932D-01 -0.21630655D+01 -0.84746038D+01  0.00000000D+00
  -0.18078257D+01 -0.70025547D+01 -0.91457899D+01 -0.19462740D+01
   0.00000000D+00 -0.44547768D+01 -0.76746258D+01 -0.67780810D+01
  -0.44547700D+01 -0.76746208D+01 -0.67780819D+01 -0.10000000D+02
  -0.32206843D+01 -0.39779106D+01 -0.52743496D+01  0.00000000D+00
  -0.63589945D+01 -0.15904671D+01 -0.48723196D+01 -0.95710032D+01
  -0.81013048D+01 -0.98604030D+01 -0.48125393D+01  0.00000000D+00
  -0.56538715D+01 -0.79273475D+01 -0.48395935D+01 -0.83494839D-01
  -0.20604028D+01 -0.79387054D+00 -0.51546200D+01
 DISTANCE FROM UPPER BOUND:  XU-X =
   0.00000000D+00  0.00000000D+00  0.96831670D+01  0.65975239D+01
   0.68545700D+01  0.10000000D+02  0.10000000D+02  0.10000000D+02
   0.98010249D+01  0.87456125D+00  0.33294785D+00  0.96356327D+01
   0.43141882D+01  0.43141859D+01  0.29072129D+00  0.82866111D+01
   0.30801010D+01  0.29072242D+00  0.82866070D+01  0.30801065D+01
   0.00000000D+00  0.10000000D+02  0.29395556D+00  0.26698247D+00
   0.99895291D+01  0.78369345D+01  0.15253962D+01  0.10000000D+02
   0.81921743D+01  0.29974453D+01  0.85421009D+00  0.80537260D+01
   0.10000000D+02  0.55452232D+01  0.23253742D+01  0.32219190D+01
   0.55452300D+01  0.23253792D+01  0.32219181D+01  0.00000000D+00
   0.67793157D+01  0.60220894D+01  0.47256504D+01  0.10000000D+02
   0.36410055D+01  0.84095329D+01  0.51276804D+01  0.42899677D+00
   0.18986952D+01  0.13959701D+00  0.51874607D+01  0.10000000D+02
   0.43461285D+01  0.20726525D+01  0.51604065D+01  0.99165052D+01
   0.79395972D+01  0.92061295D+01  0.48453800D+01
 NUMBER OF FUNC-CALLS:  NFUNC =  55
 NUMBER OF GRAD-CALLS:  NGRAD =  50
 NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   3   *****

    0.60000000D+01      0.60000000D+01      0.60000000D+01

    0.62360802D+00      0.00000000D+00     -0.25000000D+00
    0.13844827D+01      0.15749615D+00      0.11664736D+01      0.47433077D-01


    0.62360802D+00      0.00000000D+00     -0.25000000D+00
    0.14244966D+01      0.18750000D+00      0.11957107D+01      0.50000000D-01

    0.93959732D+00      0.75000000D+00     -0.25000000D+00
    0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01

    0.00000000D+00      0.50000000D+00     -0.25000000D+00
   -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

   -0.93959732D+00      0.25000000D+00     -0.25000000D+00
   -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

   -0.62360802D+00      0.00000000D+00     -0.25000000D+00
   -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01
```

```
 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  0.50000000D+01      0.50000000D+01     -0.47255616D+01     -0.15633741D+01
 -0.18421751D+01     -0.50000000D+01     -0.50000000D+01     -0.50000000D+01
 -0.48266062D+01      0.41268165D+01      0.46655413D+01     -0.46189752D+01
  0.67859486D+00      0.67859722D+00      0.47197906D+01     -0.33136605D+01
  0.19619702D+01      0.47197894D+01     -0.33136563D+01      0.19619646D+01
  0.50000000D+01     -0.50000000D+01      0.46741317D+01      0.47130065D+01
 -0.49998170D+01     -0.28744837D+01      0.34437733D+01     -0.50000000D+01
 -0.32307096D+01      0.19982206D+01      0.41780512D+01     -0.30144911D+01
 -0.50000000D+01     -0.56568156D+00      0.26977723D+01      0.17850287D+01
 -0.56568838D+00      0.26977672D+01      0.17850296D+01      0.50000000D+01
 -0.17930031D+01     -0.10576558D+01      0.27568555D+00     -0.50000000D+01
  0.13926607D+01     -0.33935646D+01     -0.13023402D+00      0.45962412D+01
  0.31154991D+01      0.48764301D+01     -0.18641010D+00     -0.50000000D+01
  0.67329083D+00      0.29483375D+01     -0.16128785D+00     -0.49600688D+01
 -0.29759330D+01     -0.42308952D+01      0.15367369D+00

  0.45205677D-01

***** TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

***** PHASE  =  2      TABS  =   0.60000D+01      TREL  =   0.60000D+01
                      PINDX =   0.45206D-01

***** TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

  0.70000000D+01      0.70000000D+01      0.70000000D+01

  0.44257113D+00      0.25000000D+00     -0.25000000D+00
  0.74112964D+00      0.21665891D-01      0.10398746D+01      0.45633796D-01


  0.44257113D+00      0.25000000D+00     -0.25000000D+00
  0.10295100D+01      0.71979866D+00      0.80000000D-01      0.40000000D-01

  0.62360802D+00      0.00000000D+00     -0.25000000D+00
  0.14244966D+01      0.18750000D+00      0.11957107D+01      0.50000000D-01

  0.93959732D+00      0.75000000D+00     -0.25000000D+00
  0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01

  0.00000000D+00      0.50000000D+00     -0.25000000D+00
 -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

 -0.93959732D+00      0.25000000D+00     -0.25000000D+00
 -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

 -0.62360802D+00      0.00000000D+00     -0.25000000D+00
 -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
```

```
 -0.17449970D+00      -0.12308749D-01      -0.67928932D+00       0.50000000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   2   *****


-------------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
-------------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
     DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
     KT    - KUHN-TUCKER OPTIMALITY CRITERION

IT         F           SCV      NA  I    ALPHA     DELTA       DLAN       KT
-------------------------------------------------------------------------------
 1  0.12312540D+01  0.00D+00   0   0  0.00D+00  0.00D+00  0.13D+01  0.64D+01
 2  0.11651004D+01  0.00D+00   0   2  0.10D+00  0.00D+00  0.10D+01  0.33D+00
 3  0.11059148D+01  0.00D+00   0   2  0.36D+00  0.00D+00  0.65D+00  0.12D+01
 4  0.10167822D+01  0.00D+00   0   2  0.16D+00  0.00D+00  0.20D+00  0.99D-01
 5  0.10125705D+01  0.00D+00   0   2  0.10D+00  0.00D+00  0.17D+00  0.56D-01
 6  0.97859976D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.19D+00  0.57D-01
 7  0.93807141D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.10D+00  0.13D+00
 8  0.93345877D+00  0.00D+00   0   2  0.10D+00  0.00D+00  0.21D+00  0.38D-01
 9  0.91408913D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.39D-01  0.43D-02
10  0.91018502D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.36D-01  0.13D-01
11  0.89974677D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.25D-01  0.19D-01
12  0.88884626D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.32D-01  0.31D-02
13  0.88614825D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.31D-01  0.74D-02
14  0.88148750D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.15D-01  0.24D-02
15  0.87988658D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.13D-01  0.13D-02
16  0.87871117D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.23D-01  0.60D-02
17  0.87483460D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.46D-01  0.24D-02
18  0.87269167D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.30D-01  0.72D-02
19  0.86795796D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.43D-01  0.35D-02
20  0.86492281D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.25D-01  0.10D-01
21  0.85858667D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.20D-01  0.23D-02
22  0.85684462D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.24D-01  0.31D-02
23  0.85429483D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.21D-01  0.46D-02
24  0.85129549D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.22D-01  0.31D-02
25  0.84904252D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.20D-01  0.25D-02
26  0.84734322D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.21D-01  0.16D-02
27  0.84611689D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.14D-01  0.99D-03
28  0.84548230D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.99D-02  0.59D-03
29  0.84497781D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.15D-01  0.15D-02
30  0.84393323D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.17D-01  0.13D-02
31  0.84295913D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.18D-01  0.12D-02
32  0.84206662D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.20D-01  0.11D-02
```

```
33  0.84123951D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.21D-01  0.26D-02
34  0.83920548D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.27D-01  0.32D-02
35  0.83712943D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.33D-01  0.15D-02
36  0.83597116D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.29D-01  0.15D-02
37  0.83493511D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.24D-01  0.10D-02
38  0.83412853D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.15D-01  0.10D-02
39  0.83340204D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.13D-01  0.10D-02
40  0.83277998D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.14D-01  0.31D-03
41  0.83252399D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.16D-01  0.77D-03
42  0.83201552D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.22D-01  0.26D-03
43  0.83181503D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.37D-01  0.29D-03
44  0.83160275D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.34D-01  0.28D-03
45  0.83138734D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.37D-01  0.43D-03
46  0.83105801D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.38D-01  0.66D-03
47  0.83055795D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.35D-01  0.88D-03
48  0.82994557D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.30D-01  0.55D-03
49  0.82957737D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.25D-01  0.25D-03
    **MORE THAN MAXIT ITERATIONS
```

• FINAL CONVERGENCE ANALYSIS

OBJECTIVE FUNCTION VALUE: F(X) = 0.82940637D+00

APPROXIMATION OF SOLUTION: X =

```
 0.50000000D+01  0.50000000D+01 -0.47741233D+01 -0.19056543D+01
-0.14492848D+01 -0.50000000D+01 -0.50000000D+01 -0.50000000D+01
-0.37509978D+01  0.50000000D+01  0.50000000D+01 -0.50000000D+01
-0.66935340D-01 -0.66926191D-01  0.40904259D+01 -0.33218632D+01
 0.30705041D+01  0.40904233D+01 -0.33218574D+01  0.30704986D+01
 0.50000000D+01 -0.50000000D+01  0.50000000D+01  0.43180860D+01
-0.47153996D+01 -0.23675617D+01  0.30615456D+01 -0.47228597D+01
-0.29060545D+01  0.24526889D+01  0.50000000D+01 -0.45197929D+01
-0.50000000D+01 -0.26974276D+01  0.35863838D+01  0.27131163D+01
-0.26974302D+01  0.35863796D+01  0.27131174D+01  0.50000000D+01
-0.27728168D+01 -0.19459690D+01  0.27787473D+00 -0.50000000D+01
 0.27690806D+01 -0.22969429D+01 -0.19860531D+00  0.50000000D+01
 0.50000000D+01  0.39466302D+01 -0.15529782D+00 -0.49688131D+01
 0.11918313D+01  0.23741223D+01 -0.18511366D+00 -0.48967879D+01
-0.50000000D+01 -0.21918240D+01  0.18657962D+00
```

APPROXIMATION OF MULTIPLIERS: U =

```
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.94481877D-02  0.10023412D-01  0.77639896D-02
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.13553011D-01
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.65029535D-02  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.70109460D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.46059855D-02
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.19059226D-02  0.00000000D+00  0.00000000D+00  0.26497636D-02
0.26497574D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.53289695D-02  0.33730582D-02  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.49613198D-02
0.00000000D+00  0.68032117D-02  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.51946044D-02  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.00000000D+00  0.11229821D-01  0.00000000D+00
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.00000000D+00  0.12532100D-01  0.25805724D-02
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
```

```
   0.00000000D+00  0.00000000D+00
DISTANCE FROM LOWER BOUND:  XL-X =
  -0.10000000D+02 -0.10000000D+02 -0.21641944D+00 -0.30951584D+01
  -0.35377951D+01  0.00000000D+00  0.00000000D+00  0.00000000D+00
  -0.12284330D+01 -0.10000000D+02 -0.10000000D+02  0.00000000D+00
  -0.49409244D+01 -0.49409335D+01 -0.90956002D+01 -0.16790617D+01
  -0.80650824D+01 -0.90955976D+01 -0.16790675D+01 -0.80650769D+01
  -0.10000000D+02  0.00000000D+00 -0.10000000D+02 -0.93140418D+01
  -0.28699064D+00 -0.26412358D+01 -0.80569586D+01 -0.28040656D+00
  -0.21011952D+01 -0.74534848D+01 -0.10000000D+02 -0.50209258D+00
   0.00000000D+00 -0.23318951D+01 -0.85783292D+01 -0.77089720D+01
  -0.23318924D+01 -0.85783249D+01 -0.77089731D+01 -0.10000000D+02
  -0.22289303D+01 -0.30725912D+01 -0.52780024D+01  0.00000000D+00
  -0.77412993D+01 -0.26988895D+01 -0.48031592D+01 -0.10000000D+02
  -0.10000000D+02 -0.89293446D+01 -0.48454367D+01 -0.30683947D-01
  -0.62009504D+01 -0.73730017D+01 -0.48137510D+01 -0.96444005D-01
   0.00000000D+00 -0.27974808D+01 -0.51856989D+01
DISTANCE FROM UPPER BOUND:  XU-X =
   0.00000000D+00  0.00000000D+00  0.97835806D+01  0.69048416D+01
   0.64622049D+01  0.10000000D+02  0.10000000D+02  0.10000000D+02
   0.87715670D+01  0.00000000D+00  0.00000000D+00  0.10000000D+02
   0.50590756D+01  0.50590665D+01  0.90439981D+00  0.83209383D+01
   0.19349176D+01  0.90440241D+00  0.83209325D+01  0.19349231D+01
   0.00000000D+00  0.10000000D+02  0.00000000D+00  0.68595822D+00
   0.97130094D+01  0.73587642D+01  0.19430414D+01  0.97195934D+01
   0.78988048D+01  0.25465152D+01  0.00000000D+00  0.94979074D+01
   0.10000000D+02  0.76681049D+01  0.14216708D+01  0.22910280D+01
   0.76681076D+01  0.14216751D+01  0.22910269D+01  0.00000000D+00
   0.77710697D+01  0.69274088D+01  0.47219976D+01  0.10000000D+02
   0.22587007D+01  0.73011105D+01  0.51968408D+01  0.00000000D+00
   0.00000000D+00  0.10706554D+01  0.51545633D+01  0.99693161D+01
   0.37990496D+01  0.26269983D+01  0.51862490D+01  0.99035560D+01
   0.10000000D+02  0.72025192D+01  0.48143011D+01
NUMBER OF FUNC-CALLS:  NFUNC =  55
NUMBER OF GRAD-CALLS:  NGRAD =  50
NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   3   *****

   0.70000000D+01      0.70000000D+01      0.70000000D+01

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.87017756D+00      0.26149420D+00      0.77198275D+00      0.45724041D-01


   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.80000000D-01      0.40000000D-01

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.11957107D+01      0.50000000D-01

   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
  -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

  -0.93959732D+00      0.25000000D+00     -0.25000000D+00
  -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

  -0.62360802D+00      0.00000000D+00     -0.25000000D+00
  -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

  -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
```

```
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

  0.50000000D+01      0.50000000D+01     -0.47741233D+01     -0.19056543D+01
 -0.14492848D+01     -0.50000000D+01     -0.50000000D+01     -0.50000000D+01
 -0.37509978D+01      0.50000000D+01      0.50000000D+01     -0.50000000D+01
 -0.66935340D-01     -0.66926191D-01      0.40904259D+01     -0.33218632D+01
  0.30705041D+01      0.40904233D+01     -0.33218574D+01      0.30704986D+01
  0.50000000D+01     -0.50000000D+01      0.50000000D+01      0.43180860D+01
 -0.47153996D+01     -0.23675617D+01      0.30615456D+01     -0.47228597D+01
 -0.29060545D+01      0.24526889D+01      0.50000000D+01     -0.45197929D+01
 -0.50000000D+01     -0.26974276D+01      0.35863838D+01      0.27131163D+01
 -0.26974302D+01      0.35863796D+01      0.27131174D+01      0.50000000D+01
 -0.27728168D+01     -0.19459690D+01      0.27787473D+00     -0.50000000D+01
  0.27690806D+01     -0.22969429D+01     -0.19860531D+00      0.50000000D+01
  0.50000000D+01      0.39466302D+01     -0.15529782D+00     -0.49688131D+01
  0.11918313D+01      0.23741223D+01     -0.18511366D+00     -0.48967879D+01
 -0.50000000D+01     -0.21918240D+01      0.18657962D+00

  0.82940637D+00

***** TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


***** TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

***** PHASE  =  2      TABS  =   0.70000D+01      TREL  =   0.70000D+01
                      PINDX =   0.82941D+00

***** TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


***** TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

  0.80000000D+01      0.80000000D+01      0.80000000D+01

  0.33959976D+00      0.50000000D+00     -0.25000000D+00
  0.13524762D+00      0.54709187D-02      0.65272312D+00      0.43773125D-01


  0.33959976D+00      0.50000000D+00     -0.25000000D+00
  0.80321391D+00      0.62430401D+00      0.46550967D+00      0.32000000D-01

  0.44257113D+00      0.25000000D+00     -0.25000000D+00
  0.10295100D+01      0.71979866D+00      0.80000000D-01      0.40000000D-01

  0.62360802D+00      0.00000000D+00     -0.25000000D+00
  0.14244966D+01      0.18750000D+00      0.11957107D+01      0.50000000D-01

  0.93959732D+00      0.75000000D+00     -0.25000000D+00
  0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01

  0.00000000D+00      0.50000000D+00     -0.25000000D+00
 -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

 -0.93959732D+00      0.25000000D+00     -0.25000000D+00
 -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

 -0.62360802D+00      0.00000000D+00     -0.25000000D+00
 -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01
```

***** TRAJ DEBUG POINT = 400, PHASE = 2 *****

***** TRAJ DEBUG POINT = 412, PHASE = 2 *****

START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM

PARAMETERS:
MODE = 0
ACC = 0.1490E-07
SCBOU = 0.1000E+04
MAXFUN = 5
MAXIT = 50
IPRINT = 2

OUTPUT IN THE FOLLOWING ORDER:
IT - ITERATION NUMBER
F - OBJECTIVE FUNCTION VALUE
SCV - SUM OF CONSTRAINT VIOLATION
NA - NUMBER OF ACTIVE CONSTRAINTS
I - NUMBER OF LINE SEARCH ITERATIONS
ALPHA - STEPLENGTH PARAMETER
DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
DLAN - MAXIMUM NORM OF LAGRANGIAN GRADIENT
KT - KUHN-TUCKER OPTIMALITY CRITERION

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.16280388D+01	0.00D+00	0	0	0.00D+00	0.00D+00	0.17D+01	0.34D+01
2	0.15170874D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.50D+00	0.21D+00
3	0.15043984D+01	0.00D+00	0	2	0.13D+00	0.00D+00	0.37D+00	0.13D+00
4	0.14832051D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.38D+00	0.14D+00
5	0.14778179D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.32D+00	0.68D-01
6	0.14534639D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.94D-01	0.16D-01
7	0.14522567D+01	0.00D+00	0	2	0.15D+00	0.00D+00	0.89D-01	0.27D-01
8	0.14442670D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.97D-02
9	0.14367214D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.75D-01	0.11D-01
10	0.14291324D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.72D-01	0.60D-02
11	0.14245658D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.74D-01	0.74D-02
12	0.14196091D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.73D-01	0.14D-02
13	0.14183623D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.71D-01	0.36D-02
14	0.14160224D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.69D-01	0.19D-02
15	0.14146675D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.67D-01	0.12D-02
16	0.14136615D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D-01	0.18D-02
17	0.14125849D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D-01	0.46D-03
18	0.14122078D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D-01	0.11D-02
19	0.14114284D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D-01	0.75D-03
20	0.14108446D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D-01	0.12D-02
21	0.14099679D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.65D-01	0.16D-02
22	0.14086992D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.65D-01	0.21D-02
23	0.14071096D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.66D-01	0.58D-02
24	0.14030260D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.66D-01	0.24D-02
25	0.14010244D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.68D-01	0.69D-02
26	0.13964315D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.70D-01	0.35D-02
27	0.13936801D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.69D-01	0.62D-02
28	0.13890275D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.68D-01	0.75D-02
29	0.13830581D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.75D-01	0.92D-02
30	0.13758480D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.66D-01	0.24D-01
31	0.13593909D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.88D-01	0.11D-01
32	0.13581065D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.23D+00	0.20D-01
33	0.13498471D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.80D-01	0.11D-01
34	0.13416081D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.79D-01	0.21D-01
35	0.13238670D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.62D-01
36	0.12899863D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.39D+00	0.24D-01

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37  0.12706862D+01  0.00D+00   0  1  0.10D+01  0.00D+00  0.28D+00  0.97D-01
38  0.12087605D+01  0.00D+00   0  1  0.10D+01  0.00D+00  0.20D+00  0.67D-01
39  0.11591539D+01  0.00D+00   0  1  0.10D+01  0.00D+00  0.43D+00  0.16D+00
40  0.11263213D+01  0.00D+00   0  1  0.10D+01  0.00D+00  0.11D+01  0.30D+00
41  0.10742985D+01  0.00D+00   0  2  0.41D+00  0.00D+00  0.67D+00  0.41D+00
42  0.10322445D+01  0.00D+00   0  2  0.33D+00  0.00D+00  0.14D+00  0.84D-01
43  0.98761698D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.16D+00  0.29D-01
44  0.96847244D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.16D+00  0.15D-01
45  0.95635618D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.19D+00  0.44D-01
46  0.92678922D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.18D+00  0.33D-01
47  0.89983629D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.16D+00  0.53D-01
48  0.85954028D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.14D+00  0.33D-01
49  0.83871981D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.16D+00  0.17D-01
     **MORE THAN MAXIT ITERATIONS


 * FINAL CONVERGENCE ANALYSIS

   OBJECTIVE FUNCTION VALUE:  F(X) =  0.82766329D+00
   APPROXIMATION OF SOLUTION:  X =
      0.50000000D+01  0.50000000D+01 -0.34271688D+01 -0.43956369D+01
      0.41172699D+01 -0.49670165D+01 -0.50000000D+01 -0.50000000D+01
     -0.34359329D+01  0.44522254D+01  0.50000000D+01 -0.50000000D+01
     -0.13174001D+00 -0.13171915D+00  0.33566105D+01 -0.17528774D+01
      0.50000000D+01  0.33566073D+01 -0.17528677D+01  0.50000000D+01
      0.47940292D+01 -0.37812915D+01  0.18183163D+01  0.12568649D+01
     -0.50000000D+01 -0.47586089D+01 -0.27113201D+01 -0.47054133D+01
     -0.18096569D+01  0.50000000D+01  0.50000000D+01 -0.50000000D+01
     -0.50000000D+01 -0.48325524D+01  0.28716514D+01  0.10034088D+01
     -0.48325513D+01  0.28716419D+01  0.10034134D+01  0.50000000D+01
      0.80745082D-01 -0.31160143D+00  0.15868882D+00 -0.50000000D+01
      0.44420612D+01 -0.49878917D+01 -0.38561262D+00  0.49886892D+01
      0.50000000D+01 -0.15624804D+01 -0.30971381D+00 -0.50000000D+01
     -0.43543935D+01  0.20526478D+01  0.26998831D+00 -0.44482319D+01
     -0.50000000D+01  0.50000000D+01  0.25166299D+00
   APPROXIMATION OF MULTIPLIERS:  U =
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.19244385D-02  0.48622421D-01
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.42258557D-01
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.70560989D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.32190116D-01
      0.19212875D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.17775607D-01
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.36009127D-01
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.10562065D-01  0.00000000D+00  0.00000000D+00  0.79663154D-01
      0.79663145D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.72025719D-01  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.40820583D-01
      0.00000000D+00  0.00000000D+00  0.40820970D-01  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.15656991D-01  0.40440077D-02  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.11588322D-01  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.45700360D-01
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.49307002D-01  0.00000000D+00
   DISTANCE FROM LOWER BOUND:  XL-X =
     -0.10000000D+02 -0.10000000D+02 -0.15834757D+01 -0.65325911D+00
     -0.91041401D+01 -0.51223870D-01 -0.69250809D-02  0.00000000D+00
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 -0.15890879D+01 -0.94616762D+01 -0.10000000D+02  0.00000000D+00
 -0.48687319D+01 -0.48687522D+01 -0.83610710D+01 -0.31909980D+01
 -0.10000000D+02 -0.83610677D+01 -0.31910077D+01 -0.10000000D+02
 -0.97113663D+01 -0.12508633D+01 -0.68601905D+01 -0.63697946D+01
 -0.24344867D-01 -0.29375672D+00 -0.24408903D+01 -0.22492634D+00
 -0.31957942D+01 -0.10000000D+02 -0.99990253D+01  0.00000000D+00
  0.00000000D+00 -0.21053277D+00 -0.78934900D+01 -0.60641698D+01
 -0.21053377D+00 -0.78934806D+01 -0.60641743D+01 -0.99916708D+01
 -0.50672220D+01 -0.46001608D+01 -0.51643546D+01  0.00000000D+00
 -0.94093689D+01 -0.94698907D-01 -0.46179134D+01 -0.99839797D+01
 -0.10000000D+02 -0.34676134D+01 -0.46901967D+01  0.00000000D+00
 -0.69846810D+00 -0.70955002D+01 -0.52609211D+01 -0.58546644D+00
  0.00000000D+00 -0.10000000D+02 -0.52532690D+01
DISTANCE FROM UPPER BOUND:  XU-X =
   0.00000000D+00  0.00000000D+00  0.84165243D+01  0.93467409D+01
   0.89585992D+00  0.99487761D+01  0.99930749D+01  0.10000000D+02
   0.84109121D+01  0.53832378D+00  0.00000000D+00  0.10000000D+02
   0.51312681D+01  0.51312478D+01  0.16389290D+01  0.68090020D+01
   0.00000000D+00  0.16389323D+01  0.68089923D+01  0.00000000D+00
   0.28863369D+00  0.87491367D+01  0.31398095D+01  0.36302054D+01
   0.99756551D+01  0.97062433D+01  0.75591097D+01  0.97750737D+01
   0.68042058D+01  0.00000000D+00  0.97469556D-03  0.10000000D+02
   0.10000000D+02  0.97894672D+01  0.21065100D+01  0.39358302D+01
   0.97894662D+01  0.21065194D+01  0.39358257D+01  0.83291923D-02
   0.49327780D+01  0.53998392D+01  0.48356454D+01  0.10000000D+02
   0.59063114D+00  0.99053011D+01  0.53820866D+01  0.16020253D-01
   0.00000000D+00  0.65323866D+01  0.53098033D+01  0.10000000D+02
   0.93015319D+01  0.29044998D+01  0.47390789D+01  0.94145336D+01
   0.10000000D+02  0.00000000D+00  0.47467310D+01
NUMBER OF FUNC-CALLS:  NFUNC =  56
NUMBER OF GRAD-CALLS:  NGRAD =  50
NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   3   *****

   0.80000000D+01      0.80000000D+01      0.80000000D+01

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.40615918D+00      0.39188668D+00      0.38470438D+00      0.25251865D-01


   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.46550967D+00      0.32000000D-01

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.80000000D-01      0.40000000D-01

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.11957107D+01      0.50000000D-01

   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
  -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

  -0.93959732D+00      0.25000000D+00     -0.25000000D+00
  -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

  -0.62360802D+00      0.00000000D+00     -0.25000000D+00
  -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

   0.50000000D+01      0.50000000D+01     -0.34271688D+01     -0.43956369D+01
   0.41172699D+01     -0.49670165D+01     -0.50000000D+01     -0.50000000D+01
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```
 -0.34359329D+01     0.44522254D+01     0.50000000D+01    -0.50000000D+01
 -0.13174001D+00    -0.13171915D+00     0.33566105D+01    -0.17528774D+01
  0.50000000D+01     0.33566073D+01    -0.17528677D+01     0.50000000D+01
  0.47940292D+01    -0.37812915D+01     0.18183163D+01     0.12568649D+01
 -0.50000000D+01    -0.47586089D+01    -0.27113201D+01    -0.47054133D+01
 -0.18096569D+01     0.50000000D+01     0.50000000D+01    -0.50000000D+01
 -0.50000000D+01    -0.48325524D+01     0.28716514D+01     0.10034088D+01
 -0.48325513D+01     0.28716419D+01     0.10034134D+01     0.50000000D+01
  0.80745082D-01    -0.31160143D+00     0.15868882D+00    -0.50000000D+01
  0.44420612D+01    -0.49878917D+01    -0.38561262D+00     0.49886892D+01
  0.50000000D+01    -0.15624804D+01    -0.30971381D+00    -0.50000000D+01
 -0.43543935D+01     0.20526478D+01     0.26998831D+00    -0.44482319D+01
 -0.50000000D+01     0.50000000D+01     0.25166299D+00

  0.82766329D+00

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****   PHASE  =  2      TABS  =   0.80000D+01      TREL  =   0.80000D+01
                         PINDX =   0.82766D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

  0.90000000D+01     0.90000000D+01     0.90000000D+01

  0.27461750D+00     0.75000000D+00    -0.25000000D+00
 -0.18551397D+00     0.67433529D-01     0.50160931D+00     0.40004728D-01

  0.27461750D+00     0.75000000D+00    -0.25000000D+00
  0.67449970D+00     0.34628556D+00     0.85240000D+00     0.25600000D-01

  0.33959976D+00     0.50000000D+00    -0.25000000D+00
  0.80321391D+00     0.62430401D+00     0.46550967D+00     0.32000000D-01

  0.44257113D+00     0.25000000D+00    -0.25000000D+00
  0.10295100D+01     0.71979866D+00     0.80000000D-01     0.40000000D-01

  0.62360802D+00     0.00000000D+00    -0.25000000D+00
  0.14244966D+01     0.18750000D+00     0.11957107D+01     0.50000000D-01

  0.93959732D+00     0.75000000D+00    -0.25000000D+00
  0.25000000D+00    -0.34479866D+00     0.81250000D+00     0.62500000D-01

  0.00000000D+00     0.50000000D+00    -0.25000000D+00
 -0.92449664D+00     0.69599109D-03     0.47740000D+00     0.25600000D-01

 -0.93959732D+00     0.25000000D+00    -0.25000000D+00
 -0.52951002D+00     0.28714436D-01     0.90509668D-01     0.32000000D-01

*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   2   *****
```

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------------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
------------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
     DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
     KT    - KUHN-TUCKER OPTIMALITY CRITERION
```

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.14995879D+01	0.00D+00	0	0	0.00D+00	0.00D+00	0.24D+01	0.43D+01
2	0.13226591D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.38D+00	0.28D+00
3	0.13098039D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.26D+00	0.86D-01
4	0.13007528D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.62D+00	0.35D+00
5	0.12757360D+01	0.00D+00	0	2	0.16D+00	0.00D+00	0.28D+00	0.46D-01
6	0.12481698D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D+00	0.23D-01
7	0.12320031D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.22D+00	0.11D+00
8	0.12137994D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D+00	0.59D-01
9	0.11776461D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D+00	0.12D-01
10	0.11681850D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D+00	0.11D-01
11	0.11600496D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D+00	0.99D-02
12	0.11518960D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D+00	0.20D-01
13	0.11381806D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D+00	0.14D-01
14	0.11266855D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D+00	0.24D-01
15	0.11070240D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.56D-01
16	0.10638710D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.37D-01
17	0.10403077D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D+00	0.14D-01
18	0.10307445D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D+00	0.10D-01
19	0.10234928D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D+00	0.91D-02
20	0.10163035D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D+00	0.14D-01
21	0.10064011D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D+00	0.12D-01
22	0.99750646D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D+00	0.13D-01
23	0.98906315D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D+00	0.67D-02
24	0.98388649D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D+00	0.99D-02
25	0.97584223D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D+00	0.21D-01
26	0.96158924D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D+00	0.14D-01
27	0.94935128D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D+00	0.25D-01
28	0.93149712D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.13D-01
29	0.92438453D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.64D-02
30	0.91936910D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.80D-02
31	0.91555379D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D+00	0.33D-02
32	0.91298581D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D+00	0.37D-02
33	0.91000476D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D+00	0.36D-02
34	0.90708477D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.58D-02
35	0.90286783D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.48D-02
36	0.89982619D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.19D-02
37	0.89840111D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D+00	0.19D-02
38	0.89710607D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D+00	0.12D-02
39	0.89609214D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D+00	0.38D-02
40	0.89333595D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D+00	0.28D-02

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41  0.89095114D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.19D+00  0.94D-02
42  0.88475883D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.18D+00  0.40D-02
43  0.88196328D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.17D+00  0.22D-02
44  0.88038468D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.17D+00  0.26D-02
45  0.87837585D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.17D+00  0.40D-02
46  0.87568638D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.17D+00  0.24D-02
47  0.87384301D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.17D+00  0.31D-02
48  0.87171561D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.17D+00  0.18D-02
49  0.87034818D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.17D+00  0.20D-02
    **MORE THAN MAXIT ITERATIONS
```

