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SMALL DEFLECTION OF A CLASS  
OF CLAMPED THIN PLATES  
USING CONFORMAL MAPPING

*by Will J. Worley and Thomas F. Moriarty*

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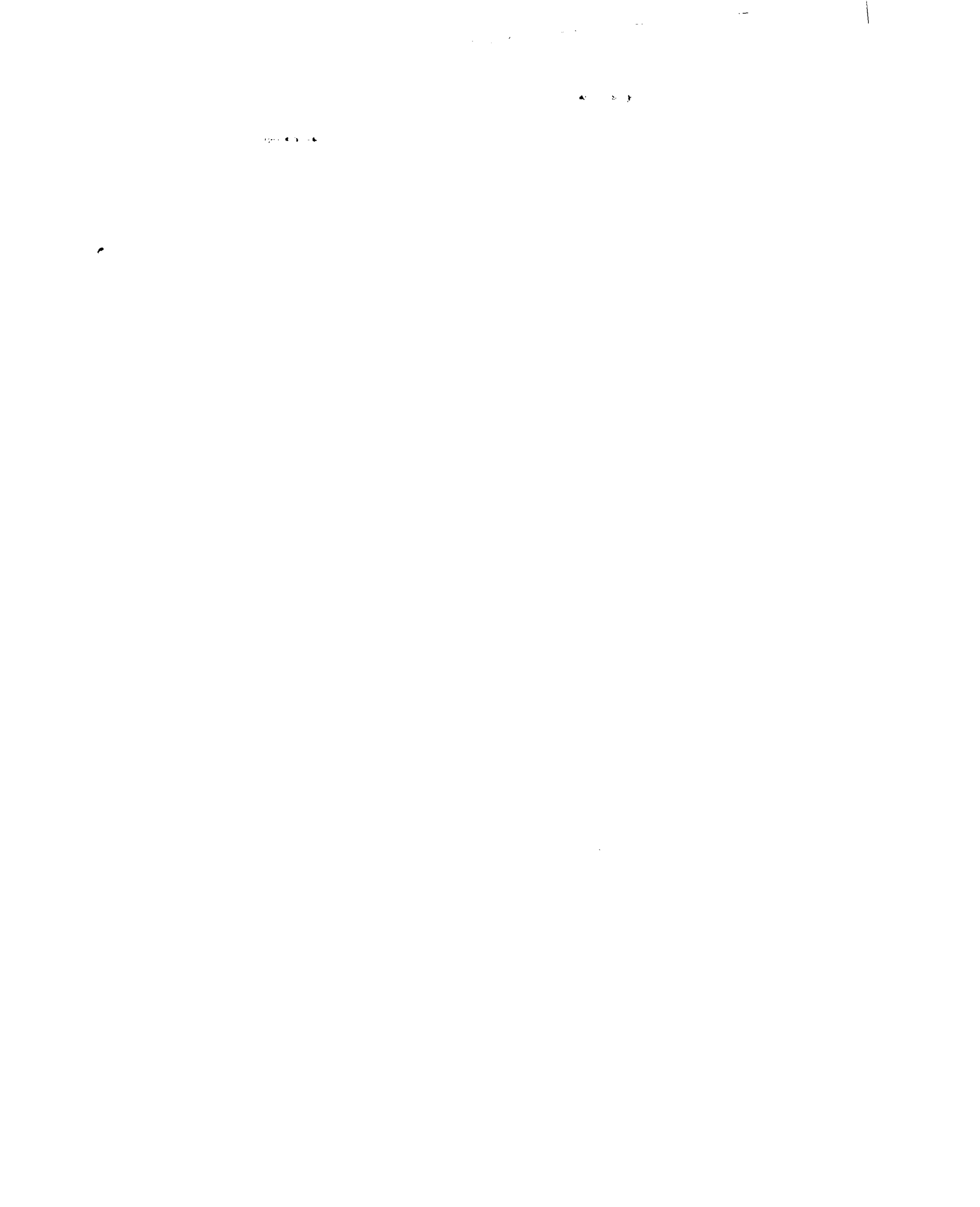
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16. Abstract The small deflection behavior is presented for clamped flat plates having a boundary defined by the equation $  \frac{x}{a}  ^\alpha +   \frac{y}{b}  ^\beta = 1$ where $a$ , $b$ , $\alpha$ and $\beta$ are positive constants not necessarily integers, with $\frac{1}{3} \leq \frac{b}{a} \leq 3$ and $1 \leq \alpha, \beta \leq 10$ . The coefficients of the series representing the conformal mapping of the interior of the unit circle onto the interior of the above equation are tabulated in NASA Report, CR 1357, May, 1969. These coefficients are applied in the current report to small deflection analysis of the plates.			
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SMALL DEFLECTION OF A CLASS OF CLAMPED  
THIN PLATES USING CONFORMAL MAPPING

by

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SUMMARY

The small deflection behavior is presented for clamped flat plates having a boundary defined by the equation  $\left|\frac{x}{a}\right|^a + \left|\frac{y}{b}\right|^\beta = 1$  where  $a$ ,  $b$ ,  $a$  and  $\beta$  are positive constants not necessarily integers, with  $\frac{1}{3} \leq \frac{b}{a} \leq 3$  and  $1 \leq a, \beta \leq 10$ . The coefficients of the series representing the conformal mapping of the interior of the unit circle onto the interior of the above equation are tabulated for in NASA report, CR 1357, May 1969. These coefficients are applied in the current report to the small deflection analysis.