• FINAL CONVERGENCE ANALYSIS

```
OBJECTIVE FUNCTION VALUE:  F(X) =  0.86892003D+00
APPROXIMATION OF SOLUTION:  X =
   0.50000000D+01  0.50000000D+01 -0.13251973D+01 -0.50000000D+01
   0.43719726D+01 -0.50000000D+01 -0.50000000D+01 -0.50000000D+01
  -0.48562155D+01  0.46365621D+01  0.50000000D+01 -0.50000000D+01
  -0.26119561D+01 -0.26119320D+01  0.50000000D+01 -0.32377103D+01
   0.50000000D+01  0.50000000D+01 -0.32377000D+01  0.50000000D+01
   0.47494892D+01 -0.50000000D+01  0.13008796D+01 -0.19098572D+01
  -0.26797244D+01 -0.50000000D+01 -0.21106833D+01 -0.50000000D+01
   0.50000000D+01  0.50000000D+01  0.47290338D+01 -0.49631201D+01
  -0.46271449D+01 -0.50000000D+01  0.29558035D+01  0.60868518D+00
  -0.50000000D+01  0.29557940D+01  0.60869445D+00  0.50000000D+01
   0.32190634D+01 -0.22480960D+01  0.16008719D+00 -0.50000000D+01
   0.21743770D+01 -0.40546609D+01 -0.18936310D+00  0.50000000D+01
   0.50000000D+01 -0.38070874D+01 -0.28383718D+00 -0.50000000D+01
  -0.50000000D+01  0.50000000D+01  0.10885355D+00 -0.36415275D+01
  -0.50000000D+01  0.48092661D+01  0.10087714D+00
APPROXIMATION OF MULTIPLIERS:  U =
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.59643887D-02
   0.00000000D+00  0.28773615D-01  0.30178824D-02  0.27217226D-01
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.19836735D-01
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.49718063D-02  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.12557032D-01  0.00000000D+00  0.14765816D-01
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.75588045D-02  0.00000000D+00  0.00000000D+00
   0.75587730D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.29366353D-01
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.26215732D-01
   0.14916742D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.23833707D-01  0.00000000D+00  0.00000000D+00  0.85572402D-01
   0.85572336D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.44151239D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.40077292D-02  0.00000000D+00  0.92956490D-02
   0.40076611D-02  0.00000000D+00  0.92956490D-02  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.13751687D-01
   0.17781205D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.15871406D-01  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.21104528D-01  0.18299190D-01
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.15339024D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00
DISTANCE FROM LOWER BOUND:  XL-X =
  -0.10000000D+02 -0.10000000D+02 -0.36585496D+01  0.00000000D+00
  -0.93727725D+01  0.00000000D+00 -0.93416251D-01  0.00000000D+00
  -0.12353989D+00 -0.95916864D+01 -0.10000000D+02  0.00000000D+00
  -0.24484789D+01 -0.24485028D+01 -0.10000000D+02 -0.18321330D+01
  -0.10000000D+02 -0.10000000D+02 -0.18321434D+01 -0.10000000D+02
  -0.97532430D+01  0.00000000D+00 -0.63245028D+01 -0.31859388D+01
```

```
  -0.22865116D+01  0.00000000D+00 -0.28409415D+01  0.00000000D+00
  -0.10000000D+02 -0.10000000D+02 -0.96987253D+01 -0.34539905D-01
  -0.34472568D+00  0.00000000D+00 -0.79457330D+01 -0.55928101D+01
   0.00000000D+00 -0.79457235D+01 -0.55928194D+01 -0.10000000D+02
  -0.81997395D+01 -0.27421754D+01 -0.51586367D+01  0.00000000D+00
  -0.71595271D+01 -0.92475341D+00 -0.48153887D+01 -0.10000000D+02
  -0.10000000D+02 -0.12557461D+01 -0.47195129D+01  0.00000000D+00
   0.00000000D+00 -0.10000000D+02 -0.51125562D+01 -0.13683790D+01
   0.00000000D+00 -0.98165066D+01 -0.50950017D+01
 DISTANCE FROM UPPER BOUND:  XU-X =
   0.00000000D+00  0.00000000D+00  0.63414504D+01  0.10000000D+02
   0.62722753D+00  0.10000000D+02  0.99065837D+01  0.10000000D+02
   0.98764601D+01  0.40831357D+00  0.00000000D+00  0.10000000D+02
   0.75515211D+01  0.75514972D+01  0.00000000D+00  0.81678670D+01
   0.00000000D+00  0.00000000D+00  0.81678566D+01  0.00000000D+00
   0.24675699D+00  0.10000000D+02  0.36754972D+01  0.68140612D+01
   0.77134884D+01  0.10000000D+02  0.71590585D+01  0.10000000D+02
   0.00000000D+00  0.00000000D+00  0.30127468D+00  0.99654601D+01
   0.96552743D+01  0.10000000D+02  0.20542670D+01  0.44071899D+01
   0.10000000D+02  0.20542765D+01  0.44071806D+01  0.00000000D+00
   0.18002605D+01  0.72578246D+01  0.48413633D+01  0.10000000D+02
   0.28404729D+01  0.90752466D+01  0.51846113D+01  0.00000000D+00
   0.00000000D+00  0.87442539D+01  0.52804871D+01  0.10000000D+02
   0.10000000D+02  0.00000000D+00  0.48874438D+01  0.86316210D+01
   0.10000000D+02  0.18349341D+00  0.49049983D+01
 NUMBER OF FUNC-CALLS:  NFUNC =  53
 NUMBER OF GRAD-CALLS:  NGRAD =  50
 NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   3   *****

    0.90000000D+01      0.90000000D+01      0.90000000D+01

    0.27461750D+00      0.75000000D+00     -0.25000000D+00
    0.22439010D+00      0.24798029D+00      0.53713010D+00      0.29639895D-01


    0.27461750D+00      0.75000000D+00     -0.25000000D+00
    0.67449970D+00      0.34628556D+00      0.85240000D+00      0.25600000D-01

    0.33959976D+00      0.50000000D+00     -0.25000000D+00
    0.80321391D+00      0.62430401D+00      0.46550967D+00      0.32000000D-01

    0.44257113D+00      0.25000000D+00     -0.25000000D+00
    0.10295100D+01      0.71979866D+00      0.80000000D-01      0.40000000D-01

    0.62360802D+00      0.00000000D+00     -0.25000000D+00
    0.14244966D+01      0.18750000D+00      0.11957107D+01      0.50000000D-01

    0.93959732D+00      0.75000000D+00     -0.25000000D+00
    0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01

    0.00000000D+00      0.50000000D+00     -0.25000000D+00
   -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

   -0.93959732D+00      0.25000000D+00     -0.25000000D+00
   -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

    0.50000000D+01      0.50000000D+01     -0.13251973D+01     -0.50000000D+01
    0.43719726D+01     -0.50000000D+01     -0.50000000D+01     -0.50000000D+01
   -0.48562155D+01      0.46365621D+01      0.50000000D+01     -0.50000000D+01
   -0.26119561D+01     -0.26119320D+01      0.50000000D+01     -0.32377103D+01
    0.50000000D+01      0.50000000D+01     -0.32377000D+01      0.50000000D+01
    0.47494892D+01     -0.50000000D+01      0.13008796D+01     -0.19098572D+01
```

```
 -0.26797244D+01     -0.50000000D+01     -0.21106833D+01     -0.50000000D+01
  0.50000000D+01      0.50000000D+01      0.47290338D+01     -0.49631201D+01
 -0.46271449D+01     -0.50000000D+01      0.29558035D+01      0.60868518D+00
 -0.50000000D+01      0.29557940D+01      0.60869445D+00      0.50000000D+01
  0.32190634D+01     -0.22480960D+01      0.16008719D+00     -0.50000000D+01
  0.21743770D+01     -0.40546609D+01     -0.18936310D+00      0.50000000D+01
  0.50000000D+01     -0.38070874D+01     -0.28383718D+00     -0.50000000D+01
 -0.50000000D+01      0.50000000D+01      0.10885355D+00     -0.36415275D+01
 -0.50000000D+01      0.48092661D+01      0.10087714D+00

  0.86892003D+00

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****   PHASE  =  2      TABS  =   0.90000D+01      TREL  =   0.90000D+01
                         PINDX =   0.86892D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

  0.10000000D+02      0.10000000D+02      0.10000000D+02

  0.23020005D+00      0.00000000D+00     -0.25000000D+00
  0.14863759D+01      0.83596309D+00      0.20129195D+00      0.34129175D-01


  0.23020005D+00      0.00000000D+00     -0.25000000D+00
  0.59327187D+00      0.35729988D+00      0.11875000D+01      0.62500000D-01

  0.27461750D+00      0.75000000D+00     -0.25000000D+00
  0.67449970D+00      0.34628556D+00      0.85240000D+00      0.25600000D-01

  0.33959976D+00      0.50000000D+00     -0.25000000D+00
  0.80321391D+00      0.62430401D+00      0.46550967D+00      0.32000000D-01

  0.44257113D+00      0.25000000D+00     -0.25000000D+00
  0.10295100D+01      0.71979866D+00      0.80000000D-01      0.40000000D-01

  0.62360802D+00      0.00000000D+00     -0.25000000D+00
  0.14244966D+01      0.18750000D+00      0.11957107D+01      0.50000000D-01

  0.93959732D+00      0.75000000D+00     -0.25000000D+00
  0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01

  0.00000000D+00      0.50000000D+00     -0.25000000D+00
 -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   2   *****
```

START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM

PARAMETERS:
MODE = 0
ACC = 0.1490E-07
SCBOU = 0.1000E+04
MAXFUN = 5
MAXIT = 50
IPRINT = 2

OUTPUT IN THE FOLLOWING ORDER:
IT - ITERATION NUMBER
F - OBJECTIVE FUNCTION VALUE
SCV - SUM OF CONSTRAINT VIOLATION
NA - NUMBER OF ACTIVE CONSTRAINTS
I - NUMBER OF LINE SEARCH ITERATIONS
ALPHA - STEPLENGTH PARAMETER
DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
DLAN - MAXIMUM NORM OF LAGRANGIAN GRADIENT
KT - KUHN-TUCKER OPTIMALITY CRITERION

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.24108401D+01	0.00D+00	0	0	0.00D+00	0.00D+00	0.19D+01	0.79D+01
2	0.23544498D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.10D+01	0.11D+01
3	0.21961247D+01	0.00D+00	0	2	0.29D+00	0.00D+00	0.16D+01	0.42D+01
4	0.17078465D+01	0.00D+00	0	2	0.25D+00	0.00D+00	0.54D+00	0.13D+00
5	0.16915179D+01	0.00D+00	0	2	0.21D+00	0.00D+00	0.51D+00	0.48D+00
6	0.16031644D+01	0.00D+00	0	2	0.36D+00	0.00D+00	0.19D+00	0.63D-01
7	0.15639364D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.44D+00	0.54D+00
8	0.14741725D+01	0.00D+00	0	2	0.37D+00	0.00D+00	0.28D+00	0.76D-01
9	0.14095129D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.21D+00	0.19D+00
10	0.13054478D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.24D+00	0.34D-01
11	0.12799854D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.30D-01
12	0.12601312D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.15D-01
13	0.12481152D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.40D-01
14	0.12174390D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.38D-01
15	0.11878591D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.16D+00	0.72D-01
16	0.11295312D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.86D-01
17	0.10853110D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.11D-01
18	0.10763019D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.30D-01
19	0.10531630D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D+00	0.41D-01
20	0.10245846D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.22D+00	0.22D-01
21	0.10044210D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.10D+00
22	0.94291627D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.24D+00	0.25D-01
23	0.92475403D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.96D-02
24	0.91824597D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.76D-02
25	0.91224003D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.15D-01
26	0.90082848D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.19D-01
27	0.88666799D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D+00	0.26D-01
28	0.86812636D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D+00	0.18D-01
29	0.85488627D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.13D-01
30	0.84648012D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.60D-02
31	0.84100399D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.29D-01
32	0.82072965D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.15D-01
33	0.81111263D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.75D-02
34	0.80559608D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.63D-02
35	0.80110541D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.64D-02
36	0.79653153D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.60D-02
37	0.79182231D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.12D-01
38	0.78346334D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.10D-01
39	0.77656956D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.58D-02
40	0.77239505D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.51D-02
41	0.76847926D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.75D-02
42	0.76264006D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.12D-01
43	0.75409588D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.82D-02
44	0.74869752D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.59D-02

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45  0.74468081D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.10D+00  0.79D-02
46  0.74047556D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.11D+00  0.82D-02
47  0.73449809D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.11D+00  0.16D-01
48  0.72299870D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.11D+00  0.18D-01
49  0.71050938D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.14D+00  0.13D-01
     **MORE THAN MAXIT ITERATIONS


 * FINAL CONVERGENCE ANALYSIS

    OBJECTIVE FUNCTION VALUE:  F(X) =  0.70108660D+00
    APPROXIMATION OF SOLUTION:  X =
       0.50000000D+01  0.50000000D+01 -0.23279736D+00 -0.50000000D+01
       0.45663477D+01 -0.50000000D+01 -0.49990428D+01 -0.32952131D+01
      -0.46922740D+01 -0.24585702D+01  0.50000000D+01 -0.50000000D+01
      -0.35315464D+01 -0.35315190D+01  0.50000000D+01 -0.44405969D+01
       0.50000000D+01  0.50000000D+01 -0.44405790D+01  0.50000000D+01
       0.40157381D+01 -0.46713386D+01 -0.49772658D+01  0.20102108D+01
      -0.49976063D+01  0.35949344D+01  0.51404714D+00 -0.29202019D+01
       0.49139581D+01  0.44531200D+01  0.50000000D+01 -0.49763815D+01
      -0.50000000D+01 -0.49308031D+01  0.26889047D+01  0.66678409D+00
      -0.49308034D+01  0.26888951D+01  0.66679270D+00  0.50000000D+01
       0.34219627D+01  0.22164851D+01  0.18250950D+00 -0.50000000D+01
       0.38778108D+01 -0.23305192D+01 -0.20612456D+00  0.50000000D+01
       0.49917048D+01 -0.50000000D+01 -0.31641488D+00 -0.37305531D+01
      -0.50000000D+01  0.19023143D+01 -0.28588567D-01 -0.47517520D+01
      -0.50000000D+01  0.15155330D+01  0.23912528D+00
    APPROXIMATION OF MULTIPLIERS:  U =
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.19922363D-01
       0.00000000D+00  0.64695426D-01  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.46718289D-01
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.19258142D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.22254919D-01
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.20519361D-01  0.00000000D+00  0.00000000D+00
       0.22493495D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.22945229D-01  0.00000000D+00  0.00000000D+00  0.53539822D-01
       0.53539793D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.42746135D-01  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.23143702D-02  0.00000000D+00  0.14431522D-01
       0.23143701D-02  0.00000000D+00  0.14431522D-01  0.00000000D+00
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.23728972D-01  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.00000000D+00  0.37554475D-01  0.00000000D+00
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.00000000D+00  0.37382295D-01  0.00000000D+00
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
       0.00000000D+00  0.00000000D+00
    DISTANCE FROM LOWER BOUND:  XL-X =
      -0.10000000D+02 -0.10000000D+02 -0.46829542D+01  0.00000000D+00
      -0.95604859D+01  0.00000000D+00 -0.27818424D-02 -0.15146390D+01
      -0.24527517D+00 -0.27341944D+01 -0.10000000D+02  0.00000000D+00
      -0.14850846D+01 -0.14851118D+01 -0.10000000D+02 -0.63145978D+00
      -0.10000000D+02 -0.10000000D+02 -0.63148140D+00 -0.10000000D+02
      -0.89719836D+01 -0.33565266D+00  0.00000000D+00 -0.68906075D+01
       0.00000000D+00 -0.84002265D+01 -0.55990199D+01 -0.19717081D+01
      -0.99479869D+01 -0.95211180D+01 -0.10000000D+02 -0.18156217D-01
       0.00000000D+00 -0.64911089D-01 -0.77195545D+01 -0.56842721D+01
      -0.64910845D-01 -0.77195450D+01 -0.56842807D+01 -0.10000000D+02
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 -0.84171866D+01 -0.70837915D+01 -0.51779016D+01  0.00000000D+00
 -0.88179070D+01 -0.27497215D+01 -0.48046965D+01 -0.10000000D+02
 -0.99930512D+01  0.00000000D+00 -0.46862340D+01 -0.12697756D+01
  0.00000000D+00 -0.69673137D+01 -0.49742191D+01 -0.28644293D+00
  0.00000000D+00 -0.66157714D+01 -0.52376833D+01
DISTANCE FROM UPPER BOUND:  XU-X =
  0.00000000D+00  0.00000000D+00  0.53170458D+01  0.10000000D+02
  0.43951413D+00  0.10000000D+02  0.99972182D+01  0.84853610D+01
  0.97547248D+01  0.72658056D+01  0.00000000D+00  0.10000000D+02
  0.85149154D+01  0.85148882D+01  0.00000000D+00  0.93685402D+01
  0.00000000D+00  0.00000000D+00  0.93685186D+01  0.00000000D+00
  0.10280164D+01  0.96643473D+01  0.10000000D+02  0.31093925D+01
  0.10000000D+02  0.15997735D+01  0.44009801D+01  0.80282919D+01
  0.52013120D-01  0.47888196D+00  0.00000000D+00  0.99818438D+01
  0.10000000D+02  0.99350889D+01  0.22804455D+01  0.43157279D+01
  0.99350892D+01  0.22804550D+01  0.43157193D+01  0.00000000D+00
  0.15828134D+01  0.29162085D+01  0.48220984D+01  0.10000000D+02
  0.11820930D+01  0.72502785D+01  0.51953035D+01  0.00000000D+00
  0.69488042D-02  0.10000000D+02  0.53137660D+01  0.87302244D+01
  0.10000000D+02  0.30326863D+01  0.50257809D+01  0.97135571D+01
  0.10000000D+02  0.33842286D+01  0.47623167D+01
NUMBER OF FUNC-CALLS:  NFUNC =  56
NUMBER OF GRAD-CALLS:  NGRAD =  50
NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   3   *****

    0.10000000D+02      0.10000000D+02      0.10000000D+02

    0.23020005D+00      0.00000000D+00     -0.25000000D+00
    0.59672870D+00      0.27455591D+00      0.10648709D+01      0.60244725D-01


    0.23020005D+00      0.00000000D+00     -0.25000000D+00
    0.59327187D+00      0.35729988D+00      0.11875000D+01      0.62500000D-01

    0.27461750D+00      0.75000000D+00     -0.25000000D+00
    0.67449970D+00      0.34628556D+00      0.85240000D+00      0.25600000D-01

    0.33959976D+00      0.50000000D+00     -0.25000000D+00
    0.80321391D+00      0.62430401D+00      0.46550967D+00      0.32000000D-01

    0.44257113D+00      0.25000000D+00     -0.25000000D+00
    0.10295100D+01      0.71979866D+00      0.80000000D-01      0.40000000D-01

    0.62360802D+00      0.00000000D+00     -0.25000000D+00
    0.14244966D+01      0.18750000D+00      0.11957107D+01      0.50000000D-01

    0.93959732D+00      0.75000000D+00     -0.25000000D+00
    0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01

    0.00000000D+00      0.50000000D+00     -0.25000000D+00
   -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

    0.50000000D+01      0.50000000D+01     -0.23279736D+00     -0.50000000D+01
    0.45663477D+01     -0.50000000D+01     -0.49990428D+01     -0.32952131D+01
   -0.46922740D+01     -0.24585702D+01      0.50000000D+01     -0.50000000D+01
   -0.35315464D+01     -0.35315190D+01      0.50000000D+01     -0.44405969D+01
    0.50000000D+01      0.50000000D+01     -0.44405790D+01      0.50000000D+01
    0.40157381D+01     -0.46713386D+01     -0.49772658D+01      0.20102108D+01
   -0.49976063D+01      0.35949344D+01      0.51404714D+00     -0.29202019D+01
    0.49139581D+01      0.44531200D+01      0.50000000D+01     -0.49763815D+01
   -0.50000000D+01     -0.49308031D+01      0.26889047D+01      0.66678409D+00
   -0.49308034D+01      0.26888951D+01      0.66679270D+00      0.50000000D+01
```

```
   0.34219627D+01      0.22164851D+01      0.18250950D+00     -0.50000000D+01
   0.38778108D+01     -0.23305192D+01     -0.20612456D+00      0.50000000D+01
   0.49917048D+01     -0.50000000D+01     -0.31641488D+00     -0.37305531D+01
  -0.50000000D+01      0.19023143D+01     -0.28588567D-01     -0.47517520D+01
  -0.50000000D+01      0.15155330D+01      0.23912528D+00

   0.70108660D+00


*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****   PHASE  =  2      TABS  =   0.10000D+02      TREL  =   0.10000D+02
                         PINDX =   0.70109D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.11000000D+02      0.11000000D+02      0.11000000D+02

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.57526695D+00      0.55400244D+00      0.65849454D+00      0.36084786D-01


   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.70710678D-01      0.50000000D-01

   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.11875000D+01      0.62500000D-01

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.85240000D+00      0.25600000D-01

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.46550967D+00      0.32000000D-01

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.80000000D-01      0.40000000D-01

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.11957107D+01      0.50000000D-01

   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   2   *****


-------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
-------------------------------------------------------------------------

  PARAMETERS:
```

```
MODE =  0
ACC =   0.1490E-07
SCBOU =   0.1000E+04
MAXFUN =  5
MAXIT =   50
IPRINT =   2

OUTPUT IN THE FOLLOWING ORDER:
   IT    - ITERATION NUMBER
   F     - OBJECTIVE FUNCTION VALUE
   SCV   - SUM OF CONSTRAINT VIOLATION
   NA    - NUMBER OF ACTIVE CONSTRAINTS
   I     - NUMBER OF LINE SEARCH ITERATIONS
   ALPHA - STEPLENGTH PARAMETER
   DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
   DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
   KT    - KUHN-TUCKER OPTIMALITY CRITERION
```

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.85352212D+00	0.00D+00	0	0	0.00D+00	0.00D+00	0.61D+00	0.66D+00
2	0.84191784D+00	0.00D+00	0	2	0.10D+00	0.00D+00	0.35D+00	0.44D-01
3	0.83848706D+00	0.00D+00	0	2	0.16D+00	0.00D+00	0.26D+00	0.41D-01
4	0.83098465D+00	0.00D+00	0	2	0.38D+00	0.00D+00	0.14D+00	0.81D-01
5	0.82927940D+00	0.00D+00	0	2	0.10D+00	0.00D+00	0.13D+00	0.55D-02
6	0.82519182D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.82D-01	0.29D-01
7	0.82369174D+00	0.00D+00	0	2	0.11D+00	0.00D+00	0.82D-01	0.96D-02
8	0.81633045D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.15D-01
9	0.80541937D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.15D+00	0.17D-01
10	0.79257643D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.20D-01
11	0.77849615D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.14D-01
12	0.76827444D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.77D-01	0.10D-01
13	0.76146768D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.49D-01	0.41D-02
14	0.75872427D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.39D-01	0.32D-02
15	0.75656360D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.46D-01	0.47D-02
16	0.75264110D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.44D-01	0.18D-01
17	0.74069709D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.76D-01	0.79D-02
18	0.73503901D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.72D-01	0.97D-02
19	0.72916296D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.59D-01	0.27D-02
20	0.72686131D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.53D-01	0.10D-01
21	0.71855830D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.23D-01
22	0.70555273D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D+00	0.86D-02
23	0.70103261D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.38D-01	0.56D-02
24	0.69719329D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.40D-01	0.47D-02
25	0.69379868D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.46D-02
26	0.69032862D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.43D-01	0.72D-02
27	0.68494822D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.73D-01	0.74D-02
28	0.67938784D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.74D-01	0.13D-01
29	0.67137917D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.73D-01	0.14D-02
30	0.67018645D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.32D-01	0.29D-02
31	0.66839705D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.24D-01	0.12D-02
32	0.66730893D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.30D-01	0.51D-02
33	0.66405286D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.41D-01	0.31D-02
34	0.66155079D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.41D-01	0.55D-02
35	0.65720912D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.44D-01	0.75D-02
36	0.65285031D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.25D-01	0.17D-02
37	0.65187675D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.13D-02
38	0.65086493D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D-01	0.24D-02
39	0.64905118D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.51D-01	0.35D-02
40	0.64643191D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.95D-01	0.40D-02
41	0.64362832D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.92D-01	0.17D-02
42	0.64242581D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.29D-01	0.13D-02
43	0.64137230D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.25D-01	0.24D-02
44	0.63953606D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.17D-02
45	0.63828786D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.37D-01	0.20D-02
46	0.63704860D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.25D-01	0.82D-03
47	0.63642665D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.32D-01	0.11D-02
48	0.63559405D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.11D-02

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49  0.63472451D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.42D-01  0.21D-02
      **MORE THAN MAXIT ITERATIONS


   * FINAL CONVERGENCE ANALYSIS

      OBJECTIVE FUNCTION VALUE:  F(X) =  0.63326321D+00
      APPROXIMATION OF SOLUTION:  X =
         0.50000000D+01  0.50000000D+01  0.37129326D+00 -0.44335999D+01
         0.33873370D+01 -0.50000000D+01 -0.50000000D+01 -0.89026034D+00
        -0.31242239D+01 -0.33282267D+01  0.50000000D+01 -0.50000000D+01
        -0.29872227D+01 -0.29871946D+01  0.32221123D+01 -0.23612894D+01
         0.43759446D+01  0.32221129D+01 -0.23612722D+01  0.43759451D+01
         0.50000000D+01 -0.50000000D+01 -0.50000000D+01  0.42085550D+01
        -0.50000000D+01  0.50000000D+01  0.43364900D+01 -0.27378033D+01
         0.49707601D+01  0.50000000D+01  0.50000000D+01 -0.50000000D+01
        -0.50000000D+01 -0.44222714D+01  0.48352141D+00 -0.29915392D+00
        -0.44222723D+01  0.48351540D+00 -0.29914243D+00  0.50000000D+01
         0.20003002D+01  0.10366215D+01  0.12743129D+00 -0.50000000D+01
         0.43779050D+01 -0.50000000D+01  0.16052658D-01  0.38023912D+01
         0.41926993D+01 -0.50000000D+01 -0.31680858D+00 -0.33636435D+01
        -0.50000000D+01  0.50000000D+01  0.11401125D-01 -0.24491647D+01
        -0.50000000D+01  0.38037050D+01  0.21958339D+00
      APPROXIMATION OF MULTIPLIERS:  U =
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.10481775D+00  0.22674608D-01  0.00000000D+00
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.35065288D-01
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.17672630D-01  0.12370331D-01  0.00000000D+00
         0.48475695D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.12974172D-01
         0.87692389D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.24185161D-02
         0.00000000D+00  0.18672813D-01  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.29516471D-01  0.00000000D+00  0.00000000D+00
         0.84307087D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.13073723D-01  0.00000000D+00  0.00000000D+00  0.42112147D-02
         0.42111685D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.90432611D-02  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.72893135D-02
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.14034764D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.60949328D-02  0.11223879D-01  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.00000000D+00  0.17166504D-01  0.00000000D+00
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.43795985D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.00000000D+00
      DISTANCE FROM LOWER BOUND:  XL-X =
        -0.10000000D+02 -0.10000000D+02 -0.54146114D+01 -0.55129726D+00
        -0.84297728D+01  0.00000000D+00  0.00000000D+00 -0.40092046D+01
        -0.17954416D+01 -0.17221084D+01 -0.10000000D+02  0.00000000D+00
        -0.19969038D+01 -0.19969320D+01 -0.83101253D+01 -0.26319505D+01
        -0.94389505D+01 -0.83101259D+01 -0.26319677D+01 -0.94389510D+01
        -0.10000000D+02  0.00000000D+00  0.00000000D+00 -0.91257828D+01
         0.00000000D+00 -0.10000000D+02 -0.94009831D+01 -0.22963969D+01
        -0.99899501D+01 -0.10000000D+02 -0.10000000D+02  0.00000000D+00
         0.00000000D+00 -0.56666391D+00 -0.55668908D+01 -0.47307676D+01
        -0.56666292D+00 -0.55668845D+01 -0.47307789D+01 -0.10000000D+02
        -0.70425489D+01 -0.60144546D+01 -0.51220091D+01  0.00000000D+00
        -0.93625916D+01  0.00000000D+00 -0.50127121D+01 -0.89101863D+01
        -0.91841253D+01  0.00000000D+00 -0.46887944D+01 -0.16272981D+01
         0.00000000D+00 -0.10000000D+02 -0.50123668D+01 -0.23992436D+01
```

```
   0.00000000D+00 -0.87760280D+01 -0.52236249D+01
DISTANCE FROM UPPER BOUND:  XU-X =
   0.00000000D+00  0.00000000D+00  0.45853886D+01  0.94487027D+01
   0.15702272D+01  0.10000000D+02  0.10000000D+02  0.59907954D+01
   0.82045584D+01  0.82778916D+01  0.00000000D+00  0.10000000D+02
   0.80030962D+01  0.80030680D+01  0.16898747D+01  0.73680495D+01
   0.56104946D+00  0.16898741D+01  0.73680323D+01  0.56104900D+00
   0.00000000D+00  0.10000000D+02  0.10000000D+02  0.87421716D+00
   0.10000000D+02  0.00000000D+00  0.59901691D+00  0.77036031D+01
   0.10049918D-01  0.00000000D+00  0.00000000D+00  0.10000000D+02
   0.10000000D+02  0.94333361D+01  0.44331092D+01  0.52692324D+01
   0.94333371D+01  0.44331155D+01  0.52692211D+01  0.00000000D+00
   0.29574511D+01  0.39855454D+01  0.48779909D+01  0.10000000D+02
   0.63740841D+00  0.10000000D+02  0.49872879D+01  0.10898137D+01
   0.81587466D+00  0.10000000D+02  0.53112056D+01  0.83727019D+01
   0.10000000D+02  0.00000000D+00  0.49876332D+01  0.76007564D+01
   0.10000000D+02  0.12239720D+01  0.47763751D+01
NUMBER OF FUNC-CALLS:  NFUNC =  55
NUMBER OF GRAD-CALLS:  NGRAD =  50
NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   3   *****

   0.11000000D+02      0.11000000D+02      0.11000000D+02

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.61991183D+00      0.54142734D+00      0.49954235D+00      0.44317835D-01


   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.70710678D-01      0.50000000D-01

   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.11875000D+01      0.62500000D-01

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.85240000D+00      0.25600000D-01

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.46550967D+00      0.32000000D-01

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.80000000D-01      0.40000000D-01

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.11957107D+01      0.50000000D-01

   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01

   0.50000000D+01      0.50000000D+01      0.37129326D+00     -0.44335999D+01
   0.33873370D+01     -0.50000000D+01     -0.50000000D+01     -0.89026034D+00
  -0.31242239D+01     -0.33282267D+01      0.50000000D+01     -0.50000000D+01
  -0.29872227D+01     -0.29871946D+01      0.32221123D+01     -0.23612894D+01
   0.43759446D+01      0.32221129D+01     -0.23612722D+01      0.43759451D+01
   0.50000000D+01     -0.50000000D+01     -0.50000000D+01      0.42085550D+01
  -0.50000000D+01      0.50000000D+01      0.43364900D+01     -0.27378033D+01
   0.49707601D+01      0.50000000D+01      0.50000000D+01     -0.50000000D+01
  -0.50000000D+01     -0.44222714D+01      0.48352141D+00     -0.29915392D+00
  -0.44222723D+01      0.48351540D+00     -0.29914243D+00      0.50000000D+01
   0.20003002D+01      0.10366215D+01      0.12743129D+00     -0.50000000D+01
   0.43779050D+01     -0.50000000D+01      0.16052658D-01      0.38023912D+01
   0.41926993D+01     -0.50000000D+01     -0.31680858D+00     -0.33636435D+01
  -0.50000000D+01      0.50000000D+01      0.11401125D-01     -0.24491647D+01
```

```
 -0.50000000D+01      0.38037050D+01      0.21958339D+00

  0.63326321D+00

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****   PHASE  =  2      TABS  =   0.11000D+02      TREL  =   0.11000D+02
                         PINDX =   0.63326D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.12000000D+02      0.12000000D+02      0.12000000D+02

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
  -0.84012880D-01      0.38625774D+00      0.43794358D+00      0.50103312D-01


   0.00000000D+00      0.50000000D+00     -0.25000000D+00
   0.49752475D+00      0.42760003D+00      0.45500000D+00      0.40000000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.70710678D-01      0.50000000D-01

   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.11875000D+01      0.62500000D-01

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.85240000D+00      0.25600000D-01

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.46550967D+00      0.32000000D-01

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.80000000D-01      0.40000000D-01

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.11957107D+01      0.50000000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   2   *****



-------------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
-------------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
```

MAXIT = 50
IPRINT = 2

OUTPUT IN THE FOLLOWING ORDER:
IT - ITERATION NUMBER
F - OBJECTIVE FUNCTION VALUE
SCV - SUM OF CONSTRAINT VIOLATION
NA - NUMBER OF ACTIVE CONSTRAINTS
I - NUMBER OF LINE SEARCH ITERATIONS
ALPHA - STEPLENGTH PARAMETER
DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
DLAN - MAXIMUM NORM OF LAGRANGIAN GRADIENT
KT - KUHN-TUCKER OPTIMALITY CRITERION

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.85542410D+00	0.00D+00	0	0	0.00D+00	0.00D+00	0.12D+01	0.11D+01
2	0.82490276D+00	0.00D+00	0	2	0.10D+00	0.00D+00	0.24D+00	0.12D+00
3	0.81925209D+00	0.00D+00	0	2	0.10D+00	0.00D+00	0.31D+00	0.88D-01
4	0.76665366D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.21D+00	0.17D+00
5	0.75842752D+00	0.00D+00	0	2	0.10D+00	0.00D+00	0.27D+00	0.71D-01
6	0.70442887D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D+00	0.49D-01
7	0.68097710D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.15D+00	0.62D-01
8	0.67918257D+00	0.00D+00	0	2	0.10D+00	0.00D+00	0.11D+00	0.61D-02
9	0.67399723D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.83D-01	0.14D-01
10	0.66262466D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.15D-01
11	0.65031005D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.13D-01
12	0.64004420D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.62D-01	0.24D-01
13	0.62528006D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.57D-01	0.74D-02
14	0.61937253D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.57D-01	0.13D-01
15	0.60999531D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.31D-01	0.10D-01
16	0.60258805D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D-01	0.88D-02
17	0.59612089D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.49D-01	0.72D-02
18	0.59188869D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.16D-02
19	0.59052371D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.41D-01	0.54D-02
20	0.58725396D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.30D-01	0.10D-02
21	0.58635135D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.36D-01	0.49D-02
22	0.58311641D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.39D-01	0.23D-02
23	0.58137437D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.33D-01	0.29D-02
24	0.57933235D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D-01	0.25D-02
25	0.57737343D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.46D-01	0.51D-02
26	0.57355224D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.82D-02
27	0.56743004D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.12D-01
28	0.55896550D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.76D-02
29	0.55403840D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.60D-01	0.72D-02
30	0.54919823D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.52D-01	0.38D-02
31	0.54704023D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.36D-01	0.21D-02
32	0.54591298D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.35D-01	0.10D-02
33	0.54502028D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.31D-01	0.48D-02
34	0.54172204D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D-01	0.25D-02
35	0.53947786D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.68D-01	0.12D-01
36	0.53207871D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.82D-01	0.49D-02
37	0.52806692D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D-01	0.94D-02
38	0.52204305D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.47D-01	0.38D-02
39	0.52029098D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.38D-01	0.42D-02
40	0.51902990D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D-01	0.29D-02
41	0.51704043D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.29D-01	0.43D-02
42	0.51344836D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.52D-01	0.62D-02
43	0.50880015D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.93D-01	0.10D-01
44	0.50213432D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.42D-02
45	0.49910151D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D-01	0.37D-02
46	0.49676371D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.30D-01	0.15D-02
47	0.49550008D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.52D-01	0.42D-02
48	0.49246714D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.48D-02
49	0.48874241D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.10D-01

**MORE THAN MAXIT ITERATIONS

```
• FINAL CONVERGENCE ANALYSIS

 OBJECTIVE FUNCTION VALUE:  F(X) =  0.48101212D+00
 APPROXIMATION OF SOLUTION:  X =
   0.26553936D+01  0.26554039D+01  0.80810324D+00 -0.24944635D+01
   0.20149494D+01 -0.50000000D+01 -0.50000000D+01  0.19256084D+01
  -0.27765609D+01 -0.22858840D+01  0.50000000D+01 -0.50000000D+01
  -0.25296512D+01 -0.25296189D+01  0.70876154D+00 -0.48456773D+00
   0.47261369D+01  0.70876387D+00 -0.48453191D+00  0.47261380D+01
   0.50000000D+01 -0.50000000D+01 -0.50000000D+01  0.65011594D+00
  -0.50000000D+01  0.50000000D+01 -0.33310533D+00 -0.21295316D+01
   0.50000000D+01  0.49816907D+01  0.50000000D+01 -0.50000000D+01
  -0.50000000D+01 -0.20410619D+01 -0.18285701D+01 -0.25844816D+01
  -0.20410709D+01 -0.18285682D+01 -0.25844543D+01  0.18337538D+01
  -0.88988426D+00  0.32053928D+01  0.16588744D+00 -0.50000000D+01
   0.35256947D+01 -0.50000000D+01  0.34792236D+00  0.30184567D+01
   0.31068627D+01 -0.50000000D+01 -0.87096276D-01 -0.36333820D+01
  -0.28298254D+01  0.50000000D+01 -0.18453814D+00  0.40760490D+01
  -0.33367137D+01  0.46819282D+01 -0.20576883D+00
 APPROXIMATION OF MULTIPLIERS:  U =
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.10210674D+00  0.44741896D-01  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.19045372D-01
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.20253134D-01  0.16743136D-01  0.00000000D+00
   0.14803500D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.57296707D-02
   0.31079270D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.63485153D-02
   0.00000000D+00  0.26007257D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.38654687D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.11798531D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.15207598D-01
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.12837100D-01  0.00000000D+00  0.00000000D+00  0.16674291D-02
   0.00000000D+00  0.74473754D-03  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.71316313D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00
 DISTANCE FROM LOWER BOUND:  XL-X =
  -0.73942515D+01 -0.73942624D+01 -0.59361868D+01 -0.24982995D+01
  -0.67945452D+01  0.00000000D+00  0.00000000D+00 -0.69982472D+01
  -0.23022812D+01 -0.23559666D+01 -0.10000000D+02  0.00000000D+00
  -0.24677623D+01 -0.24677942D+01 -0.59406388D+01 -0.43998996D+01
  -0.98466990D+01 -0.59406406D+01 -0.43999337D+01 -0.98466997D+01
  -0.10000000D+02  0.00000000D+00  0.00000000D+00 -0.60468720D+01
   0.00000000D+00 -0.10000000D+02 -0.51938672D+01 -0.29604362D+01
  -0.98761768D+01 -0.99934606D+01 -0.10000000D+02  0.00000000D+00
   0.00000000D+00 -0.27937130D+01 -0.34165816D+01 -0.27014801D+01
  -0.27937046D+01 -0.34165823D+01 -0.27015058D+01 -0.69016378D+01
  -0.42779626D+01 -0.79048879D+01 -0.51893894D+01  0.00000000D+00
  -0.86570711D+01  0.00000000D+00 -0.53033556D+01 -0.80605643D+01
  -0.82393685D+01  0.00000000D+00 -0.49012953D+01 -0.16067197D+01
  -0.19225274D+01 -0.10000000D+02 -0.48220739D+01 -0.86833910D+01
  -0.15135011D+01 -0.98137414D+01 -0.48157493D+01
 DISTANCE FROM UPPER BOUND:  XU-X =
   0.26057485D+01  0.26057376D+01  0.40638132D+01  0.75017005D+01
   0.32054548D+01  0.10000000D+02  0.10000000D+02  0.30017528D+01
```

```
  0.76977188D+01  0.76440334D+01  0.00000000D+00  0.10000000D+02
  0.75322377D+01  0.75322058D+01  0.40593612D+01  0.56001004D+01
  0.15330099D+00  0.40593594D+01  0.56000663D+01  0.15330026D+00
  0.00000000D+00  0.10000000D+02  0.10000000D+02  0.39531280D+01
  0.10000000D+02  0.00000000D+00  0.48061328D+01  0.70395638D+01
  0.12382321D+00  0.65393545D-02  0.00000000D+00  0.10000000D+02
  0.10000000D+02  0.72062870D+01  0.65834184D+01  0.72985199D+01
  0.72062954D+01  0.65834177D+01  0.72984942D+01  0.30983622D+01
  0.57220374D+01  0.20951121D+01  0.48106106D+01  0.10000000D+02
  0.13429289D+01  0.10000000D+02  0.46966444D+01  0.19394357D+01
  0.17606315D+01  0.10000000D+02  0.50987047D+01  0.83932803D+01
  0.80774726D+01  0.00000000D+00  0.51779261D+01  0.13166090D+01
  0.84864989D+01  0.18625858D+00  0.51842507D+01
 NUMBER OF FUNC-CALLS:  NFUNC =  54
 NUMBER OF GRAD-CALLS:  NGRAD =  50
 NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   3   *****

   0.12000000D+02      0.12000000D+02      0.12000000D+02

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
   0.42040007D+00      0.52241436D+00      0.39030759D+00      0.44555919D-01


   0.00000000D+00      0.50000000D+00     -0.25000000D+00
   0.49752475D+00      0.42760003D+00      0.45500000D+00      0.40000000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.70710678D-01      0.50000000D-01

   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.11875000D+01      0.62500000D-01

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.85240000D+00      0.25600000D-01

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.46550967D+00      0.32000000D-01

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.80000000D-01      0.40000000D-01

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.11957107D+01      0.50000000D-01

   0.26553936D+01      0.26554039D+01      0.80810324D+00     -0.24944635D+01
   0.20149494D+01     -0.50000000D+01     -0.50000000D+01      0.19256084D+01
  -0.27765609D+01     -0.22858840D+01      0.50000000D+01     -0.50000000D+01
  -0.25296512D+01     -0.25296189D+01      0.70876154D+00     -0.48456773D+00
   0.47261369D+01      0.70876387D+00     -0.48453191D+00      0.47261380D+01
   0.50000000D+01     -0.50000000D+01     -0.50000000D+01      0.65011594D+00
  -0.50000000D+01      0.50000000D+01     -0.33310533D+00     -0.21295316D+01
   0.50000000D+01      0.49816907D+01      0.50000000D+01     -0.50000000D+01
  -0.50000000D+01     -0.20410619D+01     -0.18285701D+01     -0.25844816D+01
  -0.20410709D+01     -0.18285682D+01     -0.25844543D+01      0.18337538D+01
  -0.88988426D+00      0.32053928D+01      0.16588744D+00     -0.50000000D+01
   0.35256947D+01     -0.50000000D+01      0.34792236D+00      0.30184567D+01
   0.31068627D+01     -0.50000000D+01     -0.87096276D-01     -0.36333820D+01
  -0.28298254D+01      0.50000000D+01     -0.18453814D+00      0.40760490D+01
  -0.33367137D+01      0.46819282D+01     -0.20576883D+00

   0.48101212D+00
```

```
*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****   PHASE  =  2      TABS  =   0.12000D+02      TREL  =   0.12000D+02
                         PINDX =   0.48101D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.13000000D+02      0.13000000D+02      0.13000000D+02

   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.10470046D+01      0.20144273D+00      0.88250231D+00     -0.73764858D-02


   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.25000000D+00      0.22400990D+00      0.84050967D+00      0.32000000D-01

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
   0.49752475D+00      0.42760003D+00      0.45500000D+00      0.40000000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.70710678D-01      0.50000000D-01

   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.11875000D+01      0.62500000D-01

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.85240000D+00      0.25600000D-01

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.46550967D+00      0.32000000D-01

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.80000000D-01      0.40000000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   2   *****



-------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
-------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
```

IT - ITERATION NUMBER
F - OBJECTIVE FUNCTION VALUE
SCV - SUM OF CONSTRAINT VIOLATION
NA - NUMBER OF ACTIVE CONSTRAINTS
I - NUMBER OF LINE SEARCH ITERATIONS
ALPHA - STEPLENGTH PARAMETER
DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
DLAN - MAXIMUM NORM OF LAGRANGIAN GRADIENT
KT - KUHN-TUCKER OPTIMALITY CRITERION

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.86852021D+00	0.00D+00	0	0	0.00D+00	0.00D+00	0.92D+00	0.28D+01
2	0.77991355D+00	0.00D+00	0	2	0.10D+00	0.00D+00	0.42D+00	0.10D+00
3	0.75560650D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D+00	0.67D+00
4	0.68645522D+00	0.00D+00	0	2	0.21D+00	0.00D+00	0.45D+00	0.29D+00
5	0.67264804D+00	0.00D+00	0	2	0.10D+00	0.00D+00	0.46D+00	0.10D+00
6	0.60347269D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.80D-01
7	0.58556121D+00	0.00D+00	0	2	0.45D+00	0.00D+00	0.31D+00	0.30D+00
8	0.53946416D+00	0.00D+00	0	2	0.36D+00	0.00D+00	0.14D+00	0.21D-01
9	0.52196728D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.44D-01
10	0.48952219D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.32D-01
11	0.46610338D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.34D-01
12	0.44374156D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.15D+00	0.14D-01
13	0.43302584D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.15D-01
14	0.42198709D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.66D-01	0.13D-01
15	0.41159876D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.66D-01	0.19D-01
16	0.39819979D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.59D-01	0.11D-01
17	0.39146254D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.17D-02
18	0.39007707D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.28D-01	0.77D-02
19	0.38688452D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.70D-01	0.39D-02
20	0.38401347D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.43D-01	0.43D-02
21	0.38099264D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.53D-01	0.28D-02
22	0.37870769D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.53D-01	0.37D-02
23	0.37562764D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.43D-01	0.62D-02
24	0.37114639D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D-01	0.95D-02
25	0.36445135D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.99D-01	0.63D-02
26	0.35990856D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.93D-01	0.65D-02
27	0.35494549D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.27D-01	0.84D-02
28	0.34991007D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.93D-01	0.42D-02
29	0.34643457D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.83D-01	0.91D-02
30	0.34113889D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.23D-01	0.17D-02
31	0.33984420D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.21D-01	0.21D-02
32	0.33836059D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.32D-01	0.22D-02
33	0.33679390D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.34D-01	0.22D-02
34	0.33518524D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.41D-01	0.21D-02
35	0.33355527D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.33D-01	0.33D-02
36	0.33138337D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.30D-01	0.85D-03
37	0.33072761D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.21D-01	0.13D-02
38	0.32977622D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.22D-01	0.12D-02
39	0.32881409D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.36D-01	0.24D-02
40	0.32710114D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.39D-01	0.13D-02
41	0.32604590D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.37D-01	0.27D-02
42	0.32416538D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.27D-01	0.13D-02
43	0.32315190D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D-01	0.26D-02
44	0.32127279D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.36D-01	0.29D-02
45	0.31918562D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.65D-01	0.31D-02
46	0.31701725D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.58D-01	0.24D-02
47	0.31545621D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.30D-01	0.78D-03
48	0.31492795D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D-01	0.45D-03
49	0.31461924D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D-01	0.55D-03

**MORE THAN MAXIT ITERATIONS

- FINAL CONVERGENCE ANALYSIS

OBJECTIVE FUNCTION VALUE: F(X) = 0.31427051D+00
APPROXIMATION OF SOLUTION: X =

```
  0.15838104D+00  0.15844768D+00 -0.52492943D+00 -0.44594672D+01
  0.12563214D+01 -0.50000000D+01 -0.50000000D+01  0.21274384D+01
 -0.31584234D+01 -0.46292508D+01  0.50000000D+01 -0.50000000D+01
 -0.25788997D+01 -0.25788683D+01 -0.10174991D+01  0.24116215D+01
  0.30391476D+01 -0.10174626D+01  0.24116371D+01  0.30391348D+01
  0.50000000D+01 -0.50000000D+01 -0.50000000D+01 -0.21497054D+01
 -0.50000000D+01  0.50000000D+01  0.51210030D+00 -0.45895517D+01
  0.49994680D+01  0.46838832D+01  0.48412536D+01 -0.46506152D+01
 -0.50000000D+01 -0.99867402D+00 -0.24308116D+01 -0.30692008D+01
 -0.99868479D+00 -0.24308074D+01 -0.30691719D+01  0.86169873D+00
 -0.58233486D+00  0.40969749D+01  0.19847792D+00 -0.20185162D+01
  0.23361529D+01 -0.50000000D+01  0.10444511D+00  0.50000000D+01
  0.21546967D+01 -0.50000000D+01 -0.12614949D+00 -0.50000000D+01
 -0.20596332D+01  0.50000000D+01  0.38662880D-01  0.27863908D+01
 -0.22621343D+01  0.48872817D+01 -0.20159938D+00
APPROXIMATION OF MULTIPLIERS:  U =
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.47298794D-01  0.35464912D-01  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.11445449D-01
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.67744917D-02  0.76222210D-02  0.00000000D+00
  0.93766854D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.74701134D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.16360155D-01  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.20652465D-01  0.00000000D+00  0.49884104D-03
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.47852928D-02  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.51954173D-02
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.86857577D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.13354018D-02  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.14169216D-03  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00
DISTANCE FROM LOWER BOUND:  XL-X =
 -0.51814760D+01 -0.51815426D+01 -0.44385504D+01 -0.55588245D+00
 -0.62856498D+01  0.00000000D+00  0.00000000D+00 -0.70986253D+01
 -0.18220245D+01 -0.39075907D+00 -0.10000000D+02  0.00000000D+00
 -0.24269286D+01 -0.24269600D+01 -0.40091584D+01 -0.73817974D+01
 -0.80404232D+01 -0.40091948D+01 -0.73818129D+01 -0.80404110D+01
 -0.10000000D+02  0.00000000D+00  0.00000000D+00 -0.28997356D+01
  0.00000000D+00 -0.10000000D+02 -0.55178640D+01 -0.42784385D+00
 -0.99998119D+01 -0.96632916D+01 -0.98444918D+01 -0.34803362D+00
  0.00000000D+00 -0.39798351D+01 -0.25828774D+01 -0.19512765D+01
 -0.39798244D+01 -0.25828815D+01 -0.19513054D+01 -0.58498320D+01
 -0.44045758D+01 -0.90822980D+01 -0.52029559D+01 -0.30054186D+01
 -0.73389448D+01  0.00000000D+00 -0.51041666D+01 -0.10000000D+02
 -0.71711225D+01  0.00000000D+00 -0.48708181D+01  0.00000000D+00
 -0.29483643D+01 -0.99999262D+01 -0.50388043D+01 -0.77703879D+01
 -0.27254735D+01 -0.98819263D+01 -0.47969716D+01
DISTANCE FROM UPPER BOUND:  XU-X =
  0.48185240D+01  0.48184574D+01  0.55614496D+01  0.94441176D+01
  0.37143502D+01  0.10000000D+02  0.10000000D+02  0.29013747D+01
  0.81779755D+01  0.96092409D+01  0.00000000D+00  0.10000000D+02
  0.75730714D+01  0.75730400D+01  0.59908416D+01  0.26182026D+01
  0.19595768D+01  0.59908052D+01  0.26181871D+01  0.19595890D+01
  0.00000000D+00  0.10000000D+02  0.10000000D+02  0.71002644D+01
```

```
   0.10000000D+02  0.00000000D+00  0.44821360D+01  0.95721562D+01
   0.18806565D-03  0.33670843D+00  0.15550824D+00  0.96519664D+01
   0.10000000D+02  0.60201649D+01  0.74171226D+01  0.80487235D+01
   0.60201756D+01  0.74171185D+01  0.80486946D+01  0.41501680D+01
   0.55954242D+01  0.91770195D+00  0.47970441D+01  0.69945814D+01
   0.26610552D+01  0.10000000D+02  0.48958334D+01  0.00000000D+00
   0.28288775D+01  0.10000000D+02  0.51291819D+01  0.10000000D+02
   0.70516357D+01  0.73759598D-04  0.49611957D+01  0.22296121D+01
   0.72745265D+01  0.11807368D+00  0.52030284D+01
NUMBER OF FUNC-CALLS:  NFUNC =  55
NUMBER OF GRAD-CALLS:  NGRAD =  50
NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =  3   *****

   0.13000000D+02      0.13000000D+02      0.13000000D+02

   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.36687341D+00      0.24103519D+00      0.91429061D+00      0.26276529D-01


   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.25000000D+00      0.22400990D+00      0.84050967D+00      0.32000000D-01

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
   0.49752475D+00      0.42760003D+00      0.45500000D+00      0.40000000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.70710678D-01      0.50000000D-01

   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.11875000D+01      0.62500000D-01

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.85240000D+00      0.25600000D-01

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.46550967D+00      0.32000000D-01

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.80000000D-01      0.40000000D-01

   0.15838104D+00      0.15844768D+00     -0.52492943D+00     -0.44594672D+01
   0.12563214D+01     -0.50000000D+01     -0.50000000D+01      0.21274384D+01
  -0.31584234D+01     -0.46292508D+01      0.50000000D+01     -0.50000000D+01
  -0.25788997D+01     -0.25788683D+01     -0.10174991D+01      0.24116215D+01
   0.30391476D+01     -0.10174626D+01      0.24116371D+01      0.30391348D+01
   0.50000000D+01     -0.50000000D+01     -0.50000000D+01     -0.21497054D+01
  -0.50000000D+01      0.50000000D+01      0.51210030D+00     -0.45895517D+01
   0.49994680D+01      0.46838832D+01      0.48412536D+01     -0.46506152D+01
  -0.50000000D+01     -0.99867402D+00     -0.24308116D+01     -0.30692008D+01
  -0.99868479D+00     -0.24308074D+01     -0.30691719D+01      0.86169873D+00
  -0.58233486D+00      0.40969749D+01      0.19847792D+00     -0.20185162D+01
   0.23361529D+01     -0.50000000D+01      0.10444511D+00      0.50000000D+01
   0.21546967D+01     -0.50000000D+01     -0.12614949D+00     -0.50000000D+01
  -0.20596332D+01      0.50000000D+01      0.38662880D-01      0.27863908D+01
  -0.22621343D+01      0.48872817D+01     -0.20159938D+00

   0.31427051D+00


 *****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

 *****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****
```

```
*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****   PHASE  =  2      TABS  =   0.13000D+02      TREL  =   0.13000D+02
                         PINDX =   0.31427D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.14000000D+02      0.14000000D+02      0.14000000D+02

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.10290274D+01      0.61211770D+00      0.26945783D+00      0.53381769D-01


   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.25000000D+00      0.22400990D+00      0.84050967D+00      0.32000000D-01

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
   0.49752475D+00      0.42760003D+00      0.45500000D+00      0.40000000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.70710678D-01      0.50000000D-01

   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.11875000D+01      0.62500000D-01

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.85240000D+00      0.25600000D-01

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.46550967D+00      0.32000000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   2   *****



-------------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
-------------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
```

I - NUMBER OF LINE SEARCH ITERATIONS
ALPHA - STEPLENGTH PARAMETER
DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
DLAN - MAXIMUM NORM OF LAGRANGIAN GRADIENT
KT - KUHN-TUCKER OPTIMALITY CRITERION

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.12841685D+01	0.00D+00	0	0	0.00D+00	0.00D+00	0.96D+00	0.40D+01
2	0.11482163D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.52D+00	0.80D+00
3	0.10137600D+01	0.00D+00	0	2	0.34D+00	0.00D+00	0.67D+00	0.18D+01
4	0.82832639D+00	0.00D+00	0	2	0.23D+00	0.00D+00	0.16D+00	0.15D+00
5	0.81285137D+00	0.00D+00	0	2	0.19D+00	0.00D+00	0.16D+00	0.21D+00
6	0.68985922D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.74D-01
7	0.63222707D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.89D-01	0.15D+00
8	0.61634862D+00	0.00D+00	0	2	0.21D+00	0.00D+00	0.23D+00	0.19D+00
9	0.59541950D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.24D+00	0.95D-01
10	0.54644628D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.59D-01	0.71D-02
11	0.54037289D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.44D-01	0.25D-01
12	0.52267281D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.89D-01	0.14D-01
13	0.51081579D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.24D-01
14	0.49356378D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.61D-01	0.13D-01
15	0.48387164D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.57D-01	0.16D-01
16	0.47253522D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.93D-01	0.92D-02
17	0.46463919D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.89D-01	0.20D-01
18	0.45109731D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.13D-01
19	0.44255117D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.48D-02
20	0.43844313D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.99D-01	0.18D-01
21	0.42497248D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.66D-01	0.11D-01
22	0.41507276D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.54D-01	0.34D-01
23	0.39729005D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.78D-01	0.64D-02
24	0.39181024D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.68D-01	0.19D-01
25	0.38047136D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D-01	0.40D-02
26	0.37757534D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.52D-01	0.57D-02
27	0.37349499D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.68D-01	0.47D-02
28	0.36987410D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.62D-01	0.89D-02
29	0.36336216D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.59D-01	0.91D-02
30	0.35692458D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.67D-01	0.53D-02
31	0.35308388D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.29D-01	0.84D-02
32	0.34818201D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.76D-01	0.35D-02
33	0.34517919D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.86D-01	0.97D-02
34	0.33912844D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.33D-01	0.33D-02
35	0.33671913D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.31D-02
36	0.33448092D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.76D-01	0.30D-02
37	0.33222747D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.80D-01	0.37D-02
38	0.32955033D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.61D-01	0.26D-02
39	0.32759510D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.36D-01	0.28D-02
40	0.32568748D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.17D-02
41	0.32442728D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.52D-01	0.20D-02
42	0.32293740D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.26D-02
43	0.32098996D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D-01	0.32D-02
44	0.31874828D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.15D-02
45	0.31749729D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.47D-01	0.30D-02
46	0.31573872D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.68D-03
47	0.31514991D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.15D-02
48	0.31420798D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.49D-01	0.81D-03
49	0.31357349D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.71D-03

**MORE THAN MAXIT ITERATIONS

* FINAL CONVERGENCE ANALYSIS

OBJECTIVE FUNCTION VALUE: F(X) = 0.31302960D+00
APPROXIMATION OF SOLUTION: X =

0.21208023D+01 0.21207985D+01 0.15733495D+01 -0.50000000D+01
0.27165971D+01 -0.50000000D+01 -0.49032435D+01 0.17332729D+01
-0.27299038D+01 -0.50000000D+01 0.49910673D+01 -0.50000000D+01
-0.23065804D+01 -0.23065502D+01 -0.18610343D+01 0.22357187D+01

```
  0.26244232D+01 -0.18610306D+01  0.22357433D+01  0.26244029D+01
  0.50000000D+01 -0.50000000D+01 -0.50000000D+01  0.45127887D+01
 -0.50000000D+01  0.50000000D+01  0.13777859D+00 -0.43972420D+01
  0.49836741D+01  0.47775649D+01  0.49455826D+01 -0.42883334D+01
 -0.50000000D+01 -0.97063987D+00 -0.19844820D+01 -0.24127038D+01
 -0.97065062D+00 -0.19844789D+01 -0.24126765D+01  0.50000000D+01
 -0.10716836D+01  0.50000000D+01 -0.15681837D-01 -0.50000000D+01
  0.20234437D+01 -0.50000000D+01  0.19492077D+00  0.48140398D+01
  0.17762066D+01 -0.50000000D+01 -0.17947325D+00 -0.50000000D+01
 -0.10455654D+01  0.46358064D+01  0.27556320D+00  0.34076755D+01
 -0.20051570D+01  0.45467767D+01 -0.28895042D+00
APPROXIMATION OF MULTIPLIERS:  U =
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.14569604D-01
  0.00000000D+00  0.10166703D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.24536053D-02  0.00000000D+00  0.10228544D-01
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.25368749D-01  0.69400221D-02  0.00000000D+00
  0.75413282D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.26471288D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.15978373D-01
  0.00000000D+00  0.13858111D-01  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.16803222D-01  0.00000000D+00  0.16782992D-01
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.23818854D-01
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.66551632D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.65823979D-02  0.00000000D+00
  0.12094291D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00
DISTANCE FROM LOWER BOUND:  XL-X =
 -0.71126013D+01 -0.71125978D+01 -0.65903929D+01  0.00000000D+00
 -0.76825289D+01  0.00000000D+00 -0.79355866D-01 -0.67123212D+01
 -0.22433725D+01  0.00000000D+00 -0.99961457D+01  0.00000000D+00
 -0.26920063D+01 -0.26920365D+01 -0.31523913D+01 -0.72458094D+01
 -0.76151302D+01 -0.31523950D+01 -0.72458337D+01 -0.76151102D+01
 -0.10000000D+02  0.00000000D+00  0.00000000D+00 -0.95301225D+01
  0.00000000D+00 -0.10000000D+02 -0.51469423D+01 -0.59660793D+00
 -0.99912732D+01 -0.97870304D+01 -0.99312755D+01 -0.71625202D+00
 -0.21611900D-02 -0.40184936D+01 -0.30185888D+01 -0.25828413D+01
 -0.40184829D+01 -0.30185919D+01 -0.25828686D+01 -0.10000000D+02
 -0.39187791D+01 -0.10000000D+02 -0.49821384D+01  0.00000000D+00
 -0.70365512D+01  0.00000000D+00 -0.51957401D+01 -0.98312937D+01
 -0.67515376D+01  0.00000000D+00 -0.48186947D+01 -0.17998457D-02
 -0.39756774D+01 -0.96069080D+01 -0.52764222D+01 -0.83982814D+01
 -0.29967309D+01 -0.95586079D+01 -0.47098119D+01
DISTANCE FROM UPPER BOUND:  XU-X =
  0.28873987D+01  0.28874022D+01  0.34096071D+01  0.10000000D+02
  0.23174711D+01  0.10000000D+02  0.99206441D+01  0.32876788D+01
  0.77566275D+01  0.10000000D+02  0.38543425D-02  0.10000000D+02
  0.73079937D+01  0.73079635D+01  0.68476087D+01  0.27541906D+01
  0.23848698D+01  0.68476050D+01  0.27541663D+01  0.23848898D+01
  0.00000000D+00  0.10000000D+02  0.10000000D+02  0.46987751D+00
  0.10000000D+02  0.00000000D+00  0.48530577D+01  0.94033921D+01
  0.87268097D-02  0.21296964D+00  0.68724510D-01  0.92837480D+01
  0.99978388D+01  0.59815064D+01  0.69814112D+01  0.74171587D+01
  0.59815171D+01  0.69814081D+01  0.74171314D+01  0.00000000D+00
```

```
   0.60812209D+01  0.00000000D+00  0.50178616D+01  0.10000000D+02
   0.29634488D+01  0.10000000D+02  0.48042599D+01  0.16870631D+00
   0.32484624D+01  0.10000000D+02  0.51813053D+01  0.99982002D+01
   0.60243226D+01  0.39309201D+00  0.47235778D+01  0.16017186D+01
   0.70032691D+01  0.44139212D+00  0.52901881D+01
 NUMBER OF FUNC-CALLS:  NFUNC =  55
 NUMBER OF GRAD-CALLS:  NGRAD =  50
 NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   3   *****

   0.14000000D+02      0.14000000D+02      0.14000000D+02

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.13314976D+01      0.22347448D+00      0.11296701D+01      0.27244340D-01


   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.25000000D+00      0.22400990D+00      0.84050967D+00      0.32000000D-01

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
   0.49752475D+00      0.42760003D+00      0.45500000D+00      0.40000000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.70710678D-01      0.50000000D-01

   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.11875000D+01      0.62500000D-01

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.85240000D+00      0.25600000D-01

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.46550967D+00      0.32000000D-01

   0.21208023D+01      0.21207985D+01      0.15733495D+01     -0.50000000D+01
   0.27165971D+01     -0.50000000D+01     -0.49032435D+01      0.17332729D+01
  -0.27299038D+01     -0.50000000D+01      0.49910673D+01     -0.50000000D+01
  -0.23065804D+01     -0.23065502D+01     -0.18610343D+01      0.22357187D+01
   0.26244232D+01     -0.18610306D+01      0.22357433D+01      0.26244029D+01
   0.50000000D+01     -0.50000000D+01     -0.50000000D+01      0.45127887D+01
  -0.50000000D+01      0.50000000D+01      0.13777859D+00     -0.43972420D+01
   0.49836741D+01      0.47775649D+01      0.49455826D+01     -0.42883334D+01
  -0.50000000D+01     -0.97063987D+00     -0.19844820D+01     -0.24127038D+01
  -0.97065062D+00     -0.19844789D+01     -0.24126765D+01      0.50000000D+01
  -0.10716836D+01      0.50000000D+01     -0.15681837D-01     -0.50000000D+01
   0.20234437D+01     -0.50000000D+01      0.19492077D+00      0.48140398D+01
   0.17762066D+01     -0.50000000D+01     -0.17947325D+00     -0.50000000D+01
  -0.10455654D+01      0.46358064D+01      0.27556320D+00      0.34076755D+01
  -0.20051570D+01      0.45467767D+01     -0.28895042D+00

   0.31302960D+00

 *****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

 *****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****

 *****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****
```

```
*****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****   PHASE  =  2       TABS  =   0.14000D+02      TREL  =   0.14000D+02
                          PINDX =   0.31303D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.15000000D+02      0.15000000D+02      0.15000000D+02

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10111399D+01      0.37843766D+00      0.61383121D+00      0.27876614D-01


   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.25000000D+00      0.22400990D+00      0.84050967D+00      0.32000000D-01

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
   0.49752475D+00      0.42760003D+00      0.45500000D+00      0.40000000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.70710678D-01      0.50000000D-01

   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.11875000D+01      0.62500000D-01

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.85240000D+00      0.25600000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   2   *****



------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
     DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
```

KT - KUHN-TUCKER OPTIMALITY CRITERION

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.57904903D+00	0.00D+00	0	0	0.00D+00	0.00D+00	0.38D+00	0.96D+00
2	0.54519355D+00	0.00D+00	0	2	0.10D+00	0.00D+00	0.17D+00	0.47D-01
3	0.54149676D+00	0.00D+00	0	2	0.16D+00	0.00D+00	0.16D+00	0.37D-01
4	0.53251903D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.23D+00	0.48D-01
5	0.52973782D+00	0.00D+00	0	2	0.12D+00	0.00D+00	0.17D+00	0.15D-01
6	0.52158228D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.78D-01	0.11D-01
7	0.52083274D+00	0.00D+00	0	2	0.13D+00	0.00D+00	0.80D-01	0.74D-02
8	0.51436726D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.15D-01
9	0.50525355D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.75D-01	0.40D-02
10	0.50221224D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.71D-01	0.55D-02
11	0.49805931D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.65D-01	0.58D-02
12	0.49373184D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.59D-01	0.39D-02
13	0.49127723D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.56D-01	0.12D-02
14	0.49042085D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.53D-01	0.14D-02
15	0.48917707D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.52D-01	0.30D-02
16	0.48658244D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.15D-02
17	0.48542864D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.73D-01	0.27D-02
18	0.48332330D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.77D-01	0.35D-02
19	0.48133530D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.77D-01	0.98D-03
20	0.48052967D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.62D-01	0.18D-02
21	0.47941120D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.56D-01	0.65D-03
22	0.47884534D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.54D-01	0.28D-02
23	0.47680104D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.61D-01	0.26D-02
24	0.47494216D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.55D-01	0.24D-02
25	0.47331846D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.62D-01	0.19D-02
26	0.47184250D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.73D-01	0.36D-02
27	0.46897690D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.80D-01	0.76D-02
28	0.46317760D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D-01	0.11D-01
29	0.45683060D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.70D-01	0.46D-02
30	0.45322399D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.58D-01	0.14D-01
31	0.44563983D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.68D-01	0.27D-02
32	0.44386025D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.57D-01	0.48D-02
33	0.44269504D+00	0.00D+00	0	2	0.49D+00	0.00D+00	0.67D-01	0.34D-02
34	0.44062982D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.62D-01	0.79D-02
35	0.43921560D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.74D-02
36	0.43437733D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.79D-01	0.31D-02
37	0.43239329D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.65D-01	0.96D-03
38	0.43168112D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.68D-01	0.70D-03
39	0.43116837D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.69D-01	0.10D-02
40	0.43045934D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.69D-01	0.77D-03
41	0.42991329D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.66D-01	0.56D-03
42	0.42950133D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.62D-01	0.61D-03
43	0.42901904D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.58D-01	0.11D-02
44	0.42814066D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.52D-01	0.19D-02
45	0.42669756D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.47D-01	0.19D-02
46	0.42538983D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.11D-02
47	0.42458623D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.11D-02
48	0.42382693D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.52D-01	0.80D-03
49	0.42335974D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.54D-01	0.37D-03