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## INTRODUCTION

### 1. Objective of General Project and the Relation to Current Report

The optimization of the design of a relatively large class of plate and shell type structures constituted the primary objectives of this project. The governing equations were

$$\left| \frac{x}{a} \right|^a + \left| \frac{y}{b} \right|^\beta = 1 \quad (1)$$

$$\left| \frac{x}{a} \right|^a + \left| \frac{y}{b} \right|^\beta + \left| \frac{z}{c} \right|^\gamma = 1 \quad (2)$$

where  $a$ ,  $b$ ,  $c$ ,  $a$ ,  $\beta$  and  $\gamma$  are positive constants which need not be integers. Three dimensional shapes result from revolving the line element defined by (1) about the  $x$ -axis or about the  $y$ -axis as well as from (2). Shells defined by (2) could have bulk heads defined by (1).

The geometrical and inertial properties of the above classes of shells were first obtained [1, 2].\*. Next shells of revolution with maximum enclosed volume and minimum weight were investigated, [3], with weighting functions used to establish the relative importance of weight and of volume in the optimization process. A study of the vibration of beams was also reported [4], for which the beam cross-section was defined by (1). A later report presented the coefficients of the series representing the conformal mapping of the interior of the unit circle onto the interior of (1) for various values of  $b/a$ ,  $a$  and  $\beta$ , [5]. The major features of [3] were subsequently reported in the technical literature, [7].

It is noted that the circle, ellipse, square, rectangle and the skew slab or diamond shape are all special cases which may be generated exactly from (1) along with a continuous variation of intermediate shapes. This provides the designer with an extremely versatile tool for use with the digital computer in achieving optimum designs for a variety of purposes.

Because of the general nature of (1) and the very limited range of available solutions for the deflections of clamped plates, it was decided early in the research effort that three independent methods should be used in the determination of the deflections. Thus the accuracies of the solutions could be checked with certainty.

---

\*Numbers in brackets refer to the references.

In fact this procedure lead to the location of small errors, requiring refined programming, which were not apparent in one range of shapes but were important in another range. Three methods: conformal mapping, collocation and energy yielded sufficiently similar results when completed to lend confidence to all three sets of solutions over the range of values reported. In addition, they provided a firm base on which to build the large deflection solutions using the Ritz energy method and iterating from the small deflection solutions provided by the energy method. This latter method will be explained in a subsequent report.

## 2. Purpose of Report

Having generated the conformal mappings of the interior of the unit circle onto the interior of the relatively general class of curves defined by (1), they are applied here to the small deflection of the clamped plate for the purpose of numerical comparison with other methods. Further, they provide a means of comparing the solution time for the collocation method and for the Ritz energy method, with the conformal method.

The theory of this method as it applied to the deflection of plates is presented first. This is followed by a discussion of the computer program, the print out of the computer program and the tabulated results for a variety of plate shapes.

## 3. Acknowledgement

This project was sponsored by the National Aeronautics and Space Administration, Office of Advanced Research and Technology, Applied Mathematics Branch, of which Dr. Raymond H. Wilson was Chief. Since the initiation of this project, he has assumed new duties at the NASA Space Flight Center, Greenbelt, Maryland.

This investigation was part of the work of the Engineering Experiment Station of which Professor Ross J. Martin is director and was conducted in the Department of Theoretical and Applied Mechanics of which Professor Thomas J. Dolan is Head.

The authors wish to thank Messrs. James A. Hedrick, Gustav A. Nystrom, Frank E. Wyatt for assistance with the programming. Mr. Nystrom assisted as well with the preparation of the report for reproduction.



THE DEFLECTION OF A CLASS OF LINEARLY LOADED  
CLAMPED PLATES VIA CONFORMAL MAPPING

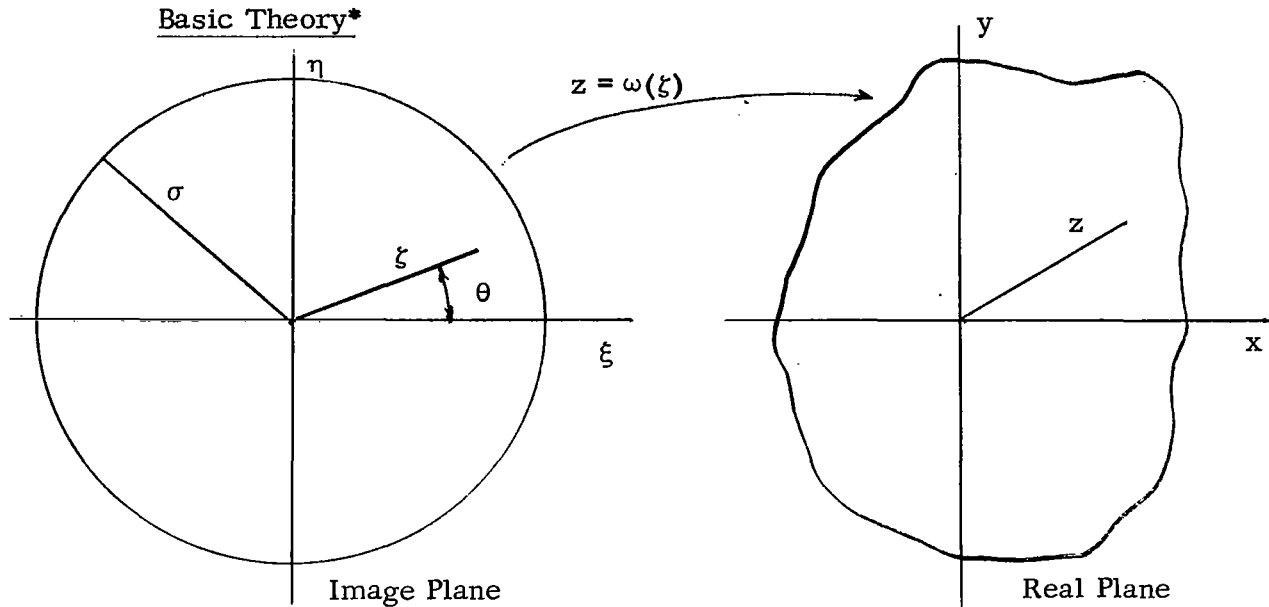


Fig. 1

For thin plates with constant flexural rigidity,  $D$ , subjected to a transverse loading,  $q$ , the well-known governing differential equation for small transverse deflections,  $W$ , is

$$\nabla^4 W = \frac{q}{D} \tag{1}$$

Using the complex conjugate coordinates  $z$  and  $\bar{z}$  where

$$z = x + iy$$

$$\bar{z} = x - iy$$

it is observed that

---

\*This is a brief discussion of the complex variable approach to the clamped plate problem tailored to the particular needs of this work's objectives. For a more detailed discussion of the basic theory see for example [6] .