**MORE THAN MAXIT ITERATIONS

• FINAL CONVERGENCE ANALYSIS

OBJECTIVE FUNCTION VALUE: F(X) = 0.42312794D+00

APPROXIMATION OF SOLUTION: X =

0.50000000D+01	0.50000000D+01	0.97305051D+00	-0.50000000D+01
0.34270301D+01	-0.50000000D+01	-0.50000000D+01	0.12315346D+01
-0.25602621D+01	-0.50000000D+01	0.50000000D+01	-0.50000000D+01
-0.24404122D+01	-0.24403796D+01	-0.14516577D+01	0.14864597D+01
0.35918647D+01	-0.14516519D+01	0.14864761D+01	0.35918176D+01
0.50000000D+01	-0.50000000D+01	-0.50000000D+01	0.39600340D+01
-0.50000000D+01	0.50000000D+01	-0.16250168D+01	-0.48632605D+01
0.48066664D+01	0.44830296D+01	0.47626683D+01	-0.49430530D+01

```
 -0.50000000D+01 -0.11501067D+01 -0.20159374D+01 -0.30044061D+01
 -0.11501149D+01 -0.20159348D+01 -0.30043776D+01  0.50000000D+01
 -0.18549982D+01  0.50000000D+01 -0.12571706D+00 -0.50000000D+01
  0.20938166D+01 -0.50000000D+01  0.21037134D+00  0.46542481D+01
  0.35801415D+01 -0.50000000D+01  0.81149288D-01 -0.50000000D+01
 -0.16905208D+01  0.50000000D+01  0.20517290D+00  0.17218783D+01
 -0.33471207D+01  0.46775443D+01 -0.42579093D+00
APPROXIMATION OF MULTIPLIERS:  U =
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.22874859D-02
  0.00000000D+00  0.13181369D+00  0.24819378D-01  0.00000000D+00
  0.00000000D+00  0.40617266D-02  0.00000000D+00  0.16842138D-01
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.26442339D-01  0.16397030D-01  0.00000000D+00
  0.12894402D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.30178622D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.82723868D-02
  0.00000000D+00  0.22315944D-01  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.35692875D-01  0.00000000D+00  0.50160306D-02
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.53986393D-02
  0.53916687D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.43907255D-02  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.27013331D-01
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.13299336D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.65384500D-02  0.00000000D+00
  0.20718709D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.75676426D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00
DISTANCE FROM LOWER BOUND:  XL-X =
 -0.10000000D+02 -0.10000000D+02 -0.59791920D+01  0.00000000D+00
 -0.84284520D+01  0.00000000D+00  0.00000000D+00 -0.62289113D+01
 -0.24312637D+01  0.00000000D+00 -0.10000000D+02  0.00000000D+00
 -0.25611581D+01 -0.25611906D+01 -0.35517485D+01 -0.64927244D+01
 -0.85817078D+01 -0.35517544D+01 -0.64927408D+01 -0.85816607D+01
 -0.10000000D+02  0.00000000D+00  0.00000000D+00 -0.89620585D+01
  0.00000000D+00 -0.10000000D+02 -0.33967823D+01 -0.15530594D+00
 -0.97988855D+01 -0.94721013D+01 -0.97579537D+01 -0.56793820D-01
  0.00000000D+00 -0.38423825D+01 -0.29867976D+01 -0.20031562D+01
 -0.38423744D+01 -0.29868002D+01 -0.20031846D+01 -0.10000000D+02
 -0.31325093D+01 -0.10000000D+02 -0.48734176D+01  0.00000000D+00
 -0.71030068D+01  0.00000000D+00 -0.52179347D+01 -0.96680338D+01
 -0.85480885D+01  0.00000000D+00 -0.50710341D+01  0.00000000D+00
 -0.33339487D+01 -0.10000000D+02 -0.52083732D+01 -0.67273756D+01
 -0.16766264D+01 -0.96710860D+01 -0.45724708D+01
DISTANCE FROM UPPER BOUND:  XU-X =
  0.00000000D+00  0.00000000D+00  0.40208080D+01  0.10000000D+02
  0.15715480D+01  0.10000000D+02  0.10000000D+02  0.37710887D+01
  0.75687363D+01  0.10000000D+02  0.00000000D+00  0.10000000D+02
  0.74388419D+01  0.74388094D+01  0.64482515D+01  0.35072756D+01
  0.14182922D+01  0.64482456D+01  0.35072592D+01  0.14183393D+01
  0.00000000D+00  0.10000000D+02  0.10000000D+02  0.10379415D+01
  0.10000000D+02  0.00000000D+00  0.66032177D+01  0.98446941D+01
  0.20111451D+00  0.52789873D+00  0.24204634D+00  0.99432062D+01
  0.10000000D+02  0.61576175D+01  0.70132024D+01  0.79968438D+01
  0.61576256D+01  0.70131998D+01  0.79968154D+01  0.00000000D+00
  0.68674907D+01  0.00000000D+00  0.51265824D+01  0.10000000D+02
  0.28969932D+01  0.10000000D+02  0.47820653D+01  0.33196618D+00
  0.14519115D+01  0.10000000D+02  0.49289659D+01  0.10000000D+02
  0.66660513D+01  0.00000000D+00  0.47916268D+01  0.32726244D+01
```

```
   0.83233736D+01  0.32891399D+00  0.54275292D+01
NUMBER OF FUNC-CALLS:  NFUNC =  55
NUMBER OF GRAD-CALLS:  NGRAD =  50
NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   3   *****

   0.15000000D+02      0.15000000D+02      0.15000000D+02

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10056152D+01      0.53862159D+00      0.39893277D+00      0.42584118D-01


   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.25000000D+00      0.22400990D+00      0.84050967D+00      0.32000000D-01

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
   0.49752475D+00      0.42760003D+00      0.45500000D+00      0.40000000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.70710678D-01      0.50000000D-01

   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.11875000D+01      0.62500000D-01

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.85240000D+00      0.25600000D-01

   0.50000000D+01      0.50000000D+01      0.97305051D+00     -0.50000000D+01
   0.34270301D+01     -0.50000000D+01     -0.50000000D+01      0.12315346D+01
  -0.25602621D+01     -0.50000000D+01      0.50000000D+01     -0.50000000D+01
  -0.24404122D+01     -0.24403796D+01     -0.14516577D+01      0.14864597D+01
   0.35918647D+01     -0.14516519D+01      0.14864761D+01      0.35918176D+01
   0.50000000D+01     -0.50000000D+01     -0.50000000D+01      0.39600340D+01
  -0.50000000D+01      0.50000000D+01     -0.16250168D+01     -0.48632605D+01
   0.48066664D+01      0.44830296D+01      0.47626683D+01     -0.49430530D+01
  -0.50000000D+01     -0.11501067D+01     -0.20159374D+01     -0.30044061D+01
  -0.11501149D+01     -0.20159348D+01     -0.30043776D+01      0.50000000D+01
  -0.18549982D+01      0.50000000D+01     -0.12571706D+00     -0.50000000D+01
   0.20938166D+01     -0.50000000D+01      0.21037134D+00      0.46542481D+01
   0.35801415D+01     -0.50000000D+01      0.81149288D-01     -0.50000000D+01
  -0.16905208D+01      0.50000000D+01      0.20517290D+00      0.17218783D+01
  -0.33471207D+01      0.46775443D+01     -0.42579093D+00

   0.42312794D+00

 *****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

 *****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


 *****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

 *****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

 *****   PHASE  =  2      TABS  =  0.15000D+02      TREL  =  0.15000D+02
                          PINDX =  0.42313D+00
```

```
*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

   0.16000000D+02      0.16000000D+02      0.16000000D+02

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.73954421D+00      0.58847492D+00      0.23268680D+00      0.45498884D-01


   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.25000000D+00      0.22400990D+00      0.84050967D+00      0.32000000D-01

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
   0.49752475D+00      0.42760003D+00      0.45500000D+00      0.40000000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.70710678D-01      0.50000000D-01

   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.11875000D+01      0.62500000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   2   *****


-------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
-------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
     DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
     KT    - KUHN-TUCKER OPTIMALITY CRITERION

IT         F           SCV      NA  I    ALPHA     DELTA       DLAN       KT
```

1	0.37328870D+00	0.00D+00	0	0	0.00D+00	0.00D+00	0.92D-01	0.59D-01
2	0.37185282D+00	0.00D+00	0	2	0.10D+00	0.00D+00	0.77D-01	0.62D-02
3	0.36862948D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.15D-01
4	0.36764820D+00	0.00D+00	0	2	0.14D+00	0.00D+00	0.56D-01	0.21D-02
5	0.36738605D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.76D-01	0.62D-02
6	0.36364779D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.58D-01	0.34D-02
7	0.36325959D+00	0.00D+00	0	2	0.24D+00	0.00D+00	0.62D-01	0.45D-02
8	0.36171320D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.76D-01	0.11D-02
9	0.36085257D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.61D-01	0.11D-02
10	0.36007394D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.41D-01	0.65D-03
11	0.35962914D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.39D-01	0.29D-03
12	0.35942378D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.39D-01	0.25D-03
13	0.35922521D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.40D-01	0.60D-03
14	0.35877007D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D-01	0.89D-03
15	0.35809199D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.12D-02
16	0.35721767D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.11D-02
17	0.35645899D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.83D-03
18	0.35585662D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.78D-03
19	0.35526566D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.98D-03
20	0.35456496D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.79D-03
21	0.35401825D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D-01	0.47D-03
22	0.35370454D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.40D-01	0.22D-03
23	0.35354034D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.40D-01	0.27D-03
24	0.35332234D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.41D-01	0.33D-03
25	0.35309107D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.43D-01	0.44D-03
26	0.35277832D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.41D-01	0.30D-03
27	0.35255817D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.40D-01	0.24D-03
28	0.35237706D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.39D-01	0.46D-03
29	0.35204537D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.37D-01	0.36D-03
30	0.35178842D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.36D-01	0.40D-03
31	0.35147563D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.36D-01	0.49D-03
32	0.35107116D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.37D-01	0.12D-02
33	0.35031115D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D-01	0.40D-03
34	0.34998827D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.39D-01	0.65D-03
35	0.34957599D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.37D-01	0.27D-03
36	0.34935904D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.36D-01	0.54D-03
37	0.34899304D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.34D-01	0.32D-03
38	0.34875776D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.32D-01	0.31D-03
39	0.34853959D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.33D-01	0.20D-03
40	0.34839627D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.33D-01	0.14D-03
41	0.34829245D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.34D-01	0.18D-03
42	0.34815718D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.35D-01	0.36D-03
43	0.34789960D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.36D-01	0.65D-03
44	0.34744028D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.38D-01	0.10D-02
45	0.34674669D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.37D-01	0.10D-02
46	0.34607671D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.39D-01	0.43D-03
47	0.34582737D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.37D-01	0.93D-04
48	0.34575556D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.38D-01	0.17D-03
49	0.34562862D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.38D-01	0.19D-03

**MORE THAN MAXIT ITERATIONS

* FINAL CONVERGENCE ANALYSIS

OBJECTIVE FUNCTION VALUE: F(X) = 0.34548501D+00

APPROXIMATION OF SOLUTION: X =

0.50000000D+01	0.50000000D+01	0.86414772D+00	-0.50000000D+01
0.40443410D+01	-0.50000000D+01	-0.50000000D+01	0.60850546D+00
-0.29538046D+01	-0.49946998D+01	0.50000000D+01	-0.50000000D+01
-0.23891148D+01	-0.23890813D+01	-0.19127208D+01	0.23208590D+01
0.48404191D+01	-0.19127183D+01	0.23208752D+01	0.48403726D+01
0.50000000D+01	-0.50000000D+01	-0.50000000D+01	0.40225379D+01
-0.50000000D+01	0.50000000D+01	-0.33672226D+01	-0.50000000D+01
0.50000000D+01	0.47878306D+01	0.50000000D+01	-0.49961180D+01
-0.33226480D+01	-0.21264835D+01	-0.20362773D+01	-0.23696392D+01
-0.21264892D+01	-0.20362728D+01	-0.23696125D+01	0.50000000D+01
-0.21323290D+01	0.50000000D+01	-0.13384183D+00	-0.50000000D+01
0.17112765D+01	-0.50000000D+01	0.43753019D-01	0.50000000D+01

```
   0.46061928D+01 -0.50000000D+01  0.30562936D+00 -0.50000000D+01
  -0.99147699D+00  0.50000000D+01  0.34521408D+00  0.12278961D+01
  -0.45018443D+01  0.45019219D+01 -0.61180206D+00
APPROXIMATION OF MULTIPLIERS:  U =
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.40120023D-02
   0.00000000D+00  0.73749621D-01  0.17899613D-01  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.10420523D-01
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.19286556D-01  0.67280710D-02  0.00000000D+00
   0.49532483D-02  0.00000000D+00  0.00000000D+00  0.34026924D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.37991775D-02
   0.00000000D+00  0.14113530D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.18338771D-01  0.00000000D+00  0.42428210D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.38986395D-02
   0.38986467D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.53302577D-02  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.19311227D-01
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.63722940D-02  0.00000000D+00  0.00000000D+00  0.27730640D-02
   0.00000000D+00  0.53937238D-02  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.91922952D-02  0.00000000D+00
   0.12978151D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.30666698D-02  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.24286866D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00
DISTANCE FROM LOWER BOUND:  XL-X =
  -0.10000000D+02 -0.10000000D+02 -0.58809661D+01  0.00000000D+00
  -0.90297736D+01  0.00000000D+00  0.00000000D+00 -0.56171615D+01
  -0.20511749D+01 -0.91800712D-02 -0.10000000D+02  0.00000000D+00
  -0.26089961D+01 -0.26090296D+01 -0.31046329D+01 -0.72868250D+01
  -0.98127524D+01 -0.31046355D+01 -0.72868413D+01 -0.98127059D+01
  -0.10000000D+02  0.00000000D+00  0.00000000D+00 -0.90359588D+01
   0.00000000D+00 -0.10000000D+02 -0.17071701D+01  0.00000000D+00
  -0.10000000D+02 -0.97617488D+01 -0.10000000D+02 -0.12116841D-02
  -0.16255276D+01 -0.29010583D+01 -0.29752529D+01 -0.26059418D+01
  -0.29010525D+01 -0.29752573D+01 -0.26059685D+01 -0.10000000D+02
  -0.28524580D+01 -0.10000000D+02 -0.48620290D+01  0.00000000D+00
  -0.67124900D+01  0.00000000D+00 -0.50406816D+01 -0.10000000D+02
  -0.95885299D+01  0.00000000D+00 -0.53051108D+01  0.00000000D+00
  -0.39761159D+01 -0.10000000D+02 -0.53386772D+01 -0.62263953D+01
  -0.55035778D+00 -0.95071113D+01 -0.44004015D+01
DISTANCE FROM UPPER BOUND:  XU-X =
   0.00000000D+00  0.00000000D+00  0.41190339D+01  0.10000000D+02
   0.97022643D+00  0.10000000D+02  0.10000000D+02  0.43828385D+01
   0.79488251D+01  0.99908199D+01  0.00000000D+00  0.10000000D+02
   0.73910039D+01  0.73909704D+01  0.68953671D+01  0.27131750D+01
   0.18724755D+00  0.68953645D+01  0.27131587D+01  0.18729409D+00
   0.00000000D+00  0.10000000D+02  0.10000000D+02  0.96404119D+00
   0.10000000D+02  0.00000000D+00  0.82928299D+01  0.10000000D+02
   0.00000000D+00  0.23825123D+00  0.00000000D+00  0.99987883D+01
   0.83744724D+01  0.70989417D+01  0.70247471D+01  0.73940582D+01
   0.70989475D+01  0.70247427D+01  0.73940315D+01  0.00000000D+00
   0.71475420D+01  0.00000000D+00  0.51379710D+01  0.10000000D+02
   0.32875100D+01  0.10000000D+02  0.49593184D+01  0.00000000D+00
   0.41147008D+00  0.10000000D+02  0.46948892D+01  0.10000000D+02
   0.60238841D+01  0.00000000D+00  0.46613228D+01  0.37736047D+01
   0.94496422D+01  0.49288867D+00  0.55995985D+01
NUMBER OF FUNC-CALLS:  NFUNC =  53
NUMBER OF GRAD-CALLS:  NGRAD =  50
NUMBER OF QL-CALLS:    NQL   =  49
```

```
*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

*****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   3   *****

   0.16000000D+02      0.16000000D+02      0.16000000D+02

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.74278002D+00      0.66244403D+00      0.16020348D+00      0.53279119D-01


   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.25000000D+00      0.22400990D+00      0.84050967D+00      0.32000000D-01

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
   0.49752475D+00      0.42760003D+00      0.45500000D+00      0.40000000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.70710678D-01      0.50000000D-01

   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.11875000D+01      0.62500000D-01

   0.50000000D+01      0.50000000D+01      0.86414772D+00     -0.50000000D+01
   0.40443410D+01     -0.50000000D+01     -0.50000000D+01      0.60850546D+00
  -0.29538046D+01     -0.49946998D+01      0.50000000D+01     -0.50000000D+01
  -0.23891148D+01     -0.23890813D+01     -0.19127208D+01      0.23208590D+01
   0.48404191D+01     -0.19127183D+01      0.23208752D+01      0.48403726D+01
   0.50000000D+01     -0.50000000D+01     -0.50000000D+01      0.40225379D+01
  -0.50000000D+01      0.50000000D+01     -0.33672226D+01     -0.50000000D+01
   0.50000000D+01      0.47878306D+01      0.50000000D+01     -0.49961180D+01
  -0.33226480D+01     -0.21264835D+01     -0.20362773D+01     -0.23696392D+01
  -0.21264892D+01     -0.20362728D+01     -0.23696125D+01      0.50000000D+01
  -0.21323290D+01      0.50000000D+01     -0.13384183D+00     -0.50000000D+01
   0.17112765D+01     -0.50000000D+01      0.43753019D-01      0.50000000D+01
   0.46061928D+01     -0.50000000D+01      0.30562936D+00     -0.50000000D+01
  -0.99147699D+00      0.50000000D+01      0.34521408D+00      0.12278961D+01
  -0.45018443D+01      0.45019219D+01     -0.61180206D+00

   0.34548501D+00

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****   PHASE  =  2      TABS  =   0.16000D+02      TREL  =   0.16000D+02
                         PINDX =   0.34549D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****
```

```
*****   TRAJ DEBUG POINT  = 370,     PHASE =   2   *****

   0.17000000D+02      0.17000000D+02      0.17000000D+02

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.51756239D+00      0.53140663D+00      0.31852961D+00      0.46245734D-01


   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.25000000D+00      0.22400990D+00      0.84050967D+00      0.32000000D-01

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
   0.49752475D+00      0.42760003D+00      0.45500000D+00      0.40000000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.70710678D-01      0.50000000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE =   2   *****



------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
     DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
     KT    - KUHN-TUCKER OPTIMALITY CRITERION

IT        F          SCV     NA  I    ALPHA     DELTA      DLAN      KT
------------------------------------------------------------------------
 1  0.55049615D+00  0.00D+00   0  0  0.00D+00  0.00D+00  0.73D+00  0.16D+01
 2  0.52392110D+00  0.00D+00   0  2  0.10D+00  0.00D+00  0.40D+00  0.28D+00
 3  0.48821158D+00  0.00D+00   0  2  0.26D+00  0.00D+00  0.36D+00  0.58D+00
```

4	0.42636053D+00	0.00D+00	0	2	0.23D+00	0.00D+00	0.98D-01	0.82D-01
5	0.42258552D+00	0.00D+00	0	2	0.10D+00	0.00D+00	0.91D-01	0.27D-01
6	0.40049176D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.32D-01
7	0.39763681D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.38D+00	0.13D+00
8	0.37849185D+00	0.00D+00	0	2	0.31D+00	0.00D+00	0.90D-01	0.10D-01
9	0.37247129D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.72D-01	0.30D-02
10	0.36969013D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.61D-01	0.13D-01
11	0.36069132D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.47D-01	0.28D-02
12	0.35823634D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.33D-01	0.11D-01
13	0.35138526D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.47D-01	0.32D-02
14	0.34877337D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.40D-01	0.44D-02
15	0.34541643D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.44D-02
16	0.34242588D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.25D-02
17	0.34030701D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.17D-02
18	0.33882679D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.43D-01	0.41D-02
19	0.33599321D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.40D-01	0.17D-02
20	0.33484612D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.40D-01	0.11D-02
21	0.33395638D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.37D-01	0.44D-02
22	0.33057350D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.53D-01	0.27D-02
23	0.32891170D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.10D-02
24	0.32820202D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.43D-01	0.79D-03
25	0.32758439D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.43D-01	0.14D-02
26	0.32651110D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.43D-01	0.55D-03
27	0.32604658D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.14D-02
28	0.32514963D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.54D-01	0.46D-03
29	0.32477095D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.61D-01	0.36D-03
30	0.32448699D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.54D-01	0.61D-03
31	0.32410730D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.52D-01	0.20D-03
32	0.32393934D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.53D-01	0.57D-03
33	0.32355098D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.54D-01	0.34D-03
34	0.32329900D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.56D-01	0.40D-03
35	0.32300538D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.57D-01	0.46D-03
36	0.32264978D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.58D-01	0.74D-03
37	0.32208608D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D-01	0.11D-02
38	0.32126197D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.67D-01	0.13D-02
39	0.32024696D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D-01	0.17D-02
40	0.31908321D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.93D-03
41	0.31840968D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.40D-01	0.76D-03
42	0.31785842D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.39D-01	0.69D-03
43	0.31735952D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.40D-01	0.62D-03
44	0.31691797D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.43D-01	0.49D-03
45	0.31658287D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.19D-03
46	0.31642722D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.47D-01	0.37D-03
47	0.31616894D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.47D-01	0.31D-03
48	0.31591571D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.76D-03
49	0.31535499D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.49D-01	0.89D-03

**MORE THAN MAXIT ITERATIONS

* FINAL CONVERGENCE ANALYSIS

OBJECTIVE FUNCTION VALUE: F(X) = 0.31468011D+00

APPROXIMATION OF SOLUTION: X =

0.50000000D+01	0.50000000D+01	0.95888992D+00	-0.50000000D+01
0.42937930D+01	-0.50000000D+01	-0.50000000D+01	0.16400986D+01
-0.27678914D+01	-0.50000000D+01	0.50000000D+01	-0.50000000D+01
-0.25148771D+01	-0.25148442D+01	-0.16960415D+01	0.34223616D+01
0.41108429D+01	-0.16960392D+01	0.34223809D+01	0.41107964D+01
0.50000000D+01	-0.50000000D+01	-0.50000000D+01	0.50000000D+01
-0.50000000D+01	0.49571596D+01	-0.50000000D+01	-0.50000000D+01
0.50000000D+01	0.50000000D+01	0.50000000D+01	-0.50000000D+01
-0.39062368D+01	-0.15574434D+01	-0.32854361D+01	-0.23128589D+01
-0.15574511D+01	-0.32854283D+01	-0.23128320D+01	0.50000000D+01
-0.26543366D+01	0.50000000D+01	-0.25874762D+00	-0.49219510D+01
0.21655326D+01	-0.50000000D+01	0.62682160D-01	0.50000000D+01
0.50000000D+01	-0.50000000D+01	0.56783199D+00	-0.50000000D+01
-0.26529677D+01	0.47921387D+01	0.20399834D+00	0.10169084D+01
-0.33194165D+01	0.50000000D+01	-0.65286696D+00	

APPROXIMATION OF MULTIPLIERS: U =

```
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.18033275D-01
   0.00000000D+00  0.98816224D-01  0.47337850D-02  0.00000000D+00
   0.00000000D+00  0.30483770D-02  0.00000000D+00  0.13140785D-01
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.24048732D-01  0.11228964D-01  0.00000000D+00
   0.45920681D-02  0.00000000D+00  0.87366115D-02  0.49980322D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.43550722D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.26121174D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.18463600D-01  0.00000000D+00  0.27732089D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.73757401D-02
   0.73755565D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.96049980D-02  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.24224772D-01
   0.00000000D+00  0.00000000D+00  0.56774761D-02  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.51948894D-02
   0.32922476D-02  0.36716474D-02  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.14088128D-01  0.00000000D+00
   0.13794065D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.86277152D-02  0.88019391D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.46300294D-02  0.00000000D+00
DISTANCE FROM LOWER BOUND:  XL-X =
  -0.10000000D+02 -0.10000000D+02 -0.59698333D+01  0.00000000D+00
  -0.92957624D+01  0.00000000D+00  0.00000000D+00 -0.66512706D+01
  -0.22401718D+01  0.00000000D+00 -0.10000000D+02  0.00000000D+00
  -0.24913781D+01 -0.24914112D+01 -0.32636396D+01 -0.83467800D+01
  -0.91478936D+01 -0.32636419D+01 -0.83467990D+01 -0.91478471D+01
  -0.10000000D+02  0.00000000D+00  0.00000000D+00 -0.10000000D+02
   0.00000000D+00 -0.98639800D+01  0.00000000D+00  0.00000000D+00
  -0.10000000D+02 -0.10000000D+02 -0.10000000D+02  0.00000000D+00
  -0.10649890D+01 -0.34144551D+01 -0.18060512D+01 -0.26507918D+01
  -0.34144474D+01 -0.18060588D+01 -0.26508187D+01 -0.10000000D+02
  -0.23052909D+01 -0.10000000D+02 -0.47362258D+01 -0.80506078D-01
  -0.71463341D+01  0.00000000D+00 -0.50642890D+01 -0.10000000D+02
  -0.10000000D+02  0.00000000D+00 -0.55505123D+01  0.00000000D+00
  -0.25422136D+01 -0.97471588D+01 -0.52174561D+01 -0.60245167D+01
  -0.15736061D+01 -0.10000000D+02 -0.43514108D+01
DISTANCE FROM UPPER BOUND:  XU-X =
   0.00000000D+00  0.00000000D+00  0.40301667D+01  0.10000000D+02
   0.70423756D+00  0.10000000D+02  0.10000000D+02  0.33487294D+01
   0.77598282D+01  0.10000000D+02  0.00000000D+00  0.10000000D+02
   0.75086219D+01  0.75085888D+01  0.67363604D+01  0.16532200D+01
   0.85210638D+00  0.67363581D+01  0.16532010D+01  0.85215290D+00
   0.00000000D+00  0.10000000D+02  0.10000000D+02  0.00000000D+00
   0.10000000D+02  0.13602003D+00  0.10000000D+02  0.10000000D+02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.10000000D+02
   0.89350110D+01  0.65855449D+01  0.81939488D+01  0.73492082D+01
   0.65855526D+01  0.81939412D+01  0.73491813D+01  0.00000000D+00
   0.76947091D+01  0.00000000D+00  0.52637742D+01  0.99194939D+01
   0.28536659D+01  0.10000000D+02  0.49357110D+01  0.00000000D+00
   0.00000000D+00  0.10000000D+02  0.44494877D+01  0.10000000D+02
   0.74577864D+01  0.25284121D+00  0.47825439D+01  0.39754833D+01
   0.84263939D+01  0.00000000D+00  0.56485892D+01
NUMBER OF FUNC-CALLS:  NFUNC =  55
NUMBER OF GRAD-CALLS:  NGRAD =  50
NUMBER OF QL-CALLS:    NQL   =  49
```

```
*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

*****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   3   *****

   0.17000000D+02      0.17000000D+02      0.17000000D+02

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.53785497D+00      0.35091693D+00      0.69446246D+00      0.33800241D-01


   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

   0.93959732D+00      0.75000000D+00     -0.25000000D+00
   0.25000000D+00      0.22400990D+00      0.84050967D+00      0.32000000D-01

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
   0.49752475D+00      0.42760003D+00      0.45500000D+00      0.40000000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.70710678D-01      0.50000000D-01

   0.50000000D+01      0.50000000D+01      0.95888992D+00     -0.50000000D+01
   0.42937930D+01     -0.50000000D+01     -0.50000000D+01      0.16400986D+01
  -0.27678914D+01     -0.50000000D+01      0.50000000D+01     -0.50000000D+01
  -0.25148771D+01     -0.25148442D+01     -0.16960415D+01      0.34223616D+01
   0.41108429D+01     -0.16960392D+01      0.34223809D+01      0.41107964D+01
   0.50000000D+01     -0.50000000D+01     -0.50000000D+01      0.50000000D+01
  -0.50000000D+01      0.49571596D+01     -0.50000000D+01     -0.50000000D+01
   0.50000000D+01      0.50000000D+01      0.50000000D+01     -0.50000000D+01
  -0.39062368D+01     -0.15574434D+01     -0.32854361D+01     -0.23128589D+01
  -0.15574511D+01     -0.32854283D+01     -0.23128320D+01      0.50000000D+01
  -0.26543366D+01      0.50000000D+01     -0.25874762D+00     -0.49219510D+01
   0.21655326D+01     -0.50000000D+01      0.62682160D-01      0.50000000D+01
   0.50000000D+01     -0.50000000D+01      0.56783199D+00     -0.50000000D+01
  -0.26529677D+01      0.47921387D+01      0.20399834D+00      0.10169084D+01
  -0.33194165D+01      0.50000000D+01     -0.65286696D+00

   0.31468011D+00

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****   PHASE  =  2      TABS  =   0.17000D+02      TREL  =   0.17000D+02
                         PINDX =   0.31468D+00

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****
```

```
 0.18000000D+02      0.18000000D+02      0.18000000D+02

 0.23020005D+00      0.00000000D+00     -0.25000000D+00
 0.57718991D+00      0.30985736D+00      0.56946577D+00      0.37901233D-01


 0.23020005D+00      0.00000000D+00     -0.25000000D+00
 0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

 0.27461750D+00      0.75000000D+00     -0.25000000D+00
 0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

 0.33959976D+00      0.50000000D+00     -0.25000000D+00
 0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

 0.44257113D+00      0.25000000D+00     -0.25000000D+00
 0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

 0.62360802D+00      0.00000000D+00     -0.25000000D+00
 0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

 0.93959732D+00      0.75000000D+00     -0.25000000D+00
 0.25000000D+00      0.22400990D+00      0.84050967D+00      0.32000000D-01

 0.00000000D+00      0.50000000D+00     -0.25000000D+00
 0.49752475D+00      0.42760003D+00      0.45500000D+00      0.40000000D-01


***** TRAJ DEBUG POINT  = 400,     PHASE =   2   *****

***** TRAJ DEBUG POINT  = 412,     PHASE =   2   *****


-------------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
-------------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
     DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
     KT    - KUHN-TUCKER OPTIMALITY CRITERION

IT        F            SCV      NA  I    ALPHA     DELTA       DLAN       KT
-------------------------------------------------------------------------------
 1  0.59502909D+00  0.00D+00    0   0  0.00D+00  0.00D+00  0.12D+01  0.13D+01
 2  0.54347441D+00  0.00D+00    0   2  0.10D+00  0.00D+00  0.32D+00  0.24D+00
 3  0.53024489D+00  0.00D+00    0   2  0.11D+00  0.00D+00  0.16D+00  0.15D+00
 4  0.50775079D+00  0.00D+00    0   1  0.10D+01  0.00D+00  0.56D+00  0.39D+00
 5  0.48559690D+00  0.00D+00    0   2  0.12D+00  0.00D+00  0.21D+00  0.11D+00
 6  0.42283674D+00  0.00D+00    0   1  0.10D+01  0.00D+00  0.15D+00  0.38D-01
 7  0.41825500D+00  0.00D+00    0   2  0.24D+00  0.00D+00  0.13D+00  0.71D-01
```

```
 8  0.39998240D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.15D+00  0.21D-01
 9  0.38660882D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.93D-01  0.91D-02
10  0.37942089D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.83D-01  0.15D-01
11  0.36882928D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.93D-01  0.90D-02
12  0.36187843D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.74D-01  0.70D-02
13  0.35691191D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.50D-01  0.44D-02
14  0.35391870D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.39D-01  0.26D-02
15  0.35198376D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.38D-01  0.28D-02
16  0.35003783D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.41D-01  0.18D-02
17  0.34872142D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.45D-01  0.23D-02
18  0.34701876D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.49D-01  0.16D-02
19  0.34563919D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.58D-01  0.44D-02
20  0.34261093D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.61D-01  0.23D-02
21  0.34087171D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.56D-01  0.24D-02
22  0.33906921D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.52D-01  0.46D-02
23  0.33601192D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.46D-01  0.29D-02
24  0.33364258D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.47D-01  0.59D-02
25  0.32956250D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.40D-01  0.45D-02
26  0.32625654D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.38D-01  0.17D-02
27  0.32523976D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.54D-01  0.90D-03
28  0.32465819D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.53D-01  0.38D-03
29  0.32436359D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.47D-01  0.56D-03
30  0.32395643D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.36D-01  0.58D-03
31  0.32351793D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.33D-01  0.69D-03
32  0.32299576D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.33D-01  0.93D-03
33  0.32229300D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.35D-01  0.13D-02
34  0.32136654D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.37D-01  0.95D-03
35  0.32065496D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.45D-01  0.10D-02
36  0.32003002D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.53D-01  0.21D-03
37  0.31986900D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.49D-01  0.25D-03
38  0.31970194D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.48D-01  0.16D-03
39  0.31956814D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.47D-01  0.39D-03
40  0.31928287D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.46D-01  0.49D-03
41  0.31889208D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.44D-01  0.58D-03
42  0.31846130D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.43D-01  0.72D-03
43  0.31801038D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.43D-01  0.22D-03
44  0.31783615D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.47D-01  0.38D-03
45  0.31756456D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.52D-01  0.34D-03
46  0.31730494D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.52D-01  0.36D-03
47  0.31704787D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.50D-01  0.32D-03
48  0.31682894D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.45D-01  0.16D-03
49  0.31672663D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.45D-01  0.65D-04
    **MORE THAN MAXIT ITERATIONS


* FINAL CONVERGENCE ANALYSIS

  OBJECTIVE FUNCTION VALUE:  F(X) =  0.31667695D+00
  APPROXIMATION OF SOLUTION:  X =
     0.40575576D+01  0.40575165D+01  0.58846456D+00 -0.50000000D+01
     0.33301925D+01 -0.50000000D+01 -0.50000000D+01  0.14461905D+01
    -0.24947524D+01 -0.50000000D+01  0.49992654D+01 -0.50000000D+01
    -0.23266967D+01 -0.23266661D+01 -0.13680086D+01  0.32568283D+01
     0.37946572D+01 -0.13680175D+01  0.32568584D+01  0.37945982D+01
     0.50000000D+01 -0.50000000D+01 -0.50000000D+01  0.28099814D+01
    -0.50000000D+01  0.50000000D+01 -0.45638300D+01 -0.50000000D+01
     0.50000000D+01  0.45475510D+01  0.49996995D+01 -0.48682901D+01
    -0.40963961D+01 -0.21423160D+01 -0.25349051D+01 -0.17833719D+01
    -0.21423220D+01 -0.25348990D+01 -0.17833471D+01  0.50000000D+01
    -0.28792811D+01  0.50000000D+01 -0.25679005D+00 -0.50000000D+01
     0.50000000D+01 -0.50000000D+01  0.14646940D+00  0.50000000D+01
     0.41801782D+01 -0.50000000D+01  0.50040158D+00 -0.50000000D+01
    -0.25985913D+01  0.50000000D+01  0.25029408D+00  0.15926809D+01
    -0.50000000D+01  0.40357540D+01 -0.67830069D+00
  APPROXIMATION OF MULTIPLIERS:  U =
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.51674270D-02
     0.00000000D+00  0.10199677D+00  0.31376617D-01  0.00000000D+00
     0.00000000D+00  0.69701577D-02  0.00000000D+00  0.12788575D-01
     0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
```

```
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.20965725D-01  0.16425921D-01  0.00000000D+00
   0.17576523D-01  0.00000000D+00  0.00000000D+00  0.61450971D-03
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.44501319D-02
   0.00000000D+00  0.12184347D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.25648426D-01  0.00000000D+00  0.85302128D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.18616261D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.22733858D-01
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.17899579D-01  0.00000000D+00  0.00000000D+00  0.24001621D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.50802662D-02  0.00000000D+00
   0.22801562D-01  0.00000000D+00  0.00000000D+00  0.20026602D-02
   0.00000000D+00  0.00000000D+00  0.10466161D-01  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.98570218D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00
 DISTANCE FROM LOWER BOUND:  XL-X =
  -0.90641676D+01 -0.90641268D+01 -0.55912426D+01  0.00000000D+00
  -0.83253573D+01  0.00000000D+00  0.00000000D+00 -0.64500775D+01
  -0.25094695D+01  0.00000000D+00 -0.99980476D+01  0.00000000D+00
  -0.26719352D+01 -0.26719658D+01 -0.36265585D+01 -0.82566839D+01
  -0.87923631D+01 -0.36265498D+01 -0.82567137D+01 -0.87923043D+01
  -0.10000000D+02  0.00000000D+00  0.00000000D+00 -0.78106723D+01
   0.00000000D+00 -0.10000000D+02 -0.43570998D+00  0.00000000D+00
  -0.10000000D+02 -0.95510453D+01 -0.99978749D+01 -0.12997106D+00
  -0.90959553D+00 -0.28598469D+01 -0.24604058D+01 -0.32136416D+01
  -0.28598409D+01 -0.24604120D+01 -0.32136665D+01 -0.10000000D+02
  -0.21070933D+01 -0.10000000D+02 -0.47440114D+01  0.00000000D+00
  -0.10000000D+02  0.00000000D+00 -0.51461980D+01 -0.10000000D+02
  -0.91841384D+01  0.00000000D+00 -0.55003759D+01  0.00000000D+00
  -0.24039069D+01 -0.10000000D+02 -0.52501858D+01 -0.65922459D+01
   0.00000000D+00 -0.90455757D+01 -0.43213823D+01
 DISTANCE FROM UPPER BOUND:  XU-X =
   0.93583238D+00  0.93587318D+00  0.44087574D+01  0.10000000D+02
   0.16746427D+01  0.10000000D+02  0.10000000D+02  0.35499225D+01
   0.74905305D+01  0.10000000D+02  0.19523738D-02  0.10000000D+02
   0.73280648D+01  0.73280342D+01  0.63734415D+01  0.17433161D+01
   0.12076369D+01  0.63734502D+01  0.17432863D+01  0.12076957D+01
   0.00000000D+00  0.10000000D+02  0.10000000D+02  0.21893277D+01
   0.10000000D+02  0.00000000D+00  0.95642900D+01  0.10000000D+02
   0.00000000D+00  0.44895470D+00  0.21251165D-02  0.98700289D+01
   0.90904045D+01  0.71401531D+01  0.75395942D+01  0.67863584D+01
   0.71401591D+01  0.75395880D+01  0.67863335D+01  0.00000000D+00
   0.78929067D+01  0.00000000D+00  0.52559886D+01  0.10000000D+02
   0.00000000D+00  0.10000000D+02  0.48538020D+01  0.00000000D+00
   0.81586161D+00  0.10000000D+02  0.44996241D+01  0.10000000D+02
   0.75960931D+01  0.00000000D+00  0.47498142D+01  0.34077541D+01
   0.10000000D+02  0.95442426D+00  0.56786177D+01
 NUMBER OF FUNC-CALLS:  NFUNC =  54
 NUMBER OF GRAD-CALLS:  NGRAD =  50
 NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   3   *****
```

```
 0.18000000D+02      0.18000000D+02      0.18000000D+02

 0.23020005D+00      0.00000000D+00     -0.25000000D+00
 0.66479211D+00      0.31855630D+00      0.10738913D+01      0.33441746D-01


 0.23020005D+00      0.00000000D+00     -0.25000000D+00
 0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

 0.27461750D+00      0.75000000D+00     -0.25000000D+00
 0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

 0.33959976D+00      0.50000000D+00     -0.25000000D+00
 0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

 0.44257113D+00      0.25000000D+00     -0.25000000D+00
 0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

 0.62360802D+00      0.00000000D+00     -0.25000000D+00
 0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

 0.93959732D+00      0.75000000D+00     -0.25000000D+00
 0.25000000D+00      0.22400990D+00      0.84050967D+00      0.32000000D-01

 0.00000000D+00      0.50000000D+00     -0.25000000D+00
 0.49752475D+00      0.42760003D+00      0.45500000D+00      0.40000000D-01

 0.40575576D+01      0.40575165D+01      0.58846456D+00     -0.50000000D+01
 0.33301925D+01     -0.50000000D+01     -0.50000000D+01      0.14461905D+01
-0.24947524D+01     -0.50000000D+01      0.49992654D+01     -0.50000000D+01
-0.23266967D+01     -0.23266661D+01     -0.13680086D+01      0.32568283D+01
 0.37946572D+01     -0.13680175D+01      0.32568584D+01      0.37945982D+01
 0.50000000D+01     -0.50000000D+01     -0.50000000D+01      0.28099814D+01
-0.50000000D+01      0.50000000D+01     -0.45638300D+01     -0.50000000D+01
 0.50000000D+01      0.45475510D+01      0.49996995D+01     -0.48682901D+01
-0.40963961D+01     -0.21423160D+01     -0.25349051D+01     -0.17833719D+01
-0.21423220D+01     -0.25348990D+01     -0.17833471D+01      0.50000000D+01
-0.28792811D+01      0.50000000D+01     -0.25679005D+00     -0.50000000D+01
 0.50000000D+01     -0.50000000D+01      0.14646940D+00      0.50000000D+01
 0.41801782D+01     -0.50000000D+01      0.50040158D+00     -0.50000000D+01
-0.25985913D+01      0.50000000D+01      0.25029408D+00      0.15926809D+01
-0.50000000D+01      0.40357540D+01     -0.67830069D+00

 0.31667695D+00

***** TRAJ DEBUG POINT  = 500,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 600,     PHASE  =   2   *****


***** TRAJ DEBUG POINT  = 602,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

***** PHASE  =  2      TABS  =  0.18000D+02      TREL  =  0.18000D+02
                      PINDX =  0.31668D+00

***** TRAJ DEBUG POINT  = 200,     PHASE  =   2   *****

***** TRAJ DEBUG POINT  = 300,     PHASE  =   2   *****


***** TRAJ DEBUG POINT  = 370,     PHASE  =   2   *****

 0.19000000D+02      0.19000000D+02      0.19000000D+02

 0.19801980D+00      0.25000000D+00     -0.25000000D+00
 0.74530443D+00      0.63588726D+00      0.55293564D+00      0.54065476D-01
```

```
 0.19801980D+00      0.25000000D+00     -0.25000000D+00
 0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

 0.23020005D+00      0.00000000D+00     -0.25000000D+00
 0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

 0.27461750D+00      0.75000000D+00     -0.25000000D+00
 0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

 0.33959976D+00      0.50000000D+00     -0.25000000D+00
 0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

 0.44257113D+00      0.25000000D+00     -0.25000000D+00
 0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

 0.62360802D+00      0.00000000D+00     -0.25000000D+00
 0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

 0.93959732D+00      0.75000000D+00     -0.25000000D+00
 0.25000000D+00      0.22400990D+00      0.84050967D+00      0.32000000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   2   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   2   *****


-------------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
-------------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
     DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
     KT    - KUHN-TUCKER OPTIMALITY CRITERION

IT         F           SCV      NA  I    ALPHA     DELTA      DLAN       KT
-------------------------------------------------------------------------------
 1  0.50114089D+00  0.00D+00   0   0  0.00D+00  0.00D+00  0.20D+00  0.23D+00
 2  0.48921527D+00  0.00D+00   0   2  0.10D+00  0.00D+00  0.67D-01  0.20D-01
 3  0.48882266D+00  0.00D+00   0   2  0.10D+00  0.00D+00  0.38D-01  0.27D-02
 4  0.48856486D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.89D-01  0.13D-01
 5  0.48768059D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.16D+00  0.10D-01
 6  0.48538392D+00  0.00D+00   0   2  0.45D+00  0.00D+00  0.12D+00  0.33D-01
 7  0.48183243D+00  0.00D+00   0   2  0.22D+00  0.00D+00  0.34D-01  0.20D-02
 8  0.48024477D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.43D-01  0.30D-02
 9  0.47828476D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.50D-01  0.11D-02
10  0.47732563D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.52D-01  0.36D-02
11  0.47478152D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.57D-01  0.14D-02
```

12	0.47374226D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.57D-01	0.22D-02
13	0.47235285D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.62D-03
14	0.47188456D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.82D-03
15	0.47126215D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.46D-01	0.11D-02
16	0.47040582D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.15D-02
17	0.46927936D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.15D-02
18	0.46822332D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.46D-01	0.11D-02
19	0.46744163D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.49D-01	0.11D-02
20	0.46658601D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.55D-01	0.17D-02
21	0.46530345D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.66D-01	0.22D-02
22	0.46363955D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.54D-01	0.11D-02
23	0.46288668D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.57D-01	0.11D-02
24	0.46204533D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.57D-01	0.13D-02
25	0.46103028D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.54D-01	0.39D-03
26	0.46068815D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.53D-01	0.13D-02
27	0.45991151D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.52D-01	0.38D-03
28	0.45959388D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.51D-01	0.10D-02
29	0.45891312D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.49D-03
30	0.45853607D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.70D-03
31	0.45803397D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.47D-01	0.57D-03
32	0.45766315D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.21D-03
33	0.45750869D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.20D-03
34	0.45736239D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.44D-01	0.22D-03
35	0.45718801D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.44D-01	0.39D-03
36	0.45690246D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.28D-03
37	0.45669205D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.46D-01	0.37D-03
38	0.45647379D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.47D-01	0.74D-04
39	0.45641165D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.21D-03
40	0.45627099D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.49D-01	0.10D-03
41	0.45619200D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.49D-01	0.16D-03
42	0.45607229D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.49D-01	0.22D-03
43	0.45589859D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.49D-01	0.49D-03
44	0.45555029D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.30D-03
45	0.45530952D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.46D-03
46	0.45501587D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.16D-03
47	0.45489249D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.20D-03
48	0.45474805D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.49D-01	0.19D-03
49	0.45460564D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.27D-03

**MORE THAN MAXIT ITERATIONS

* FINAL CONVERGENCE ANALYSIS

OBJECTIVE FUNCTION VALUE: F(X) = 0.45440665D+00

APPROXIMATION OF SOLUTION: X =

0.50000000D+01	0.50000000D+01	0.71932409D+00	-0.50000000D+01
0.39318348D+01	-0.50000000D+01	-0.50000000D+01	0.13993137D+01
-0.24888527D+01	-0.50000000D+01	0.50000000D+01	-0.50000000D+01
-0.24488817D+01	-0.24488491D+01	-0.16288680D+01	0.33504633D+01
0.45665001D+01	-0.16289214D+01	0.33505379D+01	0.45663753D+01
0.50000000D+01	-0.50000000D+01	-0.50000000D+01	0.27857710D+01
-0.50000000D+01	0.50000000D+01	-0.50000000D+01	-0.49279846D+01
0.49893256D+01	0.46114396D+01	0.49930316D+01	-0.50000000D+01
-0.50000000D+01	-0.26551570D+01	-0.22192177D+01	-0.23610856D+01
-0.26551630D+01	-0.22192128D+01	-0.23610603D+01	0.50000000D+01
-0.25549226D+01	0.50000000D+01	-0.26821449D+00	-0.50000000D+01
0.30792507D+01	-0.50000000D+01	0.21988187D-01	0.50000000D+01
0.41781065D+01	-0.50000000D+01	0.41438195D+00	-0.50000000D+01
-0.17086532D+01	0.50000000D+01	0.29584073D+00	0.18066313D+01
-0.45364633D+01	0.47661978D+01	-0.55867205D+00	

APPROXIMATION OF MULTIPLIERS: U =

0.00000000D+00	0.00000000D+00	0.00000000D+00	0.62783598D-02
0.00000000D+00	0.12176164D+00	0.29325560D-01	0.00000000D+00
0.00000000D+00	0.69300165D-02	0.00000000D+00	0.15729701D-01
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.24106371D-01	0.15978843D-01	0.00000000D+00
0.17460460D-01	0.00000000D+00	0.95142565D-03	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.35354757D-02

```
   0.32744912D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.80628908D-02
   0.00000000D+00  0.21711998D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.36766685D-01  0.00000000D+00  0.67998223D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.28869203D-02
   0.28923999D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.53102923D-02  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.24359492D-01
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.17390685D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.50520191D-02  0.00000000D+00
   0.16305154D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.49443385D-02  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.89495118D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00
 DISTANCE FROM LOWER BOUND:  XL-X =
  -0.10000000D+02 -0.10000000D+02 -0.57267467D+01  0.00000000D+00
  -0.89392942D+01  0.00000000D+00  0.00000000D+00 -0.63933793D+01
  -0.25077502D+01  0.00000000D+00 -0.10000000D+02  0.00000000D+00
  -0.25655377D+01 -0.25655706D+01 -0.33899239D+01 -0.83659885D+01
  -0.95605479D+01 -0.33898733D+01 -0.83660601D+01 -0.95604266D+01
  -0.10000000D+02  0.00000000D+00  0.00000000D+00 -0.78072364D+01
   0.00000000D+00 -0.10000000D+02  0.00000000D+00 -0.11179429D+00
  -0.99804585D+01 -0.95637597D+01 -0.99872538D+01  0.00000000D+00
   0.00000000D+00 -0.23736461D+01 -0.27962981D+01 -0.26710341D+01
  -0.23736399D+01 -0.27963030D+01 -0.26710595D+01 -0.10000000D+02
  -0.25311386D+01 -0.10000000D+02 -0.47379323D+01  0.00000000D+00
  -0.80116692D+01  0.00000000D+00 -0.50063946D+01 -0.10000000D+02
  -0.91469884D+01  0.00000000D+00 -0.54128379D+01  0.00000000D+00
  -0.32783475D+01 -0.10000000D+02 -0.53038074D+01 -0.67848305D+01
  -0.50929372D+00 -0.97722386D+01 -0.44488836D+01
 DISTANCE FROM UPPER BOUND:  XU-X =
   0.00000000D+00  0.00000000D+00  0.42732533D+01  0.10000000D+02
   0.10607058D+01  0.10000000D+02  0.10000000D+02  0.36066207D+01
   0.74922498D+01  0.10000000D+02  0.00000000D+00  0.10000000D+02
   0.74344623D+01  0.74344294D+01  0.66100761D+01  0.16340115D+01
   0.43945213D+00  0.66101267D+01  0.16339399D+01  0.43957336D+00
   0.00000000D+00  0.10000000D+02  0.10000000D+02  0.21927636D+01
   0.10000000D+02  0.00000000D+00  0.10000000D+02  0.98882057D+01
   0.19541456D-01  0.43624032D+00  0.12746191D-01  0.10000000D+02
   0.10000000D+02  0.76263539D+01  0.72037019D+01  0.73289659D+01
   0.76263601D+01  0.72036970D+01  0.73289405D+01  0.00000000D+00
   0.74688614D+01  0.00000000D+00  0.52620677D+01  0.10000000D+02
   0.19883308D+01  0.10000000D+02  0.49936054D+01  0.00000000D+00
   0.85301158D+00  0.10000000D+02  0.45871621D+01  0.10000000D+02
   0.67216525D+01  0.00000000D+00  0.46961926D+01  0.32151695D+01
   0.94907063D+01  0.22776138D+00  0.55511164D+01
 NUMBER OF FUNC-CALLS:  NFUNC =  54
 NUMBER OF GRAD-CALLS:  NGRAD =  50
 NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

  *****   TRAJ DEBUG POINT  = 489,     PHASE  =   2,     ICODE  =   3   *****

    0.19000000D+02      0.19000000D+02      0.19000000D+02

    0.19801980D+00      0.25000000D+00     -0.25000000D+00
    0.69139650D+00      0.55786000D+00      0.48492668D+00      0.42711372D-01
```

```
 0.19801980D+00      0.25000000D+00     -0.25000000D+00
 0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

 0.23020005D+00      0.00000000D+00     -0.25000000D+00
 0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

 0.27461750D+00      0.75000000D+00     -0.25000000D+00
 0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

 0.33959976D+00      0.50000000D+00     -0.25000000D+00
 0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

 0.44257113D+00      0.25000000D+00     -0.25000000D+00
 0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

 0.62360802D+00      0.00000000D+00     -0.25000000D+00
 0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

 0.93959732D+00      0.75000000D+00     -0.25000000D+00
 0.25000000D+00      0.22400990D+00      0.84050967D+00      0.32000000D-01

 0.50000000D+01      0.50000000D+01      0.71932409D+00     -0.50000000D+01
 0.39318348D+01     -0.50000000D+01     -0.50000000D+01      0.13993137D+01
-0.24888527D+01     -0.50000000D+01      0.50000000D+01     -0.50000000D+01
-0.24488817D+01     -0.24488491D+01     -0.16288680D+01      0.33504633D+01
 0.45665001D+01     -0.16289214D+01      0.33505379D+01      0.45663753D+01
 0.50000000D+01     -0.50000000D+01     -0.50000000D+01      0.27857710D+01
-0.50000000D+01      0.50000000D+01     -0.50000000D+01     -0.49279846D+01
 0.49893256D+01      0.46114396D+01      0.49930316D+01     -0.50000000D+01
-0.50000000D+01     -0.26551570D+01     -0.22192177D+01     -0.23610856D+01
-0.26551630D+01     -0.22192128D+01     -0.23610603D+01      0.50000000D+01
-0.25549226D+01      0.50000000D+01     -0.26821449D+00     -0.50000000D+01
 0.30792507D+01     -0.50000000D+01      0.21988187D-01      0.50000000D+01
 0.41781065D+01     -0.50000000D+01      0.41438195D+00     -0.50000000D+01
-0.17086532D+01      0.50000000D+01      0.29584073D+00      0.18066313D+01
-0.45364633D+01      0.47661978D+01     -0.55867205D+00

 0.45440665D+00

***** TRAJ DEBUG POINT  = 500,     PHASE  =  2  *****

***** TRAJ DEBUG POINT  = 600,     PHASE  =  2  *****


***** TRAJ DEBUG POINT  = 602,     PHASE  =  2  *****

***** TRAJ DEBUG POINT  = 602,     NNID   =  1  *****

***** PHASE  =  2      TABS  =  0.19000D+02      TREL  =  0.19000D+02
                      PINDX =  0.45441D+00

***** TRAJ DEBUG POINT  = 200,     PHASE  =  2  *****

***** TRAJ DEBUG POINT  = 300,     PHASE  =  3  *****


***** TRAJ DEBUG POINT  = 370,     PHASE  =  3  *****

  0.20000000D+02      0.20000000D+02      0.20000000D+02

  0.00000000D+00      0.50000000D+00     -0.25000000D+00
  0.50112936D+00      0.36921965D+00      0.69074877D+00      0.24293071D-01


  0.00000000D+00      0.50000000D+00     -0.25000000D+00
  0.49752475D+00      0.42760003D+00      0.43750000D+00      0.62500000D-01
```

```
 0.19801980D+00      0.25000000D+00     -0.25000000D+00
 0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

 0.23020005D+00      0.00000000D+00     -0.25000000D+00
 0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

 0.27461750D+00      0.75000000D+00     -0.25000000D+00
 0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

 0.33959976D+00      0.50000000D+00     -0.25000000D+00
 0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

 0.44257113D+00      0.25000000D+00     -0.25000000D+00
 0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

 0.62360802D+00      0.00000000D+00     -0.25000000D+00
 0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   3   *****

*****   TRAJ DEBUG POINT  = 412,     PHASE  =   3   *****


-------------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
-------------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
     DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
     KT    - KUHN-TUCKER OPTIMALITY CRITERION

IT        F           SCV      NA  I    ALPHA     DELTA      DLAN      KT
-------------------------------------------------------------------------------
 1  0.48670352D+00  0.00D+00   0  0  0.00D+00  0.00D+00  0.22D+00  0.24D+00
 2  0.47800317D+00  0.00D+00   0  2  0.10D+00  0.00D+00  0.11D+00  0.40D-01
 3  0.47541103D+00  0.00D+00   0  2  0.13D+00  0.00D+00  0.86D-01  0.22D-01
 4  0.46765686D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.76D-01  0.25D-01
 5  0.46590932D+00  0.00D+00   0  2  0.14D+00  0.00D+00  0.79D-01  0.16D-01
 6  0.45493774D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.42D-01  0.11D-01
 7  0.45248099D+00  0.00D+00   0  2  0.43D+00  0.00D+00  0.86D-01  0.36D-01
 8  0.44694495D+00  0.00D+00   0  2  0.30D+00  0.00D+00  0.54D-01  0.29D-02
 9  0.44432020D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.68D-01  0.10D-01
10  0.43716411D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.51D-01  0.63D-02
11  0.43288265D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.52D-01  0.25D-02
12  0.43108342D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.50D-01  0.24D-02
13  0.42923449D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.46D-01  0.36D-02
14  0.42666080D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.41D-01  0.20D-02
15  0.42523106D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.35D-01  0.17D-02
```

16	0.42396153D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.29D-01	0.16D-02
17	0.42285934D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.27D-01	0.13D-02
18	0.42177922D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.28D-01	0.37D-02
19	0.41887723D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.29D-01	0.67D-02
20	0.41415650D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.40D-01	0.57D-02
21	0.41007429D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.59D-01	0.52D-02
22	0.40650645D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.34D-01	0.27D-02
23	0.40475722D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.36D-01	0.82D-03
24	0.40419204D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.33D-01	0.78D-03
25	0.40355983D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.30D-01	0.15D-02
26	0.40252087D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.30D-01	0.11D-02
27	0.40172799D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.30D-01	0.10D-02
28	0.40092222D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.31D-01	0.20D-02
29	0.39955131D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.32D-01	0.14D-02
30	0.39847785D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.33D-01	0.25D-02
31	0.39660222D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.37D-01	0.36D-02
32	0.39427546D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.40D-01	0.23D-02
33	0.39268187D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.37D-01	0.28D-02
34	0.39128493D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.32D-01	0.11D-02
35	0.39059858D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.32D-01	0.89D-03
36	0.38983044D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.34D-01	0.31D-02
37	0.38791246D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.12D-02
38	0.38694999D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.31D-02
39	0.38470768D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.43D-01	0.18D-02
40	0.38345585D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.38D-01	0.11D-02
41	0.38268593D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.34D-01	0.62D-03
42	0.38226383D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.33D-01	0.36D-03
43	0.38201536D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.34D-01	0.26D-03
44	0.38181713D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.34D-01	0.40D-03
45	0.38150673D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.34D-01	0.64D-03
46	0.38101645D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.34D-01	0.94D-03
47	0.38035897D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.36D-01	0.39D-03
48	0.38004906D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.36D-01	0.60D-03
49	0.37966462D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.36D-01	0.20D-03

**MORE THAN MAXIT ITERATIONS

* FINAL CONVERGENCE ANALYSIS

OBJECTIVE FUNCTION VALUE: F(X) = 0.37950387D+00

APPROXIMATION OF SOLUTION: X =

0.44709497D+01	0.44710041D+01	0.57252347D+00	-0.41675218D+01
0.40682321D+01	-0.50000000D+01	-0.50000000D+01	0.15190530D+01
-0.29105467D+01	-0.35489728D+01	0.50000000D+01	-0.50000000D+01
-0.29218195D+01	-0.29217838D+01	-0.12663516D+01	0.21809233D+01
0.44281731D+01	-0.12664094D+01	0.21810004D+01	0.44273690D+01
0.50000000D+01	-0.50000000D+01	-0.50000000D+01	0.72705126D-01
-0.50000000D+01	0.50000000D+01	-0.50000000D+01	-0.43486672D+01
0.46109501D+01	0.50000000D+01	0.50000000D+01	-0.50000000D+01
-0.50000000D+01	-0.21186223D+01	-0.31442179D+01	-0.42458851D+01
-0.21186316D+01	-0.31442106D+01	-0.42458562D+01	0.29672509D+01
-0.25614323D+01	0.50000000D+01	-0.26860259D+00	-0.50000000D+01
0.13404638D+01	-0.50000000D+01	0.16072911D+00	0.35643707D+01
0.39968462D+01	-0.50000000D+01	0.19654559D+00	-0.50000000D+01
0.74317531D-01	0.50000000D+01	0.21621569D+00	0.50000000D+01
-0.42170799D+01	0.50000000D+01	-0.32183944D+00	

APPROXIMATION OF MULTIPLIERS: U =

0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.10821083D+00	0.51877457D-01	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.21701753D-01
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.15815592D-01	0.14058413D-01	0.00000000D+00
0.13569780D-01	0.00000000D+00	0.69909703D-02	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.32394773D-02
0.68395367D-02	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.78315800D-02
0.00000000D+00	0.24214553D-01	0.00000000D+00	0.00000000D+00

```
   0.00000000D+00  0.37745037D-01  0.00000000D+00  0.36082601D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.12232593D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.16453104D-01
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.17244754D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.11026409D-01  0.52798041D-02  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.96026188D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.12891530D-01  0.00000000D+00  0.53271946D-02  0.00000000D+00
   0.91849053D-02  0.00000000D+00
 DISTANCE FROM LOWER BOUND:  XL-X =
  -0.94536262D+01 -0.94536790D+01 -0.55875597D+01 -0.82340539D+00
  -0.90517148D+01  0.00000000D+00  0.00000000D+00 -0.65141587D+01
  -0.20761406D+01 -0.14386051D+01 -0.10000000D+02  0.00000000D+00
  -0.20796032D+01 -0.20796390D+01 -0.37316310D+01 -0.71858550D+01
  -0.94270284D+01 -0.37315734D+01 -0.71859319D+01 -0.94262231D+01
  -0.10000000D+02  0.00000000D+00  0.00000000D+00 -0.50883542D+01
   0.00000000D+00 -0.10000000D+02  0.00000000D+00 -0.65540225D+00
  -0.96202270D+01 -0.10000000D+02 -0.10000000D+02  0.00000000D+00
   0.00000000D+00 -0.28845093D+01 -0.18502297D+01 -0.76044301D+00
  -0.28845000D+01 -0.18502370D+01 -0.76047183D+00 -0.79909834D+01
  -0.24515580D+01 -0.10000000D+02 -0.47294384D+01  0.00000000D+00
  -0.63344596D+01  0.00000000D+00 -0.51639461D+01 -0.85468297D+01
  -0.89986114D+01  0.00000000D+00 -0.51944354D+01  0.00000000D+00
  -0.50604969D+01 -0.10000000D+02 -0.52191116D+01 -0.10000000D+02
  -0.78934647D+00 -0.10000000D+02 -0.46770021D+01
 DISTANCE FROM UPPER BOUND:  XU-X =
   0.54637377D+00  0.54632100D+00  0.44124403D+01  0.91765946D+01
   0.94828523D+00  0.10000000D+02  0.10000000D+02  0.34858413D+01
   0.79238594D+01  0.85613949D+01  0.00000000D+00  0.10000000D+02
   0.79203968D+01  0.79203610D+01  0.62683690D+01  0.28141450D+01
   0.57297155D+00  0.62684266D+01  0.28140681D+01  0.57377688D+00
   0.00000000D+00  0.10000000D+02  0.10000000D+02  0.49116458D+01
   0.10000000D+02  0.00000000D+00  0.10000000D+02  0.93445977D+01
   0.37977298D+00  0.00000000D+00  0.00000000D+00  0.10000000D+02
   0.10000000D+02  0.71154907D+01  0.81497703D+01  0.92395570D+01
   0.71155000D+01  0.81497630D+01  0.92395282D+01  0.20090166D+01
   0.75484420D+01  0.00000000D+00  0.52705616D+01  0.10000000D+02
   0.36655404D+01  0.10000000D+02  0.48360539D+01  0.14531703D+01
   0.10013886D+01  0.10000000D+02  0.48055646D+01  0.10000000D+02
   0.49395031D+01  0.00000000D+00  0.47808884D+01  0.00000000D+00
   0.92106535D+01  0.00000000D+00  0.53229979D+01
 NUMBER OF FUNC-CALLS:  NFUNC =  55
 NUMBER OF GRAD-CALLS:  NGRAD =  50
 NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

  *****   TRAJ DEBUG POINT  = 489,     PHASE  =   3,     ICODE  =   3   *****

    0.20000000D+02      0.20000000D+02      0.20000000D+02

    0.00000000D+00      0.50000000D+00     -0.25000000D+00
    0.43182407D+00      0.42309756D+00      0.44731167D+00      0.44387051D-01


    0.00000000D+00      0.50000000D+00     -0.25000000D+00
    0.49752475D+00      0.42760003D+00      0.43750000D+00      0.62500000D-01
```

```
  0.19801980D+00      0.25000000D+00     -0.25000000D+00
  0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

  0.23020005D+00      0.00000000D+00     -0.25000000D+00
  0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

  0.27461750D+00      0.75000000D+00     -0.25000000D+00
  0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

  0.33959976D+00      0.50000000D+00     -0.25000000D+00
  0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

  0.44257113D+00      0.25000000D+00     -0.25000000D+00
  0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

  0.62360802D+00      0.00000000D+00     -0.25000000D+00
  0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

  0.44709497D+01      0.44710041D+01      0.57252347D+00     -0.41675218D+01
  0.40682321D+01     -0.50000000D+01     -0.50000000D+01      0.15190530D+01
 -0.29105467D+01     -0.35489728D+01      0.50000000D+01     -0.50000000D+01
 -0.29218195D+01     -0.29217838D+01     -0.12663516D+01      0.21809233D+01
  0.44281731D+01     -0.12664094D+01      0.21810004D+01      0.44273690D+01
  0.50000000D+01     -0.50000000D+01     -0.50000000D+01      0.72705126D-01
 -0.50000000D+01      0.50000000D+01     -0.50000000D+01     -0.43486672D+01
  0.46109501D+01      0.50000000D+01      0.50000000D+01     -0.50000000D+01
 -0.50000000D+01     -0.21186223D+01     -0.31442179D+01     -0.42458851D+01
 -0.21186316D+01     -0.31442106D+01     -0.42458562D+01      0.29672509D+01
 -0.25614323D+01      0.50000000D+01     -0.26860259D+00     -0.50000000D+01
  0.13404638D+01     -0.50000000D+01      0.16072911D+00      0.35643707D+01
  0.39968462D+01     -0.50000000D+01      0.19654559D+00     -0.50000000D+01
  0.74317531D-01      0.50000000D+01      0.21621569D+00      0.50000000D+01
 -0.42170799D+01      0.50000000D+01     -0.32183944D+00

  0.37950387D+00

***** TRAJ DEBUG POINT  = 500,     PHASE  =   3   *****

***** TRAJ DEBUG POINT  = 600,     PHASE  =   3   *****

***** TRAJ DEBUG POINT  = 145,     PHASE  =   5   *****

  0.00000000D+00      0.20000000D+02      0.00000000D+00

***** TRAJ DEBUG POINT  = 161,     PHASE  =   5   *****

  0.00000000D+00      0.20000000D+02      0.00000000D+00

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

***** TRAJ DEBUG POINT  = 200,     PHASE  =   5   *****

***** TRAJ DEBUG POINT  = 300,     PHASE  =   5   *****

***** TRAJ DEBUG POINT  = 370,     PHASE  =   5   *****

  0.00000000D+00      0.20000000D+02      0.00000000D+00

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
  0.17268811D+00     -0.76650760D+00      0.27482733D+01     -0.39767053D-01
```

```
 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  0.19801980D+00      0.25000000D+00     -0.25000000D+00
  0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

  0.23020005D+00      0.00000000D+00     -0.25000000D+00
  0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

  0.27461750D+00      0.75000000D+00     -0.25000000D+00
  0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

  0.33959976D+00      0.50000000D+00     -0.25000000D+00
  0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

  0.44257113D+00      0.25000000D+00     -0.25000000D+00
  0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

  0.62360802D+00      0.00000000D+00     -0.25000000D+00
  0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   5   *****

*****   TRAJ DEBUG POINT  = 422,     PHASE  =   5   *****


-------------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
-------------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
     DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
     KT    - KUHN-TUCKER OPTIMALITY CRITERION

IT         F           SCV      NA  I    ALPHA     DELTA       DLAN       KT
-------------------------------------------------------------------------------
 1  0.26754906D+02  0.00D+00   0  0  0.00D+00  0.00D+00  0.87D+01  0.17D+03
 2  0.14600482D+02  0.00D+00   0  2  0.18D+00  0.00D+00  0.45D+01  0.71D+02
 3  0.65939921D+01  0.00D+00   0  2  0.40D+00  0.00D+00  0.40D+01  0.37D+02
 4  0.40370654D+01  0.00D+00   0  2  0.15D+00  0.00D+00  0.67D+00  0.18D+01
 5  0.40002248D+01  0.00D+00   0  3  0.21D-01  0.00D+00  0.11D+01  0.89D+01
 6  0.29280565D+01  0.00D+00   0  2  0.27D+00  0.00D+00  0.15D+01  0.17D+01
 7  0.19665002D+01  0.00D+00   0  1  0.10D+01  0.00D+00  0.50D+00  0.26D+00
 8  0.18141951D+01  0.00D+00   0  1  0.10D+01  0.00D+00  0.61D+00  0.14D+01
 9  0.17951024D+01  0.00D+00   0  1  0.10D+01  0.00D+00  0.12D+01  0.62D+00
10  0.14264301D+01  0.00D+00   0  1  0.10D+01  0.00D+00  0.15D+00  0.68D-01
```