$$\frac{\partial}{\partial x} = \frac{\partial}{\partial z} + \frac{\partial}{\partial \bar{z}}$$

$$\frac{\partial}{\partial y} = i \left( \frac{\partial}{\partial z} - \frac{\partial}{\partial \bar{z}} \right)$$

Hence

$$\frac{\partial}{\partial z} = \frac{1}{2} \left( \frac{\partial}{\partial x} - i \frac{\partial}{\partial y} \right)$$

$$\frac{\partial}{\partial \bar{z}} = \frac{1}{2} \left( \frac{\partial}{\partial x} + \frac{\partial}{\partial y} \right)$$

Therefore

$$\nabla^2 = \frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2} = 4 \frac{\partial^2}{\partial z \partial \bar{z}}$$

Now (1) can be written

$$\frac{\partial^4 W}{\partial z^2 \partial \bar{z}^2} = \frac{q}{16 D} \quad (2)$$

The solution,  $W$ , of (2) can be resolved into two parts

$$W = W_p + W_c$$

Where

$W_p$  is called the particular solution

$$W_p = \frac{1}{16 D} \iiint \iiint q \, dz \, dz \, d\bar{z} \, d\bar{z} \quad (3)$$

and

$W_c$  is called the complementary solution

$$\frac{\partial^4 W_c}{\partial z^2 \partial \bar{z}^2} = 0 \quad (4)$$

Now consider both uniform and linearly varying loads along the x-axis. Hence

$$q = q_1 x + q_0 \quad (5)$$

where  $q_1$  and  $q_0$  are constants designating the linear and uniform components of the load respectively.

Writing (5) in terms of complex variables

$$q = q_1 \left( \frac{z + \bar{z}}{2} \right) + q_0 \quad (6)$$

Equations (6) and (3) combine to give

$$W_p = \frac{q_1}{384 D} (z^3 \bar{z}^2 + z^2 \bar{z}^3) + \frac{q_0}{64 D} z^2 \bar{z}^2 \quad (7)$$

The solution to (4) for  $W_c$  real is

$$W_c = \bar{z} \psi(z) + z \bar{\psi}(\bar{z}) + X(z) + \bar{X}(\bar{z}) \quad (8)$$

Where  $\psi$  and  $X$  are arbitrary complex potentials which are not unique since one can replace  $\psi$  and  $X$  in (8) by  $\psi + a + ib + icz$  and  $X - (a - ib)z + id$  respectively without any change to  $W_c$ .

Now arbitrarily choose to set

$$\psi(0) = 0$$

$$I \{ \psi'(0) \} = 0 \quad (9)$$

$$I \{ X(0) \} = 0$$

Where  $I \{ \quad \}$  is read "imaginary part of  $\{ \quad \}$ ". This makes potentials  $\psi$  and  $X$  unique.

The problem of determining  $W$  now reduces to the problem of determining  $\psi$  and  $X$  from the boundary conditions. For clamped plates the boundary conditions are:

$$W_{\text{boundary}} = 0 \quad (10)$$

$$\frac{\partial W}{\partial n}_{\text{boundary}} = 0 \quad (11)$$

Where  $n$  is the normal to the boundary.

If  $s$  is the arc length along the boundary then (10) is equivalent to

$$\frac{\partial W}{\partial s} = 0 \quad (12)$$

Equation (12) may be used to put (11) in a more workable form. Combining (11) and (12)

$$\left(\frac{\partial W}{\partial n}\right)^2 + \left(\frac{\partial W}{\partial s}\right)^2 = 0$$

or

$$\left(\frac{\partial W}{\partial x}\right)^2 + \left(\frac{\partial W}{\partial y}\right)^2 = 0 \quad (13)$$

Using complex variables (13) becomes

$$\left(\frac{\partial W}{\partial z} + \frac{\partial W}{\partial \bar{z}}\right)^2 - \left(\frac{\partial W}{\partial z} - \frac{\partial W}{\partial \bar{z}}\right)^2 = 0$$

or

$$\frac{\partial W}{\partial z} \frac{\partial W}{\partial \bar{z}} = 0 \quad (14)$$

Since  $\partial W/\partial z$  and  $\partial W/\partial \bar{z}$  are complex conjugate quantities the vanishing of one implies the vanishing of the other. Therefore without loss of generality (14) can be written

$$\frac{\partial W}{\partial \bar{z}} = 0 \quad (15)$$

Equation (15) now replaces (11) as a more workable form of the boundary condition.

With (7) and (8) one may now explicitly express the boundary conditions (10) and (15) in terms of  $\psi$  and  $X$ .

$$\begin{aligned} \bar{z} \psi(z) + z \bar{\psi}(\bar{z}) + X(z) + \bar{X}(\bar{z}) = \\ - \frac{q_1}{384 D} (z^3 \bar{z}^2 + z^2 \bar{z}^3) + \frac{q_0}{64 D} z^2 \bar{z}^2 \end{aligned} \quad (16)$$

and

$$\begin{aligned} \psi(z) + z \bar{\psi}'(\bar{z}) + \bar{X}'(\bar{z}) = \\ - \frac{q_1}{384 D} (2z^3 \bar{z} + 3z^2 \bar{z}^2) + \frac{q_0}{32 D} z^2 \bar{z} \end{aligned} \quad (17)$$

Where  $z, \bar{z}$  are on the boundary of the plate and the prime denotes differentiation with respect to the argument of the function.

By introducing the conformal mapping of the unit circle onto the given plate shape,  $z = \omega(\zeta)$ , the boundary conditions (16) and (17) can be somewhat simplified. See Fig. 1, page 3.

Using the conformal mapping

$$\psi(z) = \psi(\omega(\zeta)) = \psi_1(\zeta) \quad (18)$$

$$X(z) = X(\omega(\zeta)) = X_1(\zeta) \quad (19)$$

Also

$$\psi'(z) = \frac{\partial \psi_1(\zeta)}{\partial \zeta} \frac{\partial \zeta}{\partial z} = \frac{\psi_1'(\zeta)}{\omega'(\zeta)} \quad (20)$$

$$\text{Let } \bar{X}'(\bar{z}) = \bar{\phi}'(\bar{\omega}(\bar{\zeta})) = \bar{\phi}_1'(\bar{\zeta}) \quad (21)$$

The boundary of the unit circle corresponds to the boundary of the given plate. From Fig. 1 for the boundary of the unit circle

$$\zeta = e^{i\theta} = \sigma \quad (22)$$

and

$$\bar{\zeta} = e^{-i\theta} = \frac{1}{\sigma} \quad (23)$$

Or for the plate boundary

$$z = \omega(\zeta) = \omega(\sigma) \quad (24)$$

$$\bar{z} = \bar{\omega}(\bar{\zeta}) = \bar{\omega}(1/\sigma) \quad (25)$$

Substituting (24) and (25) into the right sides of (16) and (17) one obtains known functions,  $H(\sigma)$  and  $F(\sigma)$ , of  $\sigma$ . Using the above notation and (18) - (21), (24) and (25) the boundary conditions (16) and (17) take on the form

$$\bar{\omega}(1/\sigma) \psi_1(\sigma) + \omega(\sigma) \bar{\psi}_1(1/\sigma) + X_1(\sigma) + \bar{X}_1(1/\sigma) = H(\sigma) \quad (26)$$

and

$$\psi_1(\sigma) + \frac{\omega(\sigma)}{\omega'(1/\sigma)} \bar{\psi}_1'(1/\sigma) + \bar{\phi}_1(1/\sigma) = F(\sigma) \quad (27)$$

Assume that the conformal mapping is representable as a polynomial in  $\zeta$ . Then

$$z = \omega(\zeta) = \sum_{n=1}^N c_n \zeta^n \quad (28)$$

For the plate shapes under consideration the  $c_n$  are all real.

$$\bar{z} = \bar{\omega}(\zeta) = \sum_{n=1}^N \bar{c}_n \bar{\zeta}^n = \sum_{n=1}^N c_n \bar{\zeta}^n \quad (29)$$

The conditions (9) correspond to

$$\left. \begin{aligned} \psi_1(0) &= 0 \\ \text{I} \left\{ \psi_1'(0) \right\} &= 0 \\ \text{I} \left\{ X(0) \right\} &= 0 \end{aligned} \right\} \quad (30)$$

The functions  $\psi_1$  and  $X_1$  are analytic and single valued in the unit circle therefore, with the condition,  $\psi_1(0) = 0$  from (30)

$$\psi_1(\zeta) = \sum_{n=1}^{\infty} a_n \zeta^n \quad (31)$$

$$X_1(\zeta) = \sum_{n=0}^{\infty} b_n \zeta^n \quad (32)$$

and

$$\phi_1(\zeta) = \sum_{n=0}^{\infty} e_n \zeta^n \quad (33)$$

For the plate problems the  $c_n$  are real and the coefficients  $a_n$ ,  $b_n$  and  $e_n$  are also real.

Furthermore write the known functions  $F(\sigma)$  and  $H(\sigma)$  in the form

$$F(\sigma) = \sum_{n=-\infty}^{\infty} A_n \sigma^n \quad (34)$$

$$H(\sigma) = \sum_{n=-\infty}^{\infty} B_n \sigma^n \quad (35)$$



Also

$$a_n = A_n \quad \text{For } n \geq N+1 \quad (38)$$

Now to determine the  $b_n$  compute

$$\bar{\omega}(1/\sigma) \psi_1(\sigma) = \left( \sum_{n=1}^N c_n \sigma^{-n} \right) \left( \sum_{n=1}^{\infty} a_n \sigma^n \right) = \sum_{n=-(N-1)}^{\infty} K_n \sigma^n \quad (39)$$

The  $K_n$  are known since the  $c_n$  are given and by (37b) and (38) the  $a_n$  are now known. Substituting (39) (35) and (32) into (26)

$$\sum_{n=0}^{\infty} b_n \sigma^n + \sum_{n=0}^{-\infty} b_n \sigma^n = \sum_{n=-\infty}^{\infty} B_n \sigma^n - \sum_{n=-(N-1)}^{\infty} K_n \sigma^n - \sum_{n=-(N-1)}^{\infty} K_n \sigma^{-n} \quad (40)$$

Equating coefficients of equal positive powers of  $\sigma$  one obtains

$$2b_0 = B_0 - 2K_0$$

$$b_n = B_n - K_n + K_{-n} \quad (1 \leq n \leq N-1) \quad (41)$$

$$b_n = B_n - K_n \quad (n \geq N)$$

The deflection of the plate can now be written using (7), (8), (28), (31), (32) and (35)

$$\begin{aligned} W &= W_c + W_p \\ &= \bar{\omega}(\bar{\zeta}) \psi_1(\zeta) + \omega(\zeta) \bar{\psi}_1(\bar{\zeta}) + X_1(\zeta) + \bar{X}_1(\bar{\zeta}) + H(\zeta) \\ &= \left( \sum_{n=1}^N c_n \bar{\zeta}^{-n} \right) \left( \sum_{n=1}^{3N-1} a_n \zeta^n \right) + \left( \sum_{n=1}^N c_n \zeta^n \right) \left( \sum_{n=1}^{3N-1} a_n \bar{\zeta}^n \right) \\ &\quad + \sum_{n=0}^{4N-1} b_n \zeta^n + \sum_{n=0}^{4N-1} b_n \bar{\zeta}^n + \sum_{n=-(3N-2)}^{3N-2} B_n \sigma^n \end{aligned} \quad (42)$$

The solution is now complete.