11	0.13732542D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.16D+00	0.10D+00
12	0.12998419D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.10D+00
13	0.12228777D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D+00	0.11D+00
14	0.11459639D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D+00	0.13D+00
15	0.10536595D+01	0.00D+00	0	1	0.10D+01	0.00D+00	0.22D+00	0.14D+00
16	0.95049038D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.24D+00	0.77D-01
17	0.90128146D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.27D+00	0.53D-01
18	0.86332565D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.45D-01
19	0.82893750D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.63D-01
20	0.78867995D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.16D+00	0.30D-01
21	0.76336554D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D+00	0.35D-01
22	0.73838167D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.39D-01
23	0.71216546D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.27D-01
24	0.69045519D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.15D-01
25	0.68073497D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.14D-01
26	0.67159459D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.84D-01	0.83D-02
27	0.66600569D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.94D-01	0.82D-02
28	0.66013019D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.71D-01	0.77D-02
29	0.65406112D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.76D-01	0.71D-02
30	0.64850865D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.92D-01	0.11D-01
31	0.64072538D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.87D-02
32	0.63482502D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.82D-02
33	0.62858047D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.11D-01
34	0.62046148D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.61D-02
35	0.61567847D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.91D-02
36	0.61038976D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.17D-02
37	0.60896886D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.45D-02
38	0.60607978D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.17D-02
39	0.60476886D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.17D-02
40	0.60336463D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.98D-01	0.37D-02
41	0.60062669D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.89D-01	0.46D-02
42	0.59728268D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.84D-01	0.52D-02
43	0.59322665D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.77D-01	0.96D-02
44	0.58599049D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.80D-01	0.11D-01
45	0.57698462D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.87D-01	0.28D-01
46	0.55984100D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.12D-01
47	0.55317380D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.56D-02
48	0.54921463D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.95D-01	0.23D-02
49	0.54763399D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.89D-01	0.15D-02

**MORE THAN MAXIT ITERATIONS

• FINAL CONVERGENCE ANALYSIS

OBJECTIVE FUNCTION VALUE: F(X) = 0.54643712D+00

APPROXIMATION OF SOLUTION: X =

0.24725045D-01	0.26442090D-01	0.96965706D+00	-0.39621021D+01
0.50000000D+01	-0.50000000D+01	-0.50000000D+01	0.20473583D+01
-0.26046111D+01	-0.46494481D+01	-0.47835685D+01	-0.50000000D+01
-0.22868674D+01	-0.22868263D+01	-0.18693338D+01	-0.12822057D+01
0.32530201D+01	-0.18693351D+01	-0.12831847D+01	0.32517975D+01
0.37544861D+01	-0.50000000D+01	-0.50000000D+01	0.39659735D+01
-0.50000000D+01	0.50000000D+01	-0.50000000D+01	-0.50000000D+01
0.50000000D+01	0.50000000D+01	0.50000000D+01	-0.50000000D+01
-0.32744610D+01	0.36471779D+00	-0.30732166D+01	-0.34111026D+01
0.36470293D+00	-0.30732091D+01	-0.34110907D+01	0.40202793D+01
-0.66518138D-02	-0.73585405D+00	0.23732681D-01	-0.50000000D+01
-0.42783832D+01	-0.50000000D+01	-0.13345270D+00	0.47407548D+00
0.31416086D+01	-0.50000000D+01	0.56149278D+00	-0.43515992D+01
0.23193123D+01	0.50000000D+01	-0.39294233D-01	0.43998106D+01
-0.23159582D+01	0.50000000D+01	-0.41784391D+00	

APPROXIMATION OF MULTIPLIERS: U =

0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.60363151D-01	0.51120739D-01	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.11814623D-01
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.81265004D-02	0.12780016D-01	0.00000000D+00
0.12525370D-01	0.00000000D+00	0.11987656D-01	0.37276857D-02

```
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.47798765D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.42419418D-02
   0.00000000D+00  0.26118666D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.50832624D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.45638203D-01
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.10399582D-01  0.00000000D+00  0.00000000D+00  0.17483319D-01
   0.11875481D-01  0.11504545D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.25915266D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.11056822D-01  0.00000000D+00
 DISTANCE FROM LOWER BOUND:  XL-X =
  -0.50227256D+01 -0.50244229D+01 -0.59435553D+01 -0.10572115D+01
  -0.10000000D+02  0.00000000D+00  0.00000000D+00 -0.70711585D+01
  -0.24296761D+01 -0.37656992D+00 -0.20545828D+00  0.00000000D+00
  -0.27138833D+01 -0.27139244D+01 -0.31272135D+01 -0.36948656D+01
  -0.82384964D+01 -0.31272101D+01 -0.36939099D+01 -0.82372830D+01
  -0.87290427D+01  0.00000000D+00  0.00000000D+00 -0.89734814D+01
   0.00000000D+00 -0.10000000D+02  0.00000000D+00  0.00000000D+00
  -0.10000000D+02 -0.10000000D+02 -0.10000000D+02  0.00000000D+00
  -0.17333984D+01 -0.53480226D+01 -0.19289906D+01 -0.15897867D+01
  -0.53480079D+01 -0.19289980D+01 -0.15897985D+01 -0.89958945D+01
  -0.49977149D+01 -0.42474060D+01 -0.50169978D+01  0.00000000D+00
  -0.73777008D+00  0.00000000D+00 -0.48675768D+01 -0.54846050D+01
  -0.81373667D+01  0.00000000D+00 -0.55698770D+01 -0.65779520D+00
  -0.73198340D+01 -0.10000000D+02 -0.49587381D+01 -0.94102985D+01
  -0.26796900D+01 -0.10000000D+02 -0.45858667D+01
 DISTANCE FROM UPPER BOUND:  XU-X =
   0.49772744D+01  0.49755771D+01  0.40564447D+01  0.89427885D+01
   0.00000000D+00  0.10000000D+02  0.10000000D+02  0.29288415D+01
   0.75703239D+01  0.96234301D+01  0.97945417D+01  0.10000000D+02
   0.72861167D+01  0.72860756D+01  0.68727865D+01  0.63051344D+01
   0.17615036D+01  0.68727899D+01  0.63060901D+01  0.17627170D+01
   0.12709573D+01  0.10000000D+02  0.10000000D+02  0.10265186D+01
   0.10000000D+02  0.00000000D+00  0.10000000D+02  0.10000000D+02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.10000000D+02
   0.82666016D+01  0.46519774D+01  0.80710094D+01  0.84102133D+01
   0.46519921D+01  0.80710020D+01  0.84102015D+01  0.10041055D+01
   0.50022851D+01  0.57525940D+01  0.49830022D+01  0.10000000D+02
   0.92622299D+01  0.10000000D+02  0.51324232D+01  0.45153950D+01
   0.18626333D+01  0.10000000D+02  0.44301230D+01  0.93422048D+01
   0.26801660D+01  0.00000000D+00  0.50412619D+01  0.58970145D+00
   0.73203100D+01  0.00000000D+00  0.54141333D+01
 NUMBER OF FUNC-CALLS:  NFUNC =  56
 NUMBER OF GRAD-CALLS:  NGRAD =  50
 NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

  *****   TRAJ DEBUG POINT  = 499,     PHASE  =   5,     ICODE  =   3   *****

     0.00000000D+00       0.20000000D+02       0.00000000D+00

    -0.33959976D+00      -0.50000000D+00      -0.25000000D+00
```

```
-0.96366148D-01     -0.39352238D-01     -0.10302728D+01      0.65068591D-01


-0.33959976D+00     -0.50000000D+00     -0.25000000D+00
-0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

-0.33959976D+00     -0.50000000D+00     -0.25000000D+00
-0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

 0.19801980D+00      0.25000000D+00     -0.25000000D+00
 0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

 0.23020005D+00      0.00000000D+00     -0.25000000D+00
 0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

 0.27461750D+00      0.75000000D+00     -0.25000000D+00
 0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

 0.33959976D+00      0.50000000D+00     -0.25000000D+00
 0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

 0.44257113D+00      0.25000000D+00     -0.25000000D+00
 0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

 0.62360802D+00      0.00000000D+00     -0.25000000D+00
 0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

 0.24725045D-01      0.26442090D-01      0.96965706D+00     -0.39621021D+01
 0.50000000D+01     -0.50000000D+01     -0.50000000D+01      0.20473583D+01
-0.26046111D+01     -0.46494481D+01     -0.47835685D+01     -0.50000000D+01
-0.22868674D+01     -0.22868263D+01     -0.18693338D+01     -0.12822057D+01
 0.32530201D+01     -0.18693351D+01     -0.12831847D+01      0.32517975D+01
 0.37544861D+01     -0.50000000D+01     -0.50000000D+01      0.39659735D+01
-0.50000000D+01      0.50000000D+01     -0.50000000D+01     -0.50000000D+01
 0.50000000D+01      0.50000000D+01      0.50000000D+01     -0.50000000D+01
-0.32744610D+01      0.36471779D+00     -0.30732166D+01     -0.34111026D+01
 0.36470293D+00     -0.30732091D+01     -0.34110907D+01      0.40202793D+01
-0.66518138D-02     -0.73585405D+00      0.23732681D-01     -0.50000000D+01
-0.42783832D+01     -0.50000000D+01     -0.13345270D+00      0.47407548D+00
 0.31416086D+01     -0.50000000D+01      0.56149278D+00     -0.43515992D+01
 0.23193123D+01      0.50000000D+01     -0.39294233D-01      0.43998106D+01
-0.23159582D+01      0.50000000D+01     -0.41784391D+00

 0.54643712D+00

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   5   *****

*****   TRAJ DEBUG POINT  = 505,     PHASE  =   5   *****


------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
```

```
      NA    - NUMBER OF ACTIVE CONSTRAINTS
      I     - NUMBER OF LINE SEARCH ITERATIONS
      ALPHA - STEPLENGTH PARAMETER
      DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
      DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
      KT    - KUHN-TUCKER OPTIMALITY CRITERION
```

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.10765311D+01	0.00D+00	0	0	0.00D+00	0.00D+00	0.68D+01	0.39D+02
2	0.11228269D+01	0.00D+00	0	4	0.93D-01	0.00D+00	0.52D+01	0.14D+01
3	0.94571225D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.23D+00	0.56D-02
4	0.63446817D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.49D-02
5	0.36919118D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.27D-01	0.74D-03
6	0.31632202D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D-01	0.62D-03
7	0.28243954D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.10D-03
8	0.27528580D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.23D-01	0.63D-04
9	0.27143071D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.77D-02	0.60D-05
10	0.27108236D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.66D-03	0.31D-06
11	0.27106666D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D-03	0.62D-08

```
  * FINAL CONVERGENCE ANALYSIS

      OBJECTIVE FUNCTION VALUE:  F(X) =  0.27106666D-02
      APPROXIMATION OF SOLUTION:  X =
        -0.86168577D-01 -0.21456939D+00 -0.16752157D+00
      APPROXIMATION OF MULTIPLIERS:  U =
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.00000000D+00
      DISTANCE FROM LOWER BOUND:  XL-X =
        -0.49138314D+01 -0.47854306D+01 -0.48324784D+01
      DISTANCE FROM UPPER BOUND:  XU-X =
         0.50861686D+01  0.52145694D+01  0.51675216D+01
      NUMBER OF FUNC-CALLS:  NFUNC =  14
      NUMBER OF GRAD-CALLS:  NGRAD =  11
      NUMBER OF QL-CALLS:    NQL   =  11



 *****   TRAJ DEBUG POINT  = 599,     PHASE =   5,     ICODE  =   0   *****

    0.00000000D+00      0.20000000D+02      0.00000000D+00

   -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
   -0.96366148D-01     -0.39352238D-01     -0.10302728D+01      0.65068591D-01


   -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
   -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

   -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
   -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

    0.19801980D+00      0.25000000D+00     -0.25000000D+00
    0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

    0.23020005D+00      0.00000000D+00     -0.25000000D+00
    0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

    0.27461750D+00      0.75000000D+00     -0.25000000D+00
    0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

    0.33959976D+00      0.50000000D+00     -0.25000000D+00
    0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

    0.44257113D+00      0.25000000D+00     -0.25000000D+00
```

```
  0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

  0.62360802D+00      0.00000000D+00     -0.25000000D+00
  0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

 -0.86168577D-01     -0.21456939D+00     -0.16752157D+00

  0.27106666D-02

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   5,     ICODE  =   0   *****

  0.00000000D+00      0.20000000D+02      0.00000000D+00

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.96366148D-01     -0.39352238D-01     -0.10302728D+01      0.65068591D-01


 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  0.19801980D+00      0.25000000D+00     -0.25000000D+00
  0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

  0.23020005D+00      0.00000000D+00     -0.25000000D+00
  0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

  0.27461750D+00      0.75000000D+00     -0.25000000D+00
  0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

  0.33959976D+00      0.50000000D+00     -0.25000000D+00
  0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

  0.44257113D+00      0.25000000D+00     -0.25000000D+00
  0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

  0.62360802D+00      0.00000000D+00     -0.25000000D+00
  0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

 -0.86168577D-01     -0.21456939D+00     -0.16752157D+00

  0.27106666D-02

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****   PHASE  =  6       TABS  =   0.20000D+02      TREL  =   0.00000D+00
                          PINDX =   0.27107D-02

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.10000000D+01      0.21000000D+02      0.10000000D+01

  -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
  -0.40240257D+00     -0.97055970D-01     -0.12595995D+01      0.72932135D-01
```

```
 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  0.19801980D+00      0.25000000D+00     -0.25000000D+00
  0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

  0.23020005D+00      0.00000000D+00     -0.25000000D+00
  0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

  0.27461750D+00      0.75000000D+00     -0.25000000D+00
  0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

  0.33959976D+00      0.50000000D+00     -0.25000000D+00
  0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

  0.44257113D+00      0.25000000D+00     -0.25000000D+00
  0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

  0.62360802D+00      0.00000000D+00     -0.25000000D+00
  0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 422,     PHASE  =   6   *****


------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
     DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
     KT    - KUHN-TUCKER OPTIMALITY CRITERION

IT        F          SCV     NA  I   ALPHA    DELTA      DLAN       KT
------------------------------------------------------------------------
 1  0.71913769D+00  0.00D+00   0  0  0.00D+00  0.00D+00  0.86D+00  0.11D+01
 2  0.66295718D+00  0.00D+00   0  2  0.11D+00  0.00D+00  0.14D+00  0.95D-01
 3  0.64108238D+00  0.00D+00   0  2  0.46D+00  0.00D+00  0.16D+00  0.16D+00
 4  0.62958198D+00  0.00D+00   0  2  0.15D+00  0.00D+00  0.92D-01  0.20D-01
 5  0.61421484D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.20D+00  0.12D+00
 6  0.59301684D+00  0.00D+00   0  2  0.38D+00  0.00D+00  0.13D+00  0.31D-01
```

7	0.57820577D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D+00	0.14D+00
8	0.56399894D+00	0.00D+00	0	2	0.22D+00	0.00D+00	0.11D+00	0.11D-01
9	0.55591022D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.84D-02
10	0.55055704D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.30D-02
11	0.54799962D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.49D-01	0.76D-02
12	0.54303227D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.46D-01	0.17D-02
13	0.54166937D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.29D-02
14	0.53955695D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.41D-01	0.18D-02
15	0.53820713D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.35D-01	0.36D-02
16	0.53573078D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.28D-01	0.14D-02
17	0.53451828D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.31D-01	0.29D-02
18	0.53275049D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.30D-01	0.82D-03
19	0.53206697D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.29D-01	0.20D-02
20	0.53060067D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.35D-01	0.23D-02
21	0.52891568D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D-01	0.21D-02
22	0.52736824D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.29D-02
23	0.52514420D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.46D-01	0.50D-02
24	0.52125215D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D-01	0.94D-02
25	0.51446571D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.75D-01	0.12D-01
26	0.50434713D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.49D-01	0.20D-01
27	0.49244334D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.43D-01	0.78D-02
28	0.48626280D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.37D-01	0.13D-01
29	0.47853278D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.35D-01	0.53D-02
30	0.47472175D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.62D-01	0.99D-02
31	0.46665824D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.97D-01	0.15D-01
32	0.45530934D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.20D-01
33	0.44302357D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.68D-01	0.22D-01
34	0.44164987D+00	0.00D+00	0	2	0.17D+00	0.00D+00	0.73D-01	0.46D-02
35	0.43787439D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.39D-01	0.13D-01
36	0.42845923D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.82D-01	0.10D-01
37	0.42071704D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.15D-01
38	0.41116299D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.62D-01	0.11D-01
39	0.40250911D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.41D-01	0.12D-01
40	0.39461009D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.73D-01	0.11D-01
41	0.38623510D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.78D-01	0.14D-01
42	0.37878562D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.35D-01	0.48D-02
43	0.37573660D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.36D-01	0.33D-02
44	0.37421817D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.74D-01	0.19D-02
45	0.37270044D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.71D-01	0.38D-02
46	0.37021810D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.41D-01	0.18D-02
47	0.36880439D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.34D-01	0.35D-02
48	0.36634166D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.30D-01	0.41D-02
49	0.36350499D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.41D-02

**MORE THAN MAXIT ITERATIONS

• FINAL CONVERGENCE ANALYSIS

OBJECTIVE FUNCTION VALUE: F(X) = 0.36088052D+00

APPROXIMATION OF SOLUTION: X =

-0.49424278D+01	-0.49430304D+01	-0.26822240D+01	-0.35955435D+01
0.14484383D+01	-0.50000000D+01	-0.50000000D+01	0.32092263D+01
-0.23374140D+01	-0.45094228D+01	-0.50000000D+01	-0.50000000D+01
-0.21063344D+01	-0.21062965D+01	-0.19025121D+01	0.50000000D+01
0.46667417D+01	-0.19005696D+01	0.50000000D+01	0.46676293D+01
0.49915347D+01	-0.50000000D+01	-0.50000000D+01	-0.12182633D+01
-0.50000000D+01	0.50000000D+01	-0.48158291D+01	-0.49730776D+01
0.48294900D+01	0.46043962D+01	0.49715472D+01	-0.50000000D+01
-0.48333751D+01	0.33227152D+01	-0.31293290D+01	-0.24248570D+01
0.33226958D+01	-0.31293193D+01	-0.24248462D+01	0.43445790D+01
-0.17195940D+01	0.30263161D+01	-0.44213916D-01	-0.33483230D+01
-0.34349740D+01	-0.50000000D+01	-0.24465835D+00	-0.11251800D+00
0.21603742D+01	-0.50000000D+01	0.33192492D+00	-0.48209847D+01
0.31527355D+01	0.50000000D+01	-0.43985997D-01	0.48184653D+01
-0.45033840D+00	0.42158863D+01	-0.41201916D-01	

APPROXIMATION OF MULTIPLIERS: U =

0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.48941405D-01	0.60565950D-01	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.73706091D-02	0.53089196D-02

```
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.12655662D-01  0.81681046D-02  0.00000000D+00
   0.16717266D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.47598944D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.23977898D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.48281136D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.64105719D-02  0.00000000D+00
   0.00000000D+00  0.82579888D-02  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.66820846D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.12906569D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00
 DISTANCE FROM LOWER BOUND:  XL-X =
  -0.38939893D-01 -0.39374413D-01 -0.22259204D+01 -0.15596139D+01
  -0.63784785D+01  0.00000000D+00  0.00000000D+00 -0.81560304D+01
  -0.26554165D+01 -0.48791009D+00  0.00000000D+00  0.00000000D+00
  -0.28938109D+01 -0.28938487D+01 -0.30899838D+01 -0.99980658D+01
  -0.97199115D+01 -0.30919596D+01 -0.10000000D+02 -0.97198685D+01
  -0.99336401D+01 -0.17640289D-01  0.00000000D+00 -0.37572274D+01
   0.00000000D+00 -0.10000000D+02 -0.17087020D+00 -0.55940441D-02
  -0.98149391D+01 -0.95959119D+01 -0.99785329D+01  0.00000000D+00
  -0.10976249D+00 -0.83704551D+01 -0.18958538D+01 -0.26083906D+01
  -0.83704355D+01 -0.18958634D+01 -0.26084014D+01 -0.94651712D+01
  -0.32900078D+01 -0.80208932D+01 -0.50003443D+01 -0.16184543D+01
  -0.15124781D+01  0.00000000D+00 -0.47226418D+01 -0.48265427D+01
  -0.70875578D+01  0.00000000D+00 -0.53197151D+01 -0.20112313D+00
  -0.82710735D+01 -0.10000000D+02 -0.49734330D+01 -0.97715436D+01
  -0.45349426D+01 -0.92224485D+01 -0.49315312D+01
 DISTANCE FROM UPPER BOUND:  XU-X =
   0.99610601D+01  0.99606256D+01  0.77740796D+01  0.84403861D+01
   0.36215215D+01  0.10000000D+02  0.10000000D+02  0.18439696D+01
   0.73445835D+01  0.95120899D+01  0.10000000D+02  0.10000000D+02
   0.71061891D+01  0.71061513D+01  0.69100162D+01  0.19342080D-02
   0.28008849D+00  0.69080404D+01  0.00000000D+00  0.28013153D+00
   0.66359862D-01  0.99823597D+01  0.10000000D+02  0.62427726D+01
   0.10000000D+02  0.00000000D+00  0.98291298D+01  0.99944060D+01
   0.18506089D+00  0.40408811D+00  0.21467108D-01  0.10000000D+02
   0.98902375D+01  0.16295449D+01  0.81041462D+01  0.73916094D+01
   0.16295645D+01  0.81041366D+01  0.73915986D+01  0.53482883D+00
   0.67099922D+01  0.19791068D+01  0.49996557D+01  0.83815457D+01
   0.84875219D+01  0.10000000D+02  0.52773582D+01  0.51734573D+01
   0.29124422D+01  0.10000000D+02  0.46802849D+01  0.97988769D+01
   0.17289265D+01  0.00000000D+00  0.50265670D+01  0.22845637D+00
   0.54650574D+01  0.77755148D+00  0.50684688D+01
 NUMBER OF FUNC-CALLS:  NFUNC =  56
 NUMBER OF GRAD-CALLS:  NGRAD =  50
 NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

  *****   TRAJ DEBUG POINT  = 499,     PHASE  =   6,     ICODE  =   3   *****
```

```
 0.10000000D+01      0.21000000D+02      0.10000000D+01

-0.44257113D+00     -0.25000000D+00     -0.25000000D+00
-0.23114711D+00      0.27309537D-01     -0.81894375D+00      0.39557686D-01


-0.44257113D+00     -0.25000000D+00     -0.25000000D+00
-0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

-0.33959976D+00     -0.50000000D+00     -0.25000000D+00
-0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

-0.33959976D+00     -0.50000000D+00     -0.25000000D+00
-0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

 0.19801980D+00      0.25000000D+00     -0.25000000D+00
 0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

 0.23020005D+00      0.00000000D+00     -0.25000000D+00
 0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

 0.27461750D+00      0.75000000D+00     -0.25000000D+00
 0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

 0.33959976D+00      0.50000000D+00     -0.25000000D+00
 0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

 0.44257113D+00      0.25000000D+00     -0.25000000D+00
 0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

 0.62360802D+00      0.00000000D+00     -0.25000000D+00
 0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

-0.49424278D+01     -0.49430304D+01     -0.26822240D+01     -0.35955435D+01
 0.14484383D+01     -0.50000000D+01     -0.50000000D+01      0.32092263D+01
-0.23374140D+01     -0.45094228D+01     -0.50000000D+01     -0.50000000D+01
-0.21063344D+01     -0.21062965D+01     -0.19025121D+01      0.50000000D+01
 0.46667417D+01     -0.19005696D+01      0.50000000D+01      0.46676293D+01
 0.49915347D+01     -0.50000000D+01     -0.50000000D+01     -0.12182633D+01
-0.50000000D+01      0.50000000D+01     -0.48158291D+01     -0.49730776D+01
 0.48294900D+01      0.46043962D+01      0.49715472D+01     -0.50000000D+01
-0.48333751D+01      0.33227152D+01     -0.31293290D+01     -0.24248570D+01
 0.33226958D+01     -0.31293193D+01     -0.24248462D+01      0.43445790D+01
-0.17195940D+01      0.30263161D+01     -0.44213916D-01     -0.33483230D+01
-0.34349740D+01     -0.50000000D+01     -0.24465835D+00     -0.11251800D+00
 0.21603742D+01     -0.50000000D+01      0.33192492D+00     -0.48209847D+01
 0.31527355D+01      0.50000000D+01     -0.43985997D-01      0.48184653D+01
-0.45033840D+00      0.42158863D+01     -0.41201916D-01

 0.36088052D+00

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 505,     PHASE  =   6   *****


------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
```

```
      MAXIT =   50
      IPRINT =   2

   OUTPUT IN THE FOLLOWING ORDER:
      IT    - ITERATION NUMBER
      F     - OBJECTIVE FUNCTION VALUE
      SCV   - SUM OF CONSTRAINT VIOLATION
      NA    - NUMBER OF ACTIVE CONSTRAINTS
      I     - NUMBER OF LINE SEARCH ITERATIONS
      ALPHA - STEPLENGTH PARAMETER
      DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
      DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
      KT    - KUHN-TUCKER OPTIMALITY CRITERION
```

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.72640847D+00	0.00D+00	0	0	0.00D+00	0.00D+00	0.43D+01	0.30D+02
2	0.49028043D+00	0.00D+00	0	4	0.10D+00	0.00D+00	0.35D+01	0.96D+01
3	0.44806244D+00	0.00D+00	0	3	0.10D+00	0.00D+00	0.23D+01	0.75D+00
4	0.14727291D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.23D+01	0.36D+00
5	0.90102821D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+01	0.33D+00
6	0.57944092D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.32D+00	0.21D-01
7	0.41094866D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.23D+00	0.16D+00
8	0.18205238D-01	0.00D+00	0	2	0.18D+00	0.00D+00	0.24D+00	0.25D-01
9	0.12510686D-01	0.00D+00	0	2	0.32D+00	0.00D+00	0.29D+00	0.29D-02
10	0.11089746D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.25D+00	0.13D-02
11	0.99982019D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.16D+00	0.17D-02
12	0.91177337D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.26D-01	0.13D-03
13	0.90046905D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.28D-01	0.49D-03
14	0.87487901D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.57D-02	0.17D-04
15	0.87382639D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.52D-02	0.28D-05
16	0.87366473D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.16D-02	0.17D-06
17	0.87365581D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D-03	0.18D-08

```
   * FINAL CONVERGENCE ANALYSIS

      OBJECTIVE FUNCTION VALUE:  F(X) =  0.87365581D-02
      APPROXIMATION OF SOLUTION:  X =
        -0.12577389D+00 -0.15664736D+00 -0.26795424D-01
      APPROXIMATION OF MULTIPLIERS:  U =
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
         0.00000000D+00  0.00000000D+00
      DISTANCE FROM LOWER BOUND:  XL-X =
        -0.48742261D+01 -0.48433526D+01 -0.49732046D+01
      DISTANCE FROM UPPER BOUND:  XU-X =
         0.51257739D+01  0.51566474D+01  0.50267954D+01
      NUMBER OF FUNC-CALLS:  NFUNC =  24
      NUMBER OF GRAD-CALLS:  NGRAD =  17
      NUMBER OF QL-CALLS:    NQL   =  17



 *****   TRAJ DEBUG POINT  = 599,     PHASE  =   6,     ICODE  =   0   *****

    0.10000000D+01     0.21000000D+02      0.10000000D+01

   -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
   -0.23114711D+00      0.27309537D-01     -0.81894375D+00      0.39557686D-01


   -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
   -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

   -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
   -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01
```

```
 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  0.19801980D+00      0.25000000D+00     -0.25000000D+00
  0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

  0.23020005D+00      0.00000000D+00     -0.25000000D+00
  0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

  0.27461750D+00      0.75000000D+00     -0.25000000D+00
  0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

  0.33959976D+00      0.50000000D+00     -0.25000000D+00
  0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

  0.44257113D+00      0.25000000D+00     -0.25000000D+00
  0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

  0.62360802D+00      0.00000000D+00     -0.25000000D+00
  0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

 -0.12577389D+00     -0.15664736D+00     -0.26795424D-01

  0.87365581D-02

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

  0.10000000D+01      0.21000000D+02      0.10000000D+01

 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.23114711D+00      0.27309537D-01     -0.81894375D+00      0.39557686D-01


 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  0.19801980D+00      0.25000000D+00     -0.25000000D+00
  0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

  0.23020005D+00      0.00000000D+00     -0.25000000D+00
  0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

  0.27461750D+00      0.75000000D+00     -0.25000000D+00
  0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

  0.33959976D+00      0.50000000D+00     -0.25000000D+00
  0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

  0.44257113D+00      0.25000000D+00     -0.25000000D+00
  0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

  0.62360802D+00      0.00000000D+00     -0.25000000D+00
  0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

 -0.12577389D+00     -0.15664736D+00     -0.26795424D-01

  0.87365581D-02

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****
```

```
*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****   PHASE  =  6      TABS  =   0.21000D+02      TREL  =   0.10000D+01
                         PINDX =   0.87366D-02

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.20000000D+01      0.22000000D+02      0.20000000D+01

  -0.62360802D+00      0.00000000D+00     -0.25000000D+00
  -0.44181343D+00      0.10428614D+00     -0.73545262D+00      0.34166219D-01


  -0.62360802D+00      0.00000000D+00     -0.25000000D+00
  -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

  -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
  -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

  -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
  -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
  -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 422,     PHASE  =   6   *****



-------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
-------------------------------------------------------------------------

  PARAMETERS:
     MODE =   0
     ACC =    0.1490E-07
     SCBOU =    0.1000E+04
     MAXFUN =   5
     MAXIT =    50
```

IPRINT = 2

OUTPUT IN THE FOLLOWING ORDER:
IT - ITERATION NUMBER
F - OBJECTIVE FUNCTION VALUE
SCV - SUM OF CONSTRAINT VIOLATION
NA - NUMBER OF ACTIVE CONSTRAINTS
I - NUMBER OF LINE SEARCH ITERATIONS
ALPHA - STEPLENGTH PARAMETER
DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
DLAN - MAXIMUM NORM OF LAGRANGIAN GRADIENT
KT - KUHN-TUCKER OPTIMALITY CRITERION

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.45632572D+00	0.00D+00	0	0	0.00D+00	0.00D+00	0.78D+00	0.12D+01
2	0.43260205D+00	0.00D+00	0	2	0.10D+00	0.00D+00	0.41D+00	0.11D+00
3	0.40431532D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D+00	0.46D+00
4	0.36696704D+00	0.00D+00	0	2	0.17D+00	0.00D+00	0.25D+00	0.93D-01
5	0.35920588D+00	0.00D+00	0	2	0.17D+00	0.00D+00	0.31D+00	0.13D+00
6	0.33561951D+00	0.00D+00	0	2	0.38D+00	0.00D+00	0.98D-01	0.11D-01
7	0.32821541D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.29D-01
8	0.32560135D+00	0.00D+00	0	2	0.19D+00	0.00D+00	0.37D-01	0.50D-02
9	0.32151642D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.44D-01	0.98D-02
10	0.31535208D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.32D-01	0.32D-02
11	0.31300947D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.23D-01	0.20D-02
12	0.31168503D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.26D-01	0.96D-03
13	0.31089549D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.25D-01	0.21D-02
14	0.30918005D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.21D-01	0.30D-02
15	0.30708131D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.24D-01	0.30D-02
16	0.30480675D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.27D-01	0.32D-02
17	0.30286196D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.25D-01	0.75D-03
18	0.30226613D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D-01	0.11D-02
19	0.30155940D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.21D-01	0.28D-03
20	0.30134832D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D-01	0.38D-03
21	0.30105705D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D-01	0.59D-03
22	0.30060230D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.16D-01	0.93D-03
23	0.29990150D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.16D-01	0.11D-02
24	0.29908658D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.21D-01	0.96D-03
25	0.29839956D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.24D-01	0.69D-03
26	0.29786375D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.26D-01	0.11D-02
27	0.29708825D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.24D-01	0.80D-03
28	0.29647656D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.21D-01	0.11D-02
29	0.29570374D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D-01	0.62D-03
30	0.29520917D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.16D-01	0.11D-02
31	0.29444133D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D-01	0.97D-03
32	0.29367138D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D-01	0.15D-02
33	0.29263220D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.16D-01	0.13D-02
34	0.29168138D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.22D-01	0.14D-02
35	0.29073397D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.28D-01	0.98D-03
36	0.28998261D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.30D-01	0.14D-02
37	0.28900364D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.31D-01	0.91D-03
38	0.28837698D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.28D-01	0.48D-03
39	0.28803970D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.22D-01	0.38D-03
40	0.28774648D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D-01	0.76D-03
41	0.28716921D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.23D-01	0.16D-02
42	0.28605221D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D-01	0.91D-03
43	0.28535882D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D-01	0.13D-02
44	0.28455226D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D-01	0.37D-03
45	0.28432649D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.22D-01	0.10D-03
46	0.28424509D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D-01	0.20D-03
47	0.28410581D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D-01	0.19D-03
48	0.28394659D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.18D-01	0.57D-03
49	0.28350798D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D-01	0.69D-03