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\*Indicates number of pages in report or book.

## COMPUTER PROGRAM COMMENTS

A computer program, written in Fortran IV language, was devised to read in the coefficients, the  $c_n$  of (28), of the conformal mapping of the unit circle onto the plate shape desired along with the values  $q_0$ , the uniform loading coefficient;  $q_1$ , the linear loading coefficient; and  $D$  the flexural rigidity of the plate. The program then sets up and solves (37), (38) and (41). Using these results the program evaluates (42) for the deflections of various points on the plate.

In [5] the conformal maps for shapes of the form

$$\left| \frac{x}{a} \right|^a + \left| \frac{y}{b} \right|^\beta = 1 \quad (43)$$

were determined. The present program is constructed to use those conformal maps. Because (43) is symmetric about both the  $x$  and  $y$  axes the  $c_n$  of (28) are all real; in addition all the  $c_n$  where  $n$  is even are zero. Since the even coefficients are automatically zero the program reads in only the odd coefficients; the even coefficients are internally set to zero. In order to save computer time, attention was restricted to forms whose conformal maps had 99 or less terms (i. e.,  $c_n = 0, n \geq 100$ ). For the class of shapes under investigation this means conformal maps with 50 or less odd coefficients. For plate shapes requiring more than 100 coefficients, the program can easily be altered by reading in a variable corresponding to the number of coefficients to be used and placing variable limits on the program's do-loops. See Table 1 for complete input instructions.

By the symmetry of the plate and its loading the deflections are symmetric about the  $x$  axis, hence only the deflections of an array of points covering the upper half of the plate are printed out.

The following program listing is essentially self-explanatory since the program closely follows the development and symbolism of Part I of the text.

Table 1

Data Cards

Data Card No.	Input Variables	Format
1	b/a of Equation (43)	(12x, 6F9.4)
2	Alpha	(12x, 6F9.4)
3	Beta	(12x, 6F9.4)
4-53	First 50 odd $c_n$ of Equation (28)	(5x, I3, 4x, 6F9.4)
54-159	Two sets of cards similar to 1-53	
160-197	$q_1, q_0, D, k$ $q_1$ = linear coefficient of load $q_0$ = uniform coefficient of load $D$ = flexural rigidity of plate $k$ = case number corresponding to different plate shapes Thirty-six different load-plate combinations were used	(3F15.5, I3)

# COMPUTER PROGRAM LISTING

```

C
C      THIS PROGRAM DETERMINES THE DEFLECTION OF LINEARLY LOADED
C      'CLAMPED' PLATES USING 'CONFORMAL' MAPPING. PLATE SHAPE IS
C      OF THE FORM  $X/A **ALPHA + Y/B **BETA = 1$ . FOR THE APPROPRIATE
C      CONFORMAL MAPS SEE MORIATY, THOMAS F. AND WORLEY, WILL J. THE
C      CONFORMAL MAPPING OF THE INTERIOR OF THE UNIT CIRCLE ONTO THE
C      INTERIOR OF A CLASS OF SMOOTH CURVES NASA CR-1357 NATIONAL
C      AERONAUTICS AND SPACE ADMINISTRATION WASHINGTON, D.C. MAY 1969
C
0002      DIMENSION BOA(18),ALPHA(18),BETA(18),CN(18,99)
0003      DIMENSION DFS(198),D1FS(397),FS(397)
0004      DIMENSION D2FS(397),D3FS(198)
0005      DIMENSION D4FS(397),D5FS(397)
0006      DIMENSION HS(397),DCN(99)
0007      DIMENSION WDW(99),PHI(397)
0008      DIMENSION WPHI(496),PSI(496)
0009      DIMENSION RCN(99),DPHI(99,99)
0010      DIMENSION RS(99),PHD(99)
0011      DIMENSION DPHD(99,99)
0012      DIMENSION XBA(3),XALPH(3),XBETA(3)
0013      DIMENSION XQ1(3),XQ0(3),XD(3),XCD(3)
0014      DIMENSION XW(65,3),XX(65,3),XY(65,3)
0015      COMMON DPHD
C
C      READ IN GEOMETRIC PARAMETERS R/A,ALPHA, BETA
C      WHERE  $(X/A) ** ALPHA + (Y/B) ** BETA = 1$ 
0016      DO 10 IC=1,13,6
0017          ID =IC+5
0018          READ(5,1000) (BOA(IE),IE=IC,ID)
0019      1000  FORMAT (12X,6F9.4)
0020          READ(5,1000) (ALPHA(IE),IE=IC,ID)
0021          READ(5,1000) (BETA(IE),IE=IC,ID)
0022          DO 10 IG=1,50
C
C      READ IN CONFORMAL MAPPING COEFFICIENTS CN( )
0023      READ(5,1005) N,(CN(IE,N),IE=IC,ID)
0024      1005  FORMAT (5X,13,4X,6F9.4)
0025          10  CONTINUE
0026          INDEX =0
0027          15  B01 =0.0
0028          B02 =0.0
0029          B03 =0.0
0030          W =0.0
0031          INDEX =INDEX+1
C
C      READ IN
C      Q1 = LINEAR LOAD COEFFICIENT
C      Q0 = UNIFORM LOAD COEFFICIENT
C      D = FLEXURAL RIGIDITY OF PLATE
C      K = CONFORMAL MAPPING CASE NUMBER
0032      READ(5,1010,END=265) Q1,Q0,D,K
0033      1010  FORMAT (3F15.5,13)
0034          A =1.0
0035          DO 20 I =1,99,2
0036      20  CN(K,I) =A*CN(K,I)
0037          DO 25 I =2,98,2
0038          CN(K,I) =0.0
0039          DCN(I) =0.0
0040      25  RCN(I) =0.0
0041          DO 30 I =1,198
0042      30  DFS(I) =0.0
C
C      SET UP OF Z**2
C      DFS(I) = COEFFICIENTS IN SERIES REPRESENTING Z**2
0043          DO 35 I =1,99,2
0044          DO 35 J =1,99,2
0045          L =I+J
0046      35  DFS(L) =DFS(L)+CN(K,I)*CN(K,J)
C
C      SET UP OF Z**3
C      D1FS(I) = COEFFICIENTS IN SERIES REPRESENTING Z**3
0047          DO 40 I =1,397
0048          D1FS(I) =0.0
0049          D2FS(I) =0.0
0050          D4FS(I) =0.0
0051          40  WPHI(I) =0.0

```

```

0052      DO 45 I =398,496
0053      45 WPHI(I) =0.0
0054      DO 50 I =1,198
0055      DO 50 J =1,99,2
0056      L =I+J
0057      50 D1FS(L) =D1FS(L)+DFS(I)*CN(K,J)
C          SET UP OF {Z**3}{ZBAR}
C          D2FS(I) = COEFFICIENTS IN SERIES REPRESENTING {Z**3}{ZBAR}
0058      DO 60 I =1,397
0059      DO 55 J =1,99,2
0060      M =I-J
0061      IF (M)60,60,55
0062      55 D2FS(M) =D2FS(M)+D1FS(I)*CN(K,J)
0063      60 CONTINUE
C          SET UP OF {Z**2}{ZBAR}
C          D1FS(I) = COEFFICIENTS IN SERIES REPRESENTING {Z**2}{ZBAR}
0064      DO 65 I =1,198
0065      D1FS(I) =0.0
0066      D5FS(I) =0.0
0067      65 D3FS(I) =0.0
0068      DO 70 I =199,397
0069      70 D5FS(I) =0.0
0070      DO 80 I =1,198
0071      DO 75 J =1,99,2
0072      M =I-J
0073      IF (M)80,80,75
0074      75 D1FS(M) =D1FS(M)+DFS(I)*CN(K,J)
0075      80 CONTINUE
C          SET UP OF {Z**2}{ZBAR**2}
C          D3FS(I) = COEFFICIENTS IN SERIES REPRESENTING {Z**2}{ZBAR**2}
C          B03 = THE CONSTANT TERM IN THIS SERIES
0076      DO 95 I =1,198
0077      DO 90 J =1,99,2
0078      M =I-J
0079      IF (M)95,85,90
0080      85 B03 =B03+D1FS(I)*CN(K,I)
0081      GO TO 95
0082      90 D3FS(M) =D3FS(M)+D1FS(I)*CN(K,J)
0083      95 CONTINUE
C          SET UP OF F(SIGMA)
C          SEE EQUATIONS(17) AND (34) IN TEXT
C          FS(I) = COEFFICIENTS IN SERIES REPRESENTING F(SIGMA)
0084      D1 =-Q1/(192.*D)
0085      D2 =-Q1/(128.*D)
0086      D3 =-Q0/(32.*D)
0087      DO 100 I=1,198
0088      100 FS(I) =D1*D2FS(I)+D2*D3FS(I)+D3*D1FS(I)
0089      DO 105 I=199,397
0090      105 FS(I) =D1*D2FS(I)
C          SET UP OF {Z**3}{ZBAR**2}
C          D4FS(I) = COEFFICIENTS IN SERIES REPRESENTING{Z**3}{ZBAR**2}
C          B01 = CONSTANT TERM IN THIS SERIES
0091      DO 120 I=1,397
0092      DO 115 J=1,99,2
0093      M =I-J
0094      IF (M)120,110,115
0095      110 B01 =B01+D2FS(I)*CN(K,I)
0096      GO TO 120
0097      115 D4FS(M) =D4FS(M)+D2FS(I)*CN(K,J)
0098      120 CONTINUE
C          SET UP OF {Z**2}{ZBAR**3}
C          D5FS(I) = COEFFICIENTS IN SERIES REPRESENTING {Z**2}{ZBAR**3}
C          B02 = CONSTANT TERM IN THIS SERIES
0099      DO 135 I=1,198
0100      DO 130 J=1,99,2
0101      M =I-J
0102      IF (M)135,125,130
0103      125 B02 =B02+D3FS(I)*CN(K,I)
0104      GO TO 135
0105      130 D5FS(M) =D5FS(M)+D3FS(I)*CN(K,J)
0106      135 CONTINUE