**MORE THAN MAXIT ITERATIONS

* FINAL CONVERGENCE ANALYSIS

```
OBJECTIVE FUNCTION VALUE:  F(X) =  0.28303153D+00
APPROXIMATION OF SOLUTION:  X =
  -0.50000000D+01 -0.50000000D+01 -0.30334357D+01 -0.35633322D+01
   0.11115293D+01 -0.50000000D+01 -0.50000000D+01  0.45163036D+01
  -0.25391237D+01 -0.39502964D+01 -0.50000000D+01 -0.50000000D+01
  -0.21391482D+01 -0.21391084D+01 -0.23368449D+01  0.50000000D+01
   0.48459138D+01 -0.23349050D+01  0.50000000D+01  0.48468170D+01
   0.50000000D+01 -0.49691823D+01 -0.50000000D+01 -0.29775737D+01
  -0.50000000D+01  0.50000000D+01 -0.47274033D+01 -0.50000000D+01
   0.50000000D+01  0.50000000D+01  0.50000000D+01 -0.50000000D+01
  -0.48804994D+01  0.26059718D+01 -0.37902323D+01 -0.26329216D+01
   0.26059551D+01 -0.37902189D+01 -0.26329105D+01  0.35685150D+01
  -0.16180370D+01  0.38385797D+01  0.14826545D-01 -0.33534650D+01
  -0.50000000D+01 -0.50000000D+01 -0.43656097D-01  0.24883825D+00
   0.39341146D+01 -0.50000000D+01  0.22405660D+00 -0.49701220D+01
   0.39781367D+00  0.50000000D+01 -0.17475251D+00  0.49530727D+01
   0.12690102D+01  0.30885647D+01 -0.38070300D-01
APPROXIMATION OF MULTIPLIERS:  U =
   0.86519865D-02  0.86502623D-02  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.38218267D-01  0.56177255D-01  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.22640803D-01  0.35672050D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.64341977D-02  0.00000000D+00
   0.98200482D-02  0.00000000D+00  0.00000000D+00  0.46150756D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.41862217D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.51125999D-02  0.23943365D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.35609283D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.88066875D-02  0.00000000D+00
   0.00000000D+00  0.88066494D-02  0.00000000D+00  0.26925654D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.81247477D-02  0.00000000D+00  0.00000000D+00  0.31288965D-02
   0.53887409D-02  0.69576186D-02  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.10792352D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00
DISTANCE FROM LOWER BOUND:  XL-X =
   0.00000000D+00  0.00000000D+00 -0.20214767D+01 -0.14788828D+01
  -0.60855807D+01  0.00000000D+00  0.00000000D+00 -0.95500999D+01
  -0.24480918D+01 -0.10589456D+01  0.00000000D+00  0.00000000D+00
  -0.28644541D+01 -0.28644938D+01 -0.27174445D+01 -0.10000000D+02
  -0.98208113D+01 -0.27193845D+01 -0.10000000D+02 -0.98217145D+01
  -0.10000000D+02 -0.30048268D-01  0.00000000D+00 -0.20760342D+01
   0.00000000D+00 -0.10000000D+02 -0.29835930D+00  0.00000000D+00
  -0.99805996D+01 -0.99906884D+01 -0.10000000D+02  0.00000000D+00
  -0.10759210D+00 -0.76045635D+01 -0.12187514D+01 -0.23662095D+01
  -0.76045469D+01 -0.12187648D+01 -0.23662206D+01 -0.85915156D+01
  -0.33275126D+01 -0.88444128D+01 -0.49991376D+01 -0.16342889D+01
   0.00000000D+00  0.00000000D+00 -0.49591054D+01 -0.52344853D+01
  -0.90481639D+01  0.00000000D+00 -0.52238656D+01 -0.36183987D-01
  -0.53574918D+01 -0.10000000D+02 -0.48407090D+01 -0.99562545D+01
  -0.62513644D+01 -0.80668816D+01 -0.49638054D+01
DISTANCE FROM UPPER BOUND:  XU-X =
   0.10000000D+02  0.10000000D+02  0.79785233D+01  0.85211172D+01
   0.39144193D+01  0.10000000D+02  0.10000000D+02  0.44990010D+00
   0.75519082D+01  0.89410544D+01  0.10000000D+02  0.10000000D+02
```

```
   0.71355459D+01  0.71355062D+01  0.72825555D+01  0.00000000D+00
   0.17918875D+00  0.72806155D+01  0.00000000D+00  0.17828553D+00
   0.00000000D+00  0.99699517D+01  0.10000000D+02  0.79239658D+01
   0.10000000D+02  0.00000000D+00  0.97016407D+01  0.10000000D+02
   0.19400442D-01  0.93116163D-02  0.00000000D+00  0.10000000D+02
   0.98924079D+01  0.23954365D+01  0.87812486D+01  0.76337905D+01
   0.23954531D+01  0.87812352D+01  0.76337794D+01  0.14084844D+01
   0.66724874D+01  0.11555872D+01  0.50008624D+01  0.83657111D+01
   0.10000000D+02  0.10000000D+02  0.50408946D+01  0.47655147D+01
   0.95183606D+00  0.10000000D+02  0.47761344D+01  0.99638160D+01
   0.46425082D+01  0.00000000D+00  0.51592910D+01  0.43745520D-01
   0.37486356D+01  0.19331184D+01  0.50361946D+01
NUMBER OF FUNC-CALLS:  NFUNC =  55
NUMBER OF GRAD-CALLS:  NGRAD =  50
NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****   TRAJ DEBUG POINT  = 499,     PHASE  =   6,     ICODE  =   3   *****

    0.20000000D+01      0.22000000D+02      0.20000000D+01

   -0.62360802D+00      0.00000000D+00     -0.25000000D+00
   -0.33115817D+00      0.43742279D-01     -0.36266826D+00      0.38206814D-01


   -0.62360802D+00      0.00000000D+00     -0.25000000D+00
   -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

   -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
   -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

   -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
   -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

   -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
   -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

    0.19801980D+00      0.25000000D+00     -0.25000000D+00
    0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

    0.23020005D+00      0.00000000D+00     -0.25000000D+00
    0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

    0.27461750D+00      0.75000000D+00     -0.25000000D+00
    0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

    0.33959976D+00      0.50000000D+00     -0.25000000D+00
    0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

    0.44257113D+00      0.25000000D+00     -0.25000000D+00
    0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

    0.62360802D+00      0.00000000D+00     -0.25000000D+00
    0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

   -0.50000000D+01     -0.50000000D+01     -0.30334357D+01     -0.35633322D+01
    0.11115293D+01     -0.50000000D+01     -0.50000000D+01      0.45163036D+01
   -0.25391237D+01     -0.39502964D+01     -0.50000000D+01     -0.50000000D+01
   -0.21391482D+01     -0.21391084D+01     -0.23368449D+01      0.50000000D+01
    0.48459138D+01     -0.23349050D+01      0.50000000D+01      0.48468170D+01
    0.50000000D+01     -0.49691823D+01     -0.50000000D+01     -0.29775737D+01
   -0.50000000D+01      0.50000000D+01     -0.47274033D+01     -0.50000000D+01
    0.50000000D+01      0.50000000D+01      0.50000000D+01     -0.50000000D+01
   -0.48804994D+01      0.26059718D+01     -0.37902323D+01     -0.26329216D+01
    0.26059551D+01     -0.37902189D+01     -0.26329105D+01      0.35685150D+01
```

```
 -0.16180370D+01      0.38385797D+01      0.14826545D-01     -0.33534650D+01
 -0.50000000D+01     -0.50000000D+01     -0.43656097D-01      0.24883825D+00
  0.39341146D+01     -0.50000000D+01      0.22405660D+00     -0.49701220D+01
  0.39781367D+00      0.50000000D+01     -0.17475251D+00      0.49530727D+01
  0.12690102D+01      0.30885647D+01     -0.38070300D-01

  0.28303153D+00

***** TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

***** TRAJ DEBUG POINT  = 505,     PHASE  =   6   *****
```

START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM

```
PARAMETERS:
   MODE =  0
   ACC =   0.1490E-07
   SCBOU =   0.1000E+04
   MAXFUN =  5
   MAXIT =   50
   IPRINT =   2

OUTPUT IN THE FOLLOWING ORDER:
   IT    - ITERATION NUMBER
   F     - OBJECTIVE FUNCTION VALUE
   SCV   - SUM OF CONSTRAINT VIOLATION
   NA    - NUMBER OF ACTIVE CONSTRAINTS
   I     - NUMBER OF LINE SEARCH ITERATIONS
   ALPHA - STEPLENGTH PARAMETER
   DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
   DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
   KT    - KUHN-TUCKER OPTIMALITY CRITERION
```

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.24456715D+00	0.00D+00	0	0	0.00D+00	0.00D+00	0.12D+01	0.26D+01
2	0.22847455D+00	0.00D+00	0	2	0.15D+00	0.00D+00	0.12D+01	0.20D+00
3	0.10280899D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.32D+00	0.48D-01
4	0.56077503D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.34D+00	0.38D+00
5	0.34271693D-01	0.00D+00	0	2	0.13D+00	0.00D+00	0.55D+00	0.11D+00
6	0.66877874D-02	0.00D+00	0	2	0.32D+00	0.00D+00	0.36D+00	0.22D-01
7	0.15756818D-02	0.00D+00	0	2	0.42D+00	0.00D+00	0.20D-01	0.74D-04
8	0.15538507D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.36D-02	0.13D-04
9	0.15474732D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.28D-02	0.13D-05
10	0.15462469D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.27D-02	0.11D-04
11	0.15333993D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.53D-02	0.13D-03
12	0.14818766D-02	0.00D+00	0	2	0.35D+00	0.00D+00	0.25D-01	0.29D-02
13	0.14621233D-02	0.00D+00	0	3	0.10D-01	0.00D+00	0.42D-01	0.20D-04
14	0.14449177D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.47D-01	0.10D-03
15	0.13784027D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.96D-04
16	0.13128539D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.21D-01	0.38D-04
17	0.12915034D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.24D-02	0.11D-05
18	0.12909493D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.46D-03	0.40D-07
19	0.12909370D-02	0.00D+00	0	1	0.10D+01	0.00D+00	0.98D-04	0.50D-08

- FINAL CONVERGENCE ANALYSIS

```
OBJECTIVE FUNCTION VALUE:  F(X) =  0.12909370D-02
APPROXIMATION OF SOLUTION:  X =
  -0.17732528D+00 -0.13331180D+00 -0.12007330D+00
APPROXIMATION OF MULTIPLIERS:  U =
```

```
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00
 DISTANCE FROM LOWER BOUND:  XL-X =
  -0.48226747D+01 -0.48666882D+01 -0.48799267D+01
 DISTANCE FROM UPPER BOUND:  XU-X =
   0.51773253D+01  0.51333118D+01  0.51200733D+01
 NUMBER OF FUNC-CALLS:  NFUNC =  26
 NUMBER OF GRAD-CALLS:  NGRAD =  19
 NUMBER OF QL-CALLS:    NQL   =  19


***** TRAJ DEBUG POINT  = 599,     PHASE  =   6,     ICODE  =   0   *****

  0.20000000D+01      0.22000000D+02      0.20000000D+01

 -0.62360802D+00      0.00000000D+00     -0.25000000D+00
 -0.33115817D+00      0.43742279D-01     -0.36266826D+00      0.38206814D-01


 -0.62360802D+00      0.00000000D+00     -0.25000000D+00
 -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  0.19801980D+00      0.25000000D+00     -0.25000000D+00
  0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

  0.23020005D+00      0.00000000D+00     -0.25000000D+00
  0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

  0.27461750D+00      0.75000000D+00     -0.25000000D+00
  0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

  0.33959976D+00      0.50000000D+00     -0.25000000D+00
  0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

  0.44257113D+00      0.25000000D+00     -0.25000000D+00
  0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

  0.62360802D+00      0.00000000D+00     -0.25000000D+00
  0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

 -0.17732528D+00     -0.13331180D+00     -0.12007330D+00

  0.12909370D-02

***** TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

  0.20000000D+01      0.22000000D+02      0.20000000D+01

 -0.62360802D+00      0.00000000D+00     -0.25000000D+00
 -0.33115817D+00      0.43742279D-01     -0.36266826D+00      0.38206814D-01


 -0.62360802D+00      0.00000000D+00     -0.25000000D+00
 -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01
```

```
  -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
  -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
  -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

   0.62360802D+00      0.00000000D+00     -0.25000000D+00
   0.14244966D+01      0.18750000D+00      0.12274000D+01      0.25600000D-01

  -0.17732528D+00     -0.13331180D+00     -0.12007330D+00

   0.12909370D-02

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****   PHASE  =  6      TABS  =   0.22000D+02      TREL  =   0.20000D+01
                         PINDX =   0.12909D-02

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.30000000D+01      0.23000000D+02      0.30000000D+01

  -0.93959732D+00      0.25000000D+00     -0.25000000D+00
  -0.41821605D+00      0.61010383D-01      0.79830370D-01      0.22137000D-01


  -0.93959732D+00      0.25000000D+00     -0.25000000D+00
  -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

  -0.62360802D+00      0.00000000D+00     -0.25000000D+00
  -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

  -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
  -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

  -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
  -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
  -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
```

```
 0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

 0.23020005D+00      0.00000000D+00     -0.25000000D+00
 0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

 0.27461750D+00      0.75000000D+00     -0.25000000D+00
 0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

 0.33959976D+00      0.50000000D+00     -0.25000000D+00
 0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

 0.44257113D+00      0.25000000D+00     -0.25000000D+00
 0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 422,     PHASE  =   6   *****


------------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
------------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
     DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
     KT    - KUHN-TUCKER OPTIMALITY CRITERION

IT         F           SCV      NA  I    ALPHA     DELTA      DLAN       KT
------------------------------------------------------------------------------
 1  0.20192753D+00  0.00D+00   0   0  0.00D+00  0.00D+00  0.13D+00  0.10D+00
 2  0.19725883D+00  0.00D+00   0   2  0.10D+00  0.00D+00  0.91D-01  0.30D-01
 3  0.19063537D+00  0.00D+00   0   2  0.44D+00  0.00D+00  0.13D+00  0.68D-01
 4  0.18714937D+00  0.00D+00   0   2  0.11D+00  0.00D+00  0.26D-01  0.30D-02
 5  0.18588372D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.97D-01  0.58D-02
 6  0.18247832D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.38D-01  0.51D-02
 7  0.18215154D+00  0.00D+00   0   2  0.13D+00  0.00D+00  0.36D-01  0.36D-02
 8  0.17942069D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.39D-01  0.30D-02
 9  0.17753912D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.21D-01  0.79D-03
10  0.17692534D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.19D-01  0.11D-02
11  0.17619910D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.21D-01  0.59D-03
12  0.17575963D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.23D-01  0.65D-03
13  0.17529316D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.22D-01  0.53D-03
14  0.17489810D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.19D-01  0.62D-03
15  0.17443823D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.15D-01  0.53D-03
16  0.17400662D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.15D-01  0.94D-03
17  0.17339731D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.15D-01  0.42D-03
18  0.17307005D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.14D-01  0.68D-03
19  0.17258623D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.13D-01  0.58D-03
20  0.17214411D+00  0.00D+00   0   1  0.10D+01  0.00D+00  0.12D-01  0.84D-03
```

```
21  0.17152986D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.17D-01  0.84D-03
22  0.17091473D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.21D-01  0.73D-03
23  0.17037591D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.23D-01  0.90D-03
24  0.16973555D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.23D-01  0.61D-03
25  0.16925915D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.21D-01  0.98D-03
26  0.16860471D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.17D-01  0.45D-03
27  0.16830191D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.18D-01  0.17D-03
28  0.16818794D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.17D-01  0.82D-04
29  0.16812553D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.16D-01  0.12D-03
30  0.16801503D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.15D-01  0.50D-03
31  0.16770121D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.17D-01  0.18D-03
32  0.16754372D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.16D-01  0.77D-03
33  0.16706297D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.22D-01  0.29D-03
34  0.16683794D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.22D-01  0.31D-03
35  0.16660685D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.19D-01  0.34D-03
36  0.16635655D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.15D-01  0.34D-03
37  0.16610226D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.12D-01  0.30D-03
38  0.16587360D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.11D-01  0.29D-03
39  0.16569173D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.12D-01  0.74D-04
40  0.16563440D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.14D-01  0.11D-03
41  0.16555208D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.18D-01  0.14D-03
42  0.16544578D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.20D-01  0.17D-03
43  0.16531669D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.20D-01  0.32D-03
44  0.16506080D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.21D-01  0.67D-03
45  0.16455271D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.22D-01  0.99D-03
46  0.16385161D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.25D-01  0.80D-03
47  0.16331614D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.16D-01  0.74D-03
48  0.16278499D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.14D-01  0.78D-03
49  0.16217689D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.19D-01  0.13D-02
     **MORE THAN MAXIT ITERATIONS
```

• FINAL CONVERGENCE ANALYSIS

```
OBJECTIVE FUNCTION VALUE:  F(X) =  0.16122097D+00
APPROXIMATION OF SOLUTION:  X =
  -0.50000000D+01 -0.50000000D+01 -0.26862963D+01 -0.48911651D+01
   0.81894111D+00 -0.50000000D+01 -0.50000000D+01  0.46366139D+01
  -0.25485136D+01 -0.50000000D+01 -0.50000000D+01 -0.50000000D+01
  -0.22745147D+01 -0.22744760D+01 -0.35535287D+01  0.50000000D+01
   0.45052335D+01 -0.35515900D+01  0.50000000D+01  0.45061368D+01
   0.50000000D+01 -0.47069985D+01 -0.50000000D+01 -0.42693397D+01
  -0.50000000D+01  0.50000000D+01 -0.50000000D+01 -0.49942691D+01
   0.49842798D+01  0.50000000D+01  0.50000000D+01 -0.50000000D+01
  -0.48594376D+01  0.23321090D+01 -0.44110176D+01 -0.26181196D+01
   0.23320935D+01 -0.44110025D+01 -0.26181098D+01  0.21889527D+01
  -0.87466169D+00  0.41131509D+01  0.48093453D-02 -0.30196197D+01
  -0.49871836D+01 -0.50000000D+01  0.22857876D+00  0.11851523D+01
   0.34299666D+01 -0.50000000D+01  0.98705654D-01 -0.50000000D+01
  -0.11921960D+01  0.50000000D+01 -0.12828606D+00  0.45694084D+01
   0.25243142D+01  0.27266310D+01 -0.16658033D+00
APPROXIMATION OF MULTIPLIERS:  U =
   0.78922491D-02  0.78915072D-02  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.26637920D-01  0.37263302D-01  0.00000000D+00
   0.00000000D+00  0.10824485D-02  0.15291342D-01  0.23170682D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.47531484D-02  0.00000000D+00
   0.84372639D-02  0.00000000D+00  0.85327799D-02  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.17909465D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.15669253D-01  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.21911479D-01  0.00000000D+00  0.26999785D-02
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
```

```
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.25390798D-02  0.00000000D+00
  0.00000000D+00  0.25390815D-02  0.00000000D+00  0.83317950D-04
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.10719368D-01  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.36592002D-02  0.40611231D-03  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.96086670D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00
 DISTANCE FROM LOWER BOUND:  XL-X =
  0.00000000D+00  0.00000000D+00 -0.23295063D+01 -0.81179585D-01
 -0.58872677D+01  0.00000000D+00  0.00000000D+00 -0.96441486D+01
 -0.24563006D+01  0.00000000D+00  0.00000000D+00  0.00000000D+00
 -0.27401038D+01 -0.27401426D+01 -0.16657115D+01 -0.99999158D+01
 -0.95057328D+01 -0.16676504D+01 -0.99999158D+01 -0.95066361D+01
 -0.10000000D+02 -0.23945888D+00  0.00000000D+00 -0.88491587D+00
  0.00000000D+00 -0.10000000D+02  0.00000000D+00  0.00000000D+00
 -0.99529632D+01 -0.10000000D+02 -0.10000000D+02  0.00000000D+00
 -0.11724131D+00 -0.73777763D+01 -0.67746991D+00 -0.23633219D+01
 -0.73777606D+01 -0.67748474D+00 -0.23633318D+01 -0.72704487D+01
 -0.41117961D+01 -0.90396795D+01 -0.49930341D+01 -0.20054555D+01
 -0.54069959D-02  0.00000000D+00 -0.51849920D+01 -0.60950290D+01
 -0.84924412D+01  0.00000000D+00 -0.51003430D+01  0.00000000D+00
 -0.39982729D+01 -0.10000000D+02 -0.48918483D+01 -0.96079664D+01
 -0.72983919D+01 -0.77574368D+01 -0.48698062D+01
 DISTANCE FROM UPPER BOUND:  XU-X =
  0.10000000D+02  0.10000000D+02  0.76704937D+01  0.99188204D+01
  0.41127323D+01  0.10000000D+02  0.10000000D+02  0.35585142D+00
  0.75436994D+01  0.10000000D+02  0.10000000D+02  0.10000000D+02
  0.72598962D+01  0.72598574D+01  0.83342885D+01  0.84192896D-04
  0.49426724D+00  0.83323496D+01  0.84193227D-04  0.49336387D+00
  0.00000000D+00  0.97605411D+01  0.10000000D+02  0.91150841D+01
  0.10000000D+02  0.00000000D+00  0.10000000D+02  0.10000000D+02
  0.47036781D-01  0.00000000D+00  0.00000000D+00  0.10000000D+02
  0.98827587D+01  0.26222237D+01  0.93225301D+01  0.76366781D+01
  0.26222394D+01  0.93225153D+01  0.76366682D+01  0.27295513D+01
  0.58882039D+01  0.96032054D+00  0.50069659D+01  0.79945445D+01
  0.99945930D+01  0.10000000D+02  0.48150080D+01  0.39049710D+01
  0.15075588D+01  0.10000000D+02  0.48996570D+01  0.10000000D+02
  0.60017271D+01  0.00000000D+00  0.51081517D+01  0.39203363D+00
  0.27016081D+01  0.22425632D+01  0.51301938D+01
 NUMBER OF FUNC-CALLS:  NFUNC =  54
 NUMBER OF GRAD-CALLS:  NGRAD =  50
 NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****   TRAJ DEBUG POINT  = 499,     PHASE  =   6,     ICODE  =   3   *****

   0.30000000D+01      0.23000000D+02      0.30000000D+01

  -0.93959732D+00      0.25000000D+00     -0.25000000D+00
  -0.47942619D+00      0.17393551D-01      0.10286029D+00      0.23532932D-01


  -0.93959732D+00      0.25000000D+00     -0.25000000D+00
  -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

  -0.62360802D+00      0.00000000D+00     -0.25000000D+00
  -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

  -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
```

```
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  0.19801980D+00      0.25000000D+00     -0.25000000D+00
  0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

  0.23020005D+00      0.00000000D+00     -0.25000000D+00
  0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

  0.27461750D+00      0.75000000D+00     -0.25000000D+00
  0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

  0.33959976D+00      0.50000000D+00     -0.25000000D+00
  0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

  0.44257113D+00      0.25000000D+00     -0.25000000D+00
  0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

 -0.50000000D+01     -0.50000000D+01     -0.26862963D+01     -0.48911651D+01
  0.81894111D+00     -0.50000000D+01     -0.50000000D+01      0.46366139D+01
 -0.25485136D+01     -0.50000000D+01     -0.50000000D+01     -0.50000000D+01
 -0.22745147D+01     -0.22744760D+01     -0.35535287D+01      0.50000000D+01
  0.45052335D+01     -0.35515900D+01      0.50000000D+01      0.45061368D+01
  0.50000000D+01     -0.47069985D+01     -0.50000000D+01     -0.42693397D+01
 -0.50000000D+01      0.50000000D+01     -0.50000000D+01     -0.49942691D+01
  0.49842798D+01      0.50000000D+01      0.50000000D+01     -0.50000000D+01
 -0.48594376D+01      0.23321090D+01     -0.44110176D+01     -0.26181196D+01
  0.23320935D+01     -0.44110025D+01     -0.26181098D+01      0.21889527D+01
 -0.87466169D+00      0.41131509D+01      0.48093453D-02     -0.30196197D+01
 -0.49871836D+01     -0.50000000D+01      0.22857876D+00      0.11851523D+01
  0.34299666D+01     -0.50000000D+01      0.98705654D-01     -0.50000000D+01
 -0.11921960D+01      0.50000000D+01     -0.12828606D+00      0.45694084D+01
  0.25243142D+01      0.27266310D+01     -0.16658033D+00

  0.16122097D+00

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 505,     PHASE  =   6   *****


------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
```

DLAN - MAXIMUM NORM OF LAGRANGIAN GRADIENT
KT - KUHN-TUCKER OPTIMALITY CRITERION

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.24128604D+00	0.00D+00	0	0	0.00D+00	0.00D+00	0.12D+01	0.20D+01
2	0.16902564D+00	0.00D+00	0	3	0.19D+00	0.00D+00	0.39D+00	0.45D-01
3	0.12642039D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.25D+00	0.40D+00
4	0.10037804D+00	0.00D+00	0	2	0.10D+00	0.00D+00	0.13D+00	0.41D-01
5	0.78323045D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.21D+00	0.14D-01
6	0.66809654D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.17D-01
7	0.56644722D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.50D-01	0.62D-02
8	0.55065260D-01	0.00D+00	0	2	0.46D+00	0.00D+00	0.13D+00	0.36D-02
9	0.52349594D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.89D-01	0.40D-02
10	0.49168735D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.69D-01	0.48D-02
11	0.45539224D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.66D-01	0.39D-02
12	0.42657461D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D-01	0.32D-02
13	0.40748154D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.46D-01	0.46D-03
14	0.40435697D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.22D-01	0.13D-03
15	0.40370432D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.66D-02	0.20D-05
16	0.40369555D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.77D-03	0.25D-07
17	0.40369543D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.58D-06	0.13D-12

• FINAL CONVERGENCE ANALYSIS

OBJECTIVE FUNCTION VALUE: F(X) = 0.40369543D-01
APPROXIMATION OF SOLUTION: X =
-0.50000000D+01 0.60422881D+00 -0.55099793D+00
APPROXIMATION OF MULTIPLIERS: U =
0.28790940D-02 0.00000000D+00 0.00000000D+00 0.00000000D+00
0.00000000D+00 0.00000000D+00
DISTANCE FROM LOWER BOUND: XL-X =
0.00000000D+00 -0.56042288D+01 -0.44490021D+01
DISTANCE FROM UPPER BOUND: XU-X =
0.10000000D+02 0.43957712D+01 0.55509979D+01
NUMBER OF FUNC-CALLS: NFUNC = 21
NUMBER OF GRAD-CALLS: NGRAD = 17
NUMBER OF QL-CALLS: NQL = 17

***** TRAJ DEBUG POINT = 599, PHASE = 6, ICODE = 0 *****

0.30000000D+01 0.23000000D+02 0.30000000D+01

-0.93959732D+00 0.25000000D+00 -0.25000000D+00
-0.47942619D+00 0.17393551D-01 0.10286029D+00 0.23532932D-01

-0.93959732D+00 0.25000000D+00 -0.25000000D+00
-0.52951002D+00 0.28714436D-01 0.90509668D-01 0.32000000D-01

-0.62360802D+00 0.00000000D+00 -0.25000000D+00
-0.30321391D+00 0.17700121D-01 -0.29500000D+00 0.40000000D-01

-0.44257113D+00 -0.25000000D+00 -0.25000000D+00
-0.17449970D+00 -0.12308749D-01 -0.67928932D+00 0.50000000D-01

-0.33959976D+00 -0.50000000D+00 -0.25000000D+00
-0.93271871D-01 -0.52600027D-01 -0.10625000D+01 0.62500000D-01

-0.33959976D+00 -0.50000000D+00 -0.25000000D+00
-0.93271871D-01 -0.52600027D-01 -0.10625000D+01 0.62500000D-01

0.19801980D+00 0.25000000D+00 -0.25000000D+00
0.53775007D+00 0.38730875D+00 0.10240000D+00 0.25600000D-01

```
   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

  -0.50000000D+01      0.60422881D+00     -0.55099793D+00

   0.40369543D-01

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****

   0.30000000D+01      0.23000000D+02      0.30000000D+01

  -0.93959732D+00      0.25000000D+00     -0.25000000D+00
  -0.47942619D+00      0.17393551D-01      0.10286029D+00      0.23532932D-01


  -0.93959732D+00      0.25000000D+00     -0.25000000D+00
  -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

  -0.62360802D+00      0.00000000D+00     -0.25000000D+00
  -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

  -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
  -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

  -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
  -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
  -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

   0.44257113D+00      0.25000000D+00     -0.25000000D+00
   0.10295100D+01      0.71979866D+00      0.62500000D-01      0.62500000D-01

  -0.50000000D+01      0.60422881D+00     -0.55099793D+00

   0.40369543D-01

*****   TRAJ DEBUG POINT  = 512,     PHASE  =   6,     ICODE  =   0   *****

*****   TRAJ DEBUG POINT  = 602,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 602,     NNID   =   1   *****

*****   PHASE  =  6      TABS  =   0.23000D+02      TREL  =   0.30000D+01
```

```
                        PINDX =   0.40370D-01

*****   TRAJ DEBUG POINT  = 200,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 300,     PHASE  =   6   *****


*****   TRAJ DEBUG POINT  = 370,     PHASE  =   6   *****

   0.40000000D+01      0.24000000D+02      0.40000000D+01

   0.00000000D+00      0.50000000D+00     -0.25000000D+00
   0.24604406D+00      0.30261370D+00     -0.45142157D+00      0.34008480D-01


   0.00000000D+00      0.50000000D+00     -0.25000000D+00
  -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

  -0.93959732D+00      0.25000000D+00     -0.25000000D+00
  -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

  -0.62360802D+00      0.00000000D+00     -0.25000000D+00
  -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

  -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
  -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

  -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
  -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
  -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

   0.19801980D+00      0.25000000D+00     -0.25000000D+00
   0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

   0.23020005D+00      0.00000000D+00     -0.25000000D+00
   0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

   0.27461750D+00      0.75000000D+00     -0.25000000D+00
   0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

   0.33959976D+00      0.50000000D+00     -0.25000000D+00
   0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01


*****   TRAJ DEBUG POINT  = 400,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 422,     PHASE  =   6   *****


-------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
-------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT     - ITERATION NUMBER
     F      - OBJECTIVE FUNCTION VALUE
```

SCV - SUM OF CONSTRAINT VIOLATION
NA - NUMBER OF ACTIVE CONSTRAINTS
I - NUMBER OF LINE SEARCH ITERATIONS
ALPHA - STEPLENGTH PARAMETER
DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
DLAN - MAXIMUM NORM OF LAGRANGIAN GRADIENT
KT - KUHN-TUCKER OPTIMALITY CRITERION

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.19309831D+01	0.00D+00	0	0	0.00D+00	0.00D+00	0.14D+01	0.73D+01
2	0.16452892D+01	0.00D+00	0	2	0.10D+00	0.00D+00	0.54D+00	0.10D+01
3	0.14325190D+01	0.00D+00	0	2	0.43D+00	0.00D+00	0.94D+00	0.35D+01
4	0.10923954D+01	0.00D+00	0	2	0.22D+00	0.00D+00	0.46D+00	0.85D+00
5	0.10478003D+01	0.00D+00	0	2	0.11D+00	0.00D+00	0.24D+00	0.31D+00
6	0.85082507D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D+00	0.79D-01
7	0.79975808D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.30D+00	0.45D+00
8	0.76212888D+00	0.00D+00	0	2	0.18D+00	0.00D+00	0.21D+00	0.65D-01
9	0.71165305D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.77D-01	0.77D-01
10	0.66396988D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.85D-01	0.20D-01
11	0.64817833D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.55D-01	0.34D-01
12	0.62191196D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.62D-01	0.40D-01
13	0.58936027D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.58D-01
14	0.54448526D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.70D-01	0.16D-01
15	0.53237344D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.54D-01	0.37D-01
16	0.50872182D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.90D-01	0.14D-01
17	0.49618501D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.84D-01	0.30D-01
18	0.47745020D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.97D-02
19	0.47023083D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.86D-01	0.67D-02
20	0.46613810D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.56D-01	0.18D-02
21	0.46464047D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.69D-01	0.45D-02
22	0.46138170D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.80D-01	0.48D-02
23	0.45769046D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D+00	0.73D-02
24	0.45230390D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.72D-02
25	0.44704958D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D+00	0.53D-02
26	0.44329061D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.94D-01	0.53D-02
27	0.43948499D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.99D-01	0.51D-02
28	0.43566340D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.82D-01	0.40D-02
29	0.43198674D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.59D-01	0.21D-01
30	0.41831865D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.90D-01	0.54D-02
31	0.41347711D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.60D-01	0.82D-02
32	0.40882428D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D-01	0.19D-02
33	0.40763730D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.43D-01	0.19D-02
34	0.40615910D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.59D-01	0.29D-02
35	0.40399290D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D-01	0.49D-02
36	0.40029216D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D-01	0.40D-02
37	0.39737513D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.64D-01	0.57D-02
38	0.39371280D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.52D-01	0.32D-02
39	0.39162670D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.38D-01	0.29D-02
40	0.38966160D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.44D-01	0.27D-02
41	0.38774237D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D-01	0.23D-02
42	0.38614917D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.53D-01	0.16D-02
43	0.38513481D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.52D-01	0.13D-02
44	0.38421095D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.60D-01	0.21D-02
45	0.38249633D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.58D-01	0.53D-02
46	0.37840695D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.72D-01	0.92D-02
47	0.37165565D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.75D-01	0.65D-02
48	0.36674580D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D-01	0.86D-02
49	0.36164930D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.27D-01	0.23D-02