```

```

C      SET UP OF H(SIGMA)
C      SEE EQUATIONS(16) AND (35) IN TEXT
C      HS(I) = COEFFICIENTS IN SERIES REPRESENTING H(SIGMA)
0107      D1      =-Q1/(384.*D)
0108      D2      =-Q0/(64.*D)
0109      DO 140 I=1,198
0110      140 HS(I) =D1*(D4FS(I)+D5FS(I))+D2*D3FS(I)
0111      DO 145 I=199,397
0112      145 HS(I) =D1*D4FS(I)
C      SET UP OF (OMEGA(SIGMA))/(OMEGABAR*(1/SIGMA))
C      SEE EQUATION (36) IN TEXT
C      WDW(I) = COEFFICIENTS OF SERIES REPRESENTING
C      (OMEGA(SIGMA))/(OMEGABAR*(1/SIGMA))
0113      DO 150 I=1,99,2
0114      E      =I
0115      150 DCN(I) =E*CN(K,I)
0116      DO 155 I=1,99,2
0117      M      =100-I
0118      155 RCN(M) =CN(K,I)
0119      DO 170 I=1,99,2
0120      L      =100-I
0121      WDW(L) =RCN(I)/DCN(I)
0122      NM     =I+2
0123      IF (101-NM)170,170,160
0124      160 DO 165 J=NM,99,2
0125      KK     =J-I+1
0126      165 RCN(J) =RCN(J)-WDW(L)*DCN(KK)
0127      170 CONTINUE
0128      DO 175 I=2,98,2
0129      175 WDW(I) =0.0
C      PARTIAL SOLUTION FOR PSI OF TEXT CORRESPONDING TO EQUATIONS(38)
C      OF TEXT.
C      PHI(I) = COEFFICIENTS IN SERIES REPRESENTING PSI
0130      DO 180 I=100,399
0131      180 PHI(I) =FS(I)
0132      DO 185 I=1,99
0133      DO 185 J=1,99
0134      185 DPHI(I,J)=0.0
C      SET UP AND SOLUTION FOR REST OF SERIES MAKING UP PSI OF TEXT.
C      THIS CORRESPONDS TO SET UP AND SOLUTION OF EQUATIONS (37) OF
C      TEXT
0135      DO 190 I=1,99
0136      DO 190 J=1,99
0137      A      =I
0138      KK     =[-J+99
0139      DPHI(J,I)=A*WDW(KK)
0140      190 CONTINUE
0141      DO 195 I=1,99
0142      L      =100-I
0143      DPHI(I,L)=DPHI(I,L)+1.0
0144      195 RS(I) =FS(L)
0145      DO 200 I=1,99
0146      DO 200 J=1,99
0147      200 DPHD(I,J)= DPHI(I,J)
0148      DO 205 I= 1,99
0149      205 PHD(I) = RS(I)
0150      N      = 99
0151      M      = 1
0152      CALL SIMEQ(PHD,N,M,DET)
0153      CALL UNDERZ('OFF')
C      SET UP AND SOLUTION FOR SERIES REPRESENTING CHI OF TEXT. THIS
C      CORRESPONDS TO SET UP AND SOLUTION OF EQUATIONS(41) OF TEXT.
C      PSI(I) = COEFFICIENTS OF THE SERIES REPRESENTING CHI.
0154      DO 210 I=1,99
0155      210 PHI(I)=PHD(I)
0156      DO 215 I=1,357
0157      DO 215 J=1,99,2
0158      M      =100+I-J
0159      215 WPHI(M) =WPHI(M)+PHI(I)*CN(K,J)
0160      804      =-C1*(B01+B02)/(384.*D)-Q0*(B03)/(64.*D)
C      WC = CENTER DEFLECTION OF PLATE

```

```

0161      WC      =BO4-WPHI(100)*2.
0162      DO 220 I=1,98
0163      M        =100-I
0164      220 PSI(I) =HS(I)-WPHI(I+100)-WPHI(M)
0165      DO 225 I=99,396
0166      225 PSI(I) =HS(I)-WPHI(I+100)
0167      W        =0.0
0168      KL       =0
C        THE REST OF THE PROGRAM SETS UP AN ARRAY OF POINTS IN THE
C        IMAGE PLANE AND DETERMINES THE DEFLECTION FOR THESE POINTS.
C        THIS CORRESPONDS TO EVALUATION OF EQUATION (42) OF TEXT
0169      DO 255 I=2,10,2
0170      DO 250 J=1,13
0171      KL      =KL+1
0172      FI      =I
C        R = RADIAL COORDINATE OF POINT IN THE IMAGE PLANE.
0173      R      =FI/10.
0174      FJ     =J - 1
0175      T      =FJ/6.
C        T = ANGLE IN RADIAN FROM POSITIVE ABSCISSA IN IMAGE PLANE.
0176      T      =1.57079633E0*T
0177      DUM     =R
0178      WRC    =0.0
0179      WIC    =0.0
0180      DO 230 N=1,99,2
0181      A      =N
0182      WRC    =WRC+CN(K,N)*DUM*COS(A*T)
0183      WIC    =WIC-CN(K,N)*DUM*SIN(A*T)
0184      230 DUM =DUM**R*R
0185      DUM     =R
0186      PHIR   =0.0
0187      PHII   =0.0
0188      DO 235 N=1,397
0189      A      =N
0190      PHIR   =PHIR+PHI(N)*DUM*COS(A*T)
0191      PHII   =PHII+PHI(N)*DUM*SIN(A*T)
0192      235 DUM =DUM**R
0193      W      =(WRC*PHIR-WIC*PHII)
0194      DUM     =R
0195      DO 240 KK=1,396
0196      FK     =KK
0197      W      =W+PSI(KK)*COS(FK*T)*DUM
0198      240 DUM =DUM**R
C        W = DEFLECTION OF POINT.
0199      W      =2.0*W+WC
0200      X      =0.0
0201      Y      =0.0
0202      OUM    =R
0203      DO 245 KK=1,99,2
0204      FK     =KK
C        (X,Y) = COORDINATES OF POINT IN REAL PLANE.
0205      X      =X+DUM*CN(K,FK)*COS(FK*T)
0206      Y      =Y+DUM*CN(K,FK)*SIN(FK*T)
0207      245 DUM =DUM*(R**2)
0208      RAD    =SQRT(X**2+Y**2)
0209      W      =W+(Q1*X/(192.*D)+Q0/(64.*D))*RAD**4
0210      THETA  =(180./3.14159265E0)*T
C        THIS SECTION STORES DEFLECTIONS, COORDINATES, AND PLATE
C        SHAPE COORDINATES WHICH ARE TO BE OUTPUTED THREE PER PAGE
0211      XW(KL,INDEX)=W
0212      XX(KL,INDEX)=X
0213      XY(KL,INDEX)=Y
0214      250 W      =0.0
0215      255 CONTINUE -
0216      XBA(INDEX)=BOA(K)
0217      XALPH(INDEX)=ALPHA(K)
0218      XBETA(INDEX)=BETA(K)
0219      XQ1(INDEX)=Q1
0220      XQ0(INDEX)=Q0
0221      XD(INDEX)=D
0222      XCD(INDEX)=WC