**MORE THAN MAXIT ITERATIONS

* FINAL CONVERGENCE ANALYSIS

OBJECTIVE FUNCTION VALUE: F(X) = 0.35997253D+00
APPROXIMATION OF SOLUTION: X =
-0.50000000D+01 -0.50000000D+01 -0.50000000D+01 -0.50000000D+01
0.51454656D+00 -0.50000000D+01 -0.14528704D+01 0.43049383D+01

```
 -0.35494416D+01 -0.50000000D+01 -0.50000000D+01 -0.50000000D+01
 -0.24248422D+01 -0.24248012D+01 -0.29844125D+01  0.38229056D+01
  0.50000000D+01 -0.29824211D+01  0.38204464D+01  0.50000000D+01
  0.50000000D+01 -0.50000000D+01 -0.94116863D+00 -0.59775517D+00
 -0.45067076D+01  0.50000000D+01 -0.44454830D+01 -0.39163444D+01
  0.39990551D+01  0.49701462D+01  0.24871934D+01 -0.50000000D+01
  0.29790124D+01  0.23888332D+01 -0.48086731D+01 -0.13041693D+01
  0.23888176D+01 -0.48086405D+01 -0.13041640D+01  0.50000000D+01
  0.17257067D+01  0.14793454D+01  0.51901761D-01 -0.50000000D+01
 -0.44321593D+01 -0.41563647D+01  0.17619492D+00 -0.12936572D+01
 -0.38000515D+00 -0.38316418D+01  0.15186476D+00 -0.49609898D+01
 -0.98118644D+00  0.44446951D+01 -0.13480681D+00  0.39003461D+01
  0.29085406D+01  0.28599077D+01 -0.17613011D+00
APPROXIMATION OF MULTIPLIERS:  U =
  0.11465742D-01  0.11445432D-01  0.30708741D-02  0.13300809D-01
  0.00000000D+00  0.22713392D-01  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.10949420D-01  0.51669465D-02  0.36782571D-02
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.19681745D-01  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.28235383D-02
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.38489099D-01
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.12296000D-01
  0.00000000D+00  0.00000000D+00  0.12356041D-01  0.14496721D-01
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.41537852D-02  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.21092024D-01  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
  0.00000000D+00  0.00000000D+00
DISTANCE FROM LOWER BOUND:  XL-X =
  0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
 -0.55421382D+01  0.00000000D+00 -0.34785872D+01 -0.92815985D+01
 -0.15342496D+01  0.00000000D+00  0.00000000D+00  0.00000000D+00
 -0.25798884D+01 -0.25799293D+01 -0.19614612D+01 -0.88544624D+01
 -0.10000000D+02 -0.19634518D+01 -0.88520778D+01 -0.10000000D+02
 -0.10000000D+02  0.00000000D+00 -0.40390731D+01 -0.42297658D+01
 -0.44591233D+00 -0.10000000D+02 -0.55141405D+00 -0.10221040D+01
 -0.90555804D+01 -0.99782338D+01 -0.75786891D+01  0.00000000D+00
 -0.78020990D+01 -0.73859659D+01 -0.18253768D+00 -0.36707858D+01
 -0.73859503D+01 -0.18256319D+00 -0.36707913D+01 -0.10000000D+02
 -0.66972145D+01 -0.64962098D+01 -0.50654510D+01  0.00000000D+00
 -0.51385051D+00 -0.83925236D+00 -0.51789162D+01 -0.37626340D+01
 -0.47320003D+01 -0.11490178D+01 -0.51550367D+01  0.00000000D+00
 -0.39744327D+01 -0.94868271D+01 -0.48419058D+01 -0.88991211D+01
 -0.78729564D+01 -0.78475885D+01 -0.48213031D+01
DISTANCE FROM UPPER BOUND:  XU-X =
  0.10000000D+02  0.10000000D+02  0.10000000D+02  0.10000000D+02
  0.44578618D+01  0.10000000D+02  0.65214128D+01  0.71840150D+00
  0.84657504D+01  0.10000000D+02  0.10000000D+02  0.10000000D+02
  0.74201116D+01  0.74200707D+01  0.80385388D+01  0.11455376D+01
  0.00000000D+00  0.80365482D+01  0.11479222D+01  0.00000000D+00
  0.00000000D+00  0.10000000D+02  0.59609269D+01  0.57702342D+01
  0.95540877D+01  0.00000000D+00  0.94485860D+01  0.89778960D+01
  0.94441964D+00  0.21766224D-01  0.24213109D+01  0.10000000D+02
```

```
    0.21979010D+01  0.26140341D+01  0.98174623D+01  0.63292142D+01
    0.26140497D+01  0.98174368D+01  0.63292087D+01  0.00000000D+00
    0.33027855D+01  0.35037902D+01  0.49345490D+01  0.10000000D+02
    0.94861495D+01  0.91607476D+01  0.48210838D+01  0.62373660D+01
    0.52679997D+01  0.88509822D+01  0.48449633D+01  0.10000000D+02
    0.60255673D+01  0.51317285D+00  0.51580942D+01  0.11008789D+01
    0.21270436D+01  0.21524115D+01  0.51786969D+01
 NUMBER OF FUNC-CALLS:  NFUNC =  55
 NUMBER OF GRAD-CALLS:  NGRAD =  50
 NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

 *****   TRAJ DEBUG POINT  = 499,     PHASE =   6,     ICODE  =   3   *****

    0.40000000D+01      0.24000000D+02      0.40000000D+01

    0.00000000D+00      0.50000000D+00     -0.25000000D+00
   -0.63816215D+00     -0.97579441D-02      0.36644501D+00      0.11361141D-01


    0.00000000D+00      0.50000000D+00     -0.25000000D+00
   -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

   -0.93959732D+00      0.25000000D+00     -0.25000000D+00
   -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

   -0.62360802D+00      0.00000000D+00     -0.25000000D+00
   -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

   -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
   -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

   -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
   -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

   -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
   -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

    0.19801980D+00      0.25000000D+00     -0.25000000D+00
    0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

    0.23020005D+00      0.00000000D+00     -0.25000000D+00
    0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

    0.27461750D+00      0.75000000D+00     -0.25000000D+00
    0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

    0.33959976D+00      0.50000000D+00     -0.25000000D+00
    0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

   -0.50000000D+01     -0.50000000D+01     -0.50000000D+01     -0.50000000D+01
    0.51454656D+00     -0.50000000D+01     -0.14528704D+01      0.43049383D+01
   -0.35494416D+01     -0.50000000D+01     -0.50000000D+01     -0.50000000D+01
   -0.24248422D+01     -0.24248012D+01     -0.29844125D+01      0.38229056D+01
    0.50000000D+01     -0.29824211D+01      0.38204464D+01      0.50000000D+01
    0.50000000D+01     -0.50000000D+01     -0.94116863D+00     -0.59775517D+00
   -0.45067076D+01      0.50000000D+01     -0.44454830D+01     -0.39163444D+01
    0.39990551D+01      0.49701462D+01      0.24871934D+01     -0.50000000D+01
    0.29790124D+01      0.23888332D+01     -0.48086731D+01     -0.13041693D+01
    0.23888176D+01     -0.48086405D+01     -0.13041640D+01      0.50000000D+01
    0.17257067D+01      0.14793454D+01      0.51901761D-01     -0.50000000D+01
   -0.44321593D+01     -0.41563647D+01      0.17619492D+00     -0.12936572D+01
   -0.38000515D+00     -0.38316418D+01      0.15186476D+00     -0.49609898D+01
   -0.98118644D+00      0.44446951D+01     -0.13480681D+00      0.39003461D+01
    0.29085406D+01      0.28599077D+01     -0.17613011D+00
```

```
 0.35997253D+00

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   6   *****

*****   TRAJ DEBUG POINT  = 505,     PHASE  =   6   *****
```

```
------------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
------------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
     DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
     KT    - KUHN-TUCKER OPTIMALITY CRITERION
```

IT	F	SCV	NA	I	ALPHA	DELTA	DLAN	KT
1	0.54175717D+00	0.00D+00	0	0	0.00D+00	0.00D+00	0.34D+01	0.19D+02
2	0.31122455D+00	0.00D+00	0	4	0.35D-01	0.00D+00	0.15D+01	0.50D+00
3	0.20889080D+00	0.00D+00	0	2	0.27D+00	0.00D+00	0.16D+01	0.53D+00
4	0.99620868D-01	0.00D+00	0	2	0.28D+00	0.00D+00	0.11D+01	0.16D+00
5	0.67975618D-01	0.00D+00	0	2	0.38D+00	0.00D+00	0.39D+00	0.44D-01
6	0.61258637D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.27D+00	0.15D-01
7	0.54026822D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.71D-01	0.28D-03
8	0.53764121D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.63D-01	0.18D-02
9	0.52124180D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.41D-01	0.11D-01
10	0.51136801D-01	0.00D+00	0	2	0.10D+00	0.00D+00	0.48D-01	0.67D-02
11	0.49928182D-01	0.00D+00	0	2	0.22D+00	0.00D+00	0.10D+00	0.32D-02
12	0.49216412D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.39D+00	0.34D-02
13	0.47261200D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.17D-02
14	0.45918672D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.55D-01	0.28D-02
15	0.44067770D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.14D-02
16	0.42975215D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.15D+00	0.34D-02
17	0.40647416D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.30D-01	0.32D-02
18	0.39885310D-01	0.00D+00	0	2	0.34D+00	0.00D+00	0.15D+00	0.17D-02
19	0.38775865D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.22D+00	0.14D-02
20	0.37812948D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.55D-01	0.13D-02
21	0.36799650D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.12D+00	0.23D-02
22	0.35133339D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.14D+00	0.21D-02
23	0.33624997D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D-01	0.24D-02
24	0.33284773D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.22D+00	0.26D-02
25	0.32042054D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.13D-01	0.62D-03
26	0.31506736D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.16D-01	0.14D-02
27	0.30877868D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.60D-01	0.67D-03
28	0.30435859D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.16D-01	0.44D-03
29	0.30101231D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.11D-01	0.37D-03
30	0.29860928D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.19D-01	0.19D-03
31	0.29717594D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.10D-01	0.13D-03
32	0.29625084D-01	0.00D+00	0	1	0.10D+01	0.00D+00	0.56D-02	0.73D-04

```
33  0.29571386D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.41D-02  0.42D-04
34  0.29542327D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.12D-02  0.43D-06
35  0.29542237D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.64D-03  0.92D-07
36  0.29542191D-01  0.00D+00   0  1  0.10D+01  0.00D+00  0.10D-03  0.16D-12
```

• FINAL CONVERGENCE ANALYSIS

```
OBJECTIVE FUNCTION VALUE:  F(X) =  0.29542191D-01
APPROXIMATION OF SOLUTION:  X =
   0.59327696D-01  0.50000000D+01 -0.36709032D+01
APPROXIMATION OF MULTIPLIERS:  U =
   0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
   0.51106739D-04  0.00000000D+00
DISTANCE FROM LOWER BOUND:  XL-X =
  -0.50593277D+01 -0.10000000D+02 -0.13290968D+01
DISTANCE FROM UPPER BOUND:  XU-X =
   0.49406723D+01  0.00000000D+00  0.86709032D+01
NUMBER OF FUNC-CALLS:  NFUNC =  45
NUMBER OF GRAD-CALLS:  NGRAD =  36
NUMBER OF QL-CALLS:    NQL   =  36
```

```
*****   TRAJ DEBUG POINT  = 599,     PHASE  =   6,     ICODE  =   0   *****

  0.40000000D+01      0.24000000D+02      0.40000000D+01

  0.00000000D+00      0.50000000D+00     -0.25000000D+00
 -0.63816215D+00     -0.97579441D-02      0.36644501D+00      0.11361141D-01


  0.00000000D+00      0.50000000D+00     -0.25000000D+00
 -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

 -0.93959732D+00      0.25000000D+00     -0.25000000D+00
 -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

 -0.62360802D+00      0.00000000D+00     -0.25000000D+00
 -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  0.19801980D+00      0.25000000D+00     -0.25000000D+00
  0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

  0.23020005D+00      0.00000000D+00     -0.25000000D+00
  0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

  0.27461750D+00      0.75000000D+00     -0.25000000D+00
  0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

  0.33959976D+00      0.50000000D+00     -0.25000000D+00
  0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

  0.59327696D-01      0.50000000D+01     -0.36709032D+01

  0.29542191D-01

*****   TRAJ DEBUG POINT  = 511,     PHASE  =   6,     ICODE  =   0   *****
```

```
  0.40000000D+01      0.24000000D+02      0.40000000D+01

  0.00000000D+00      0.50000000D+00     -0.25000000D+00
 -0.63816215D+00     -0.97579441D-02      0.36644501D+00      0.11361141D-01


  0.00000000D+00      0.50000000D+00     -0.25000000D+00
 -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

 -0.93959732D+00      0.25000000D+00     -0.25000000D+00
 -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

 -0.62360802D+00      0.00000000D+00     -0.25000000D+00
 -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  0.19801980D+00      0.25000000D+00     -0.25000000D+00
  0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

  0.23020005D+00      0.00000000D+00     -0.25000000D+00
  0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

  0.27461750D+00      0.75000000D+00     -0.25000000D+00
  0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

  0.33959976D+00      0.50000000D+00     -0.25000000D+00
  0.80321391D+00      0.62430401D+00      0.44571068D+00      0.50000000D-01

  0.59327696D-01      0.50000000D+01     -0.36709032D+01

  0.29542191D-01

***** TRAJ DEBUG POINT  = 512,     PHASE  =  6,     ICODE  =  0   *****

***** TRAJ DEBUG POINT  = 602,     PHASE  =  6   *****

***** TRAJ DEBUG POINT  = 602,     NNID   =  1   *****

***** PHASE  =  6      TABS  =  0.24000D+02      TREL  =  0.40000D+01
                      PINDX =  0.29542D-01

***** TRAJ DEBUG POINT  = 200,     PHASE  =  6   *****

***** TRAJ DEBUG POINT  = 300,     PHASE  =  7   *****


***** TRAJ DEBUG POINT  = 370,     PHASE  =  7   *****

  0.50000000D+01      0.25000000D+02      0.50000000D+01

  0.93959732D+00      0.75000000D+00     -0.25000000D+00
  0.92430640D+00      0.76374779D+00      0.10208319D+01     -0.79937517D-02


  0.93959732D+00      0.75000000D+00     -0.25000000D+00
  0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01

  0.00000000D+00      0.50000000D+00     -0.25000000D+00
```

```
 -0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

 -0.93959732D+00      0.25000000D+00     -0.25000000D+00
 -0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

 -0.62360802D+00      0.00000000D+00     -0.25000000D+00
 -0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

 -0.44257113D+00     -0.25000000D+00     -0.25000000D+00
 -0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

 -0.33959976D+00     -0.50000000D+00     -0.25000000D+00
 -0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

  0.19801980D+00      0.25000000D+00     -0.25000000D+00
  0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

  0.23020005D+00      0.00000000D+00     -0.25000000D+00
  0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

  0.27461750D+00      0.75000000D+00     -0.25000000D+00
  0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01


***** TRAJ DEBUG POINT  = 400,     PHASE  =   7   *****

***** TRAJ DEBUG POINT  = 422,     PHASE  =   7   *****


--------------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
--------------------------------------------------------------------------------

  PARAMETERS:
     MODE =  0
     ACC =   0.1490E-07
     SCBOU =   0.1000E+04
     MAXFUN =  5
     MAXIT =   50
     IPRINT =   2

  OUTPUT IN THE FOLLOWING ORDER:
     IT    - ITERATION NUMBER
     F     - OBJECTIVE FUNCTION VALUE
     SCV   - SUM OF CONSTRAINT VIOLATION
     NA    - NUMBER OF ACTIVE CONSTRAINTS
     I     - NUMBER OF LINE SEARCH ITERATIONS
     ALPHA - STEPLENGTH PARAMETER
     DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
     DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
     KT    - KUHN-TUCKER OPTIMALITY CRITERION

IT        F           SCV      NA  I    ALPHA     DELTA       DLAN       KT
--------------------------------------------------------------------------------
 1  0.16396546D+01  0.00D+00   0  0  0.00D+00  0.00D+00  0.12D+01  0.64D+01
 2  0.15443859D+01  0.00D+00   0  2  0.10D+00  0.00D+00  0.12D+01  0.12D+01
 3  0.12426825D+01  0.00D+00   0  1  0.10D+01  0.00D+00  0.20D+01  0.70D+01
 4  0.90500776D+00  0.00D+00   0  2  0.11D+00  0.00D+00  0.39D+00  0.24D+00
 5  0.79159377D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.72D+00  0.12D+01
 6  0.69498454D+00  0.00D+00   0  2  0.16D+00  0.00D+00  0.18D+00  0.86D-01
 7  0.64538114D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.49D+00  0.96D+00
 8  0.53898867D+00  0.00D+00   0  2  0.23D+00  0.00D+00  0.23D+00  0.56D-01
```

9	0.49517863D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.69D-01	0.66D-01
10	0.45403356D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.70D-01	0.14D-01
11	0.44324788D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.49D-01	0.18D-01
12	0.42970183D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.24D-01
13	0.41169685D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.75D-01	0.27D-01
14	0.39289380D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.88D-01	0.17D-01
15	0.38195247D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.42D-01	0.72D-02
16	0.37669407D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.21D-01	0.67D-02
17	0.37189100D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.38D-01	0.59D-02
18	0.36742896D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.41D-01	0.61D-02
19	0.36252591D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.29D-01	0.10D-01
20	0.35605516D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.45D-01	0.51D-02
21	0.35148882D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.78D-01	0.96D-02
22	0.34557078D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.84D-01	0.69D-02
23	0.34015700D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.53D-01	0.99D-02
24	0.33343114D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.53D-01	0.70D-02
25	0.32815691D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.57D-01	0.95D-02
26	0.32204759D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.41D-01	0.52D-02
27	0.31886752D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.38D-01	0.36D-02
28	0.31651254D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.51D-01	0.33D-02
29	0.31419015D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.48D-01	0.27D-02
30	0.31235767D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.26D-01	0.14D-02
31	0.31133812D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.17D-01	0.15D-02
32	0.31023179D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.16D-01	0.96D-03
33	0.30943640D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.33D-01	0.29D-02
34	0.30740808D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.37D-01	0.21D-02
35	0.30587725D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.39D-01	0.20D-02
36	0.30443283D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.25D-01	0.14D-02
37	0.30340325D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.30D-01	0.18D-02
38	0.30202475D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.46D-01	0.29D-02
39	0.29974264D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.49D-01	0.46D-02
40	0.29628882D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.44D-01	0.57D-02
41	0.29249445D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.29D-01	0.17D-02
42	0.29121025D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.23D-01	0.16D-02
43	0.29011087D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.28D-01	0.95D-03
44	0.28938245D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.20D-01	0.17D-02
45	0.28811705D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.22D-01	0.20D-02
46	0.28650805D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.28D-01	0.46D-02
47	0.28342733D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.52D-01	0.32D-02
48	0.28144978D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.49D-01	0.12D-02
49	0.28058709D+00	0.00D+00	0	1	0.10D+01	0.00D+00	0.25D-01	0.12D-02

**MORE THAN MAXIT ITERATIONS

- FINAL CONVERGENCE ANALYSIS

OBJECTIVE FUNCTION VALUE: F(X) = 0.27977767D+00

APPROXIMATION OF SOLUTION: X =

-0.50000000D+01	-0.50000000D+01	-0.43682511D+01	-0.36658658D+01
0.12153550D+01	-0.50000000D+01	-0.48569338D+00	0.47673363D+01
-0.50000000D+01	-0.49969277D+01	-0.50000000D+01	-0.48535199D+01
-0.26620335D+01	-0.26619921D+01	-0.24008381D+01	0.35614720D+01
0.49007389D+01	-0.23988570D+01	0.35590277D+01	0.49007290D+01
0.49951224D+01	-0.50000000D+01	-0.32903627D+01	-0.39451162D+01
-0.35512374D+01	0.39689851D+01	-0.45488644D+01	-0.45918359D+01
0.34560598D+01	0.47528121D+01	0.16722828D+01	-0.46609074D+01
0.50000000D+01	0.24998796D+01	-0.49753232D+01	-0.22593199D+01
0.24998632D+01	-0.49755365D+01	-0.22593109D+01	0.50000000D+01
-0.36106171D+01	0.59915660D+00	0.32546238D+00	-0.49364560D+01
-0.26133468D+01	-0.49955382D+01	0.23939906D+00	-0.40335668D+01
0.79398050D+00	-0.47952804D+01	-0.86690647D-01	-0.44033607D+01
-0.11162706D+01	0.38764403D+01	-0.52651477D-01	0.46636928D+01
0.40107078D+01	0.45235596D+01	-0.19626635D+00	

APPROXIMATION OF MULTIPLIERS: U =

0.11662626D-01	0.11657177D-01	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.91726352D-02	0.00000000D+00	0.00000000D+00
0.10596407D-02	0.00000000D+00	0.17742717D-02	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00
0.00000000D+00	0.00000000D+00	0.00000000D+00	0.00000000D+00

```
      0.00000000D+00  0.10839394D-01  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.82399065D-02
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.42332736D-02  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00  0.00000000D+00  0.00000000D+00
      0.00000000D+00  0.00000000D+00
   DISTANCE FROM LOWER BOUND:  XL-X =
      0.00000000D+00  0.00000000D+00 -0.56042014D+00 -0.13050336D+01
     -0.61921103D+01  0.00000000D+00 -0.45255970D+01 -0.97074637D+01
     -0.62939694D-02 -0.49450691D-02  0.00000000D+00 -0.13257704D+00
     -0.23421572D+01 -0.23421984D+01 -0.25764560D+01 -0.85380992D+01
     -0.99206736D+01 -0.25784372D+01 -0.85356548D+01 -0.99206690D+01
     -0.99899999D+01  0.00000000D+00 -0.17716333D+01 -0.11135013D+01
     -0.14595580D+01 -0.90156474D+01 -0.40799455D+00 -0.41481916D+00
     -0.84549771D+01 -0.97864665D+01 -0.66879130D+01 -0.33452722D+00
     -0.10000000D+02 -0.74960860D+01 -0.23819368D-01 -0.27466655D+01
     -0.74960696D+01 -0.23629745D-01 -0.27466745D+01 -0.10000000D+02
     -0.13714106D+01 -0.55959407D+01 -0.53243399D+01 -0.62585206D-01
     -0.23799743D+01  0.00000000D+00 -0.52366252D+01 -0.10099636D+01
     -0.57975366D+01 -0.22179370D+00 -0.49181675D+01 -0.55613339D+00
     -0.39255890D+01 -0.88894862D+01 -0.49441794D+01 -0.96572252D+01
     -0.89715238D+01 -0.94935525D+01 -0.48052287D+01
   DISTANCE FROM UPPER BOUND:  XU-X =
      0.10000000D+02  0.10000000D+02  0.94395799D+01  0.86949664D+01
      0.38078897D+01  0.10000000D+02  0.54744030D+01  0.29253631D+00
      0.99937060D+01  0.99950549D+01  0.10000000D+02  0.98674230D+01
      0.76578428D+01  0.76578016D+01  0.74235440D+01  0.14619008D+01
      0.79326382D-01  0.74215628D+01  0.14643452D+01  0.79330977D-01
      0.10000057D-01  0.10000000D+02  0.82283667D+01  0.88864987D+01
      0.85404420D+01  0.98435261D+00  0.95920054D+01  0.95851808D+01
      0.15450229D+01  0.21353352D+00  0.33120870D+01  0.96654728D+01
      0.00000000D+00  0.25039140D+01  0.99761806D+01  0.72533345D+01
      0.25039304D+01  0.99763703D+01  0.72533255D+01  0.00000000D+00
      0.86285894D+01  0.44040593D+01  0.46756601D+01  0.99374148D+01
      0.76200257D+01  0.10000000D+02  0.47633748D+01  0.89900364D+01
      0.42024634D+01  0.97782063D+01  0.50818325D+01  0.94438666D+01
      0.60744110D+01  0.11105138D+01  0.50558206D+01  0.34277479D+00
      0.10284762D+01  0.50644752D+00  0.51947713D+01
   NUMBER OF FUNC-CALLS:  NFUNC =  54
   NUMBER OF GRAD-CALLS:  NGRAD =  50
   NUMBER OF QL-CALLS:    NQL   =  49


*** FATAL    ERROR 3 from DNCONF.  Maximum number of iterations exceeded.

  *****   TRAJ DEBUG POINT  = 499,     PHASE  =   7,     ICODE  =   3   *****

    0.50000000D+01       0.25000000D+02       0.50000000D+01
```

```
 0.93959732D+00      0.75000000D+00     -0.25000000D+00
 0.30042674D+00     -0.27107349D+00      0.80617250D+00      0.59904295D-01


 0.93959732D+00      0.75000000D+00     -0.25000000D+00
 0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01

 0.00000000D+00      0.50000000D+00     -0.25000000D+00
-0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

-0.93959732D+00      0.25000000D+00     -0.25000000D+00
-0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

-0.62360802D+00      0.00000000D+00     -0.25000000D+00
-0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

-0.44257113D+00     -0.25000000D+00     -0.25000000D+00
-0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

-0.33959976D+00     -0.50000000D+00     -0.25000000D+00
-0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

-0.33959976D+00     -0.50000000D+00     -0.25000000D+00
-0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

 0.19801980D+00      0.25000000D+00     -0.25000000D+00
 0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

 0.23020005D+00      0.00000000D+00     -0.25000000D+00
 0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

 0.27461750D+00      0.75000000D+00     -0.25000000D+00
 0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

-0.50000000D+01     -0.50000000D+01     -0.43682511D+01     -0.36658658D+01
 0.12153550D+01     -0.50000000D+01     -0.48569338D+00      0.47673363D+01
-0.50000000D+01     -0.49969277D+01     -0.50000000D+01     -0.48535199D+01
-0.26620335D+01     -0.26619921D+01     -0.24008381D+01      0.35614720D+01
 0.49007389D+01     -0.23988570D+01      0.35590277D+01      0.49007290D+01
 0.49951224D+01     -0.50000000D+01     -0.32903627D+01     -0.39451162D+01
-0.35512374D+01      0.39689851D+01     -0.45488644D+01     -0.45918359D+01
 0.34560598D+01      0.47528121D+01      0.16722828D+01     -0.46609074D+01
 0.50000000D+01      0.24998796D+01     -0.49753232D+01     -0.22593199D+01
 0.24998632D+01     -0.49755365D+01     -0.22593109D+01      0.50000000D+01
-0.36106171D+01      0.59915660D+00      0.32546238D+00     -0.49364560D+01
-0.26133468D+01     -0.49955382D+01      0.23939906D+00     -0.40335668D+01
 0.79398050D+00     -0.47952804D+01     -0.86690647D-01     -0.44033607D+01
-0.11162706D+01      0.38764403D+01     -0.52651477D-01      0.46636928D+01
 0.40107078D+01      0.45235596D+01     -0.19626635D+00

 0.27977767D+00

*****   TRAJ DEBUG POINT  = 500,     PHASE  =   7   *****

*****   TRAJ DEBUG POINT  = 505,     PHASE  =   7   *****


------------------------------------------------------------------------------
  START OF THE SEQUENTIAL QUADRATIC PROGRAMMING ALGORITHM
------------------------------------------------------------------------------

  PARAMETERS:
     MODE =   0
     ACC =    0.1490E-07
     SCBOU =    0.1000E+04
```

```
      MAXFUN =  5
      MAXIT =   50
      IPRINT =   2

   OUTPUT IN THE FOLLOWING ORDER:
      IT    - ITERATION NUMBER
      F     - OBJECTIVE FUNCTION VALUE
      SCV   - SUM OF CONSTRAINT VIOLATION
      NA    - NUMBER OF ACTIVE CONSTRAINTS
      I     - NUMBER OF LINE SEARCH ITERATIONS
      ALPHA - STEPLENGTH PARAMETER
      DELTA - ADDITIONAL VARIABLE TO PREVENT INCONSISTENCY
      DLAN  - MAXIMUM NORM OF LAGRANGIAN GRADIENT
      KT    - KUHN-TUCKER OPTIMALITY CRITERION

IT        F           SCV      NA  I    ALPHA     DELTA      DLAN      KT
-------------------------------------------------------------------------------
 1  0.81723969D+00  0.00D+00   0  0  0.00D+00  0.00D+00  0.11D+01  0.14D+01
 2  0.71642219D+00  0.00D+00   0  2  0.13D+00  0.00D+00  0.79D+00  0.11D+01
 3  0.22225705D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.28D+00  0.16D-01
 4  0.21255046D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.15D+00  0.43D-02
 5  0.20921334D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.11D+00  0.48D-02
 6  0.20601483D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.50D-01  0.24D-02
 7  0.20418379D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.38D-01  0.39D-02
 8  0.20132855D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.28D-01  0.41D-02
 9  0.19817780D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.28D-01  0.41D-02
10  0.19518292D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.14D-01  0.24D-02
11  0.19365669D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.44D-02  0.43D-03
12  0.19335964D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.12D-01  0.33D-03
13  0.19309063D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.13D-01  0.54D-03
14  0.19270628D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.66D-02  0.23D-03
15  0.19254386D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.11D-02  0.89D-04
16  0.19248077D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.13D-02  0.47D-04
17  0.19244648D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.22D-02  0.32D-04
18  0.19242312D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.12D-02  0.17D-04
19  0.19241113D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.55D-03  0.68D-05
20  0.19240638D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.43D-03  0.32D-05
21  0.19240402D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.46D-03  0.20D-05
22  0.19240256D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.30D-03  0.10D-05
23  0.19240191D+00  0.00D+00   0  1  0.10D+01  0.00D+00  0.63D-04  0.47D-08

   * FINAL CONVERGENCE ANALYSIS

      OBJECTIVE FUNCTION VALUE:  F(X) =  0.19240191D+00
      APPROXIMATION OF SOLUTION:  X =
         0.50000000D+01  0.13130207D+01 -0.75408605D+00
      APPROXIMATION OF MULTIPLIERS:  U =
         0.00000000D+00  0.00000000D+00  0.00000000D+00  0.23495136D-05
         0.00000000D+00  0.00000000D+00
      DISTANCE FROM LOWER BOUND:  XL-X =
        -0.10000000D+02 -0.63130207D+01 -0.42459140D+01
      DISTANCE FROM UPPER BOUND:  XU-X =
         0.00000000D+00  0.36869793D+01  0.57540860D+01
      NUMBER OF FUNC-CALLS:  NFUNC =  24
      NUMBER OF GRAD-CALLS:  NGRAD =  23
      NUMBER OF QL-CALLS:    NQL   =  23



 *****   TRAJ DEBUG POINT  = 599,     PHASE  =   7,     ICODE  =   0   *****

    0.50000000D+01       0.25000000D+02       0.50000000D+01

    0.93959732D+00       0.75000000D+00      -0.25000000D+00
    0.30042674D+00      -0.27107349D+00       0.80617250D+00       0.59904295D-01
```

```
 0.93959732D+00      0.75000000D+00     -0.25000000D+00
 0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01

 0.00000000D+00      0.50000000D+00     -0.25000000D+00
-0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

-0.93959732D+00      0.25000000D+00     -0.25000000D+00
-0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

-0.62360802D+00      0.00000000D+00     -0.25000000D+00
-0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

-0.44257113D+00     -0.25000000D+00     -0.25000000D+00
-0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

-0.33959976D+00     -0.50000000D+00     -0.25000000D+00
-0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

-0.33959976D+00     -0.50000000D+00     -0.25000000D+00
-0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

 0.19801980D+00      0.25000000D+00     -0.25000000D+00
 0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

 0.23020005D+00      0.00000000D+00     -0.25000000D+00
 0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

 0.27461750D+00      0.75000000D+00     -0.25000000D+00
 0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

 0.50000000D+01      0.13130207D+01     -0.75408605D+00

 0.19240191D+00

***** TRAJ DEBUG POINT = 511,     PHASE =   7,     ICODE =   0   *****

 0.50000000D+01      0.25000000D+02      0.50000000D+01

 0.93959732D+00      0.75000000D+00     -0.25000000D+00
 0.30042674D+00     -0.27107349D+00      0.80617250D+00      0.59904295D-01


 0.93959732D+00      0.75000000D+00     -0.25000000D+00
 0.25000000D+00     -0.34479866D+00      0.81250000D+00      0.62500000D-01

 0.00000000D+00      0.50000000D+00     -0.25000000D+00
-0.92449664D+00      0.69599109D-03      0.47740000D+00      0.25600000D-01

-0.93959732D+00      0.25000000D+00     -0.25000000D+00
-0.52951002D+00      0.28714436D-01      0.90509668D-01      0.32000000D-01

-0.62360802D+00      0.00000000D+00     -0.25000000D+00
-0.30321391D+00      0.17700121D-01     -0.29500000D+00      0.40000000D-01

-0.44257113D+00     -0.25000000D+00     -0.25000000D+00
-0.17449970D+00     -0.12308749D-01     -0.67928932D+00      0.50000000D-01

-0.33959976D+00     -0.50000000D+00     -0.25000000D+00
-0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

-0.33959976D+00     -0.50000000D+00     -0.25000000D+00
-0.93271871D-01     -0.52600027D-01     -0.10625000D+01      0.62500000D-01

 0.19801980D+00      0.25000000D+00     -0.25000000D+00
 0.53775007D+00      0.38730875D+00      0.10240000D+00      0.25600000D-01

 0.23020005D+00      0.00000000D+00     -0.25000000D+00
```

```
 0.59327187D+00      0.35729988D+00      0.12155097D+01      0.32000000D-01

 0.27461750D+00      0.75000000D+00     -0.25000000D+00
 0.67449970D+00      0.34628556D+00      0.83000000D+00      0.40000000D-01

 0.50000000D+01      0.13130207D+01     -0.75408605D+00

 0.19240191D+00

***** NORMAL EXIT FROM OPTIMNN *****

END of RUN.
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13. ABSTRACT *(Maximum 200 words)*

A closed-loop optimal neural-network controller technique was developed to optimise rotorcraft aeromechanical behaviour. This technique utilises a neural-network scheme to provide a general non-linear model of the rotorcraft. A modern constrained optimisation method is used to determine and update the constants in the neural-network plant model as well as to determine the optimal control vector. Current data is read, weighted, and added to a sliding data window. When the specified maximum number of data sets allowed in the data window is exceeded, the oldest data set is purged and the remaining data sets are re-weighted. This procedure provides at least four additional degrees-of-freedom in addition to the size and geometry of the neural-network itself with which to optimise the overall operation of the controller. These additional degrees-of-freedom are: 1. the maximum length of the sliding data window, 2. the frequency of neural-network updates, 3. the weighting of the individual data sets within the sliding window, and 4. the maximum number of optimisation iterations used for the neural-network updates.

The output of two sample cases using this technique are presented in this volume, Volume 2.

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