```

```

0223      IF(INDEX-2)15,15,260
0224      260 CALL OUTPUT(XBA,XALPH,XBETA,XQ1,XQ0,XCD,XW,XX,XY)
0225      INDEX =0
0226      GO TO 15
0227      265 STOP
0228      END

```

```

0002      SUBROUTINE SIMEQ(B,N,M,DET)
C
C      THIS IS A STANDARD PACKAGE FOR SOLVING A SET OF N SIMULTANEOUS
C      LINEAR EQUATIONS
C
0003      DIMENSION A(99,99),B(99,1)
0004      DIMENSION IP(99),PI(99)
0005      DIMENSION IN(99,2)
0006      COMMON A
0007      DET =1.0
0008      DO 10 J =1,N
0009      10 IP(J) =0
0010      DO 110 I=1,N
0011      AM =0.0
0012      DO 35 J =1,N
0013      IF(IP(J)-1)15,35,15
0014      15 DO 30K =1,N
0015      IF(IP(K)-1)20,30,140
0016      20 IF( ABS( AM)- ABS( A(J,K)))25,25,30
0017      25 IR =J
0018      IC =K
0019      AM =A(J,K)
0020      30 CONTINUE
0021      35 CONTINUE
0022      IP(IC) =IP(IC)+1
0023      IF(IR-IC)40,60,40
0024      40 DET =-DET
0025      DO 45 L =1,N
0026      SW =A(IR,L)
0027      A(IR,L) =A(IC,L)
0028      45 A(IC,L) =SW
0029      IF(M)60,60,50
0030      50 DO 55 L =1,M
0031      SW =B(IR,L)
0032      B(IR,L) =B(IC,L)
0033      55 B(IC,L) =SW
0034      60 IN(I,1) =IR
0035      IN(I,2) =IC
0036      PI(I) =A(IC,IC)
0037      IF(PI(I))65,135,65
0038      65 A(IC,IC)=1.0
0039      DO 70 L =1,N
0040      70 A(IC,L) =A(IC,L)/PI(I)
0041      IF(M)85,85,75
0042      75 DO 80 L =1,M
0043      80 B(IC,L) =B(IC,L)/PI(I)
0044      85 DO 110 LI=1,N
0045      IF(LI-IC)90,110,90
0046      90 Y =A(LI,IC)
0047      A(LI,IC)=0.0
0048      DO 95 L =1,N
0049      95 A(LI,L) =A(LI,L)-A(IC,L)*Y
0050      IF(M)110,110,100
0051      100 DO 105 L=1,M
0052      105 B(LI,L) =B(LI,L)-B(IC,L)*Y
0053      110 CONTINUE

```



```

0054      115 DO 130 I=1,N
0055          L      =N+1-I
0056          IF(IN(L,1)-IN(L,2))120,130,120
0057      120 JR      =IN(L,1)
0058          JC      =IN(L,2)
0059          DO 125 K=1,N
0060          SW      =A(K,JR)
0061          A(K,JR) =A(K,JC)
0062          A(K,JC) =SW
0063      125 CONTINUE
0064      130 CONTINUE
0065          RETURN
0066      135 WRITE (6,1000)
0067      1000 FORMAT(' MATRIX IS SINGULAR')
0068      140 RETURN
0069          END

```

END OF COMPILATION \*\*\*\*\*

```

0002      SUBROUTINE OUTPUT(XBA,ALPHA,BETA,XLL,XLL,CD,W,X,Y)
C
C      THIS PACKAGE OUTPUTS THE DEFLECTIONS
C
0003      DIMENSION XBA(3),ALPHA(3),BETA(3),XLL(3),XUL(3),CD(3)
0004      DIMENSION W(65,3),Y(65,3),X(65,3),NOUT(10,10)
0005      WRITE (6,1000)
0006      1000 FORMAT ('1')
0007      REWIND 9
0008      WRITE(8,1005) (XBA(N),ALPHA(N),BETA(N),N=1,3)
0009      1005 FORMAT(9F10.3)
0010      REWIND 8
0011      READ(9,1010)((NOUT(I,J),J=1,8),I=1,9)
0012      1010 FORMAT(9(A1,1X,4A1,1X,3A1))
0013      WRITE(6,1015)((NOUT(I,J),J=1,8),I=1,9)
0014      1015 FORMAT(' ',3(3(A1,3X),2X))
0015      REWIND 8
0016      WRITE(8,1020) (XLL(N),XUL(N),N=1,3)
0017      1020 FORMAT(6E10.3)
0018      REWIND 8
0019      READ (8,1025)((NOUT(I,J),J=1,8),I=1,6)
0020      1025 FORMAT(6(A1,1X,4A1,1X,3A1))
0021      WRITE(6,1030)((NOUT(I,J),J=1,8),I=1,6)
0022      1030 FORMAT(' ',3(2(A1,3X),13X))
0023      WRITE(6,1035)
0024      1035 FORMAT(' ',////)
0025      REWIND 8
0026      WRITE(8,1040) (CD(N),N=1,3)
0027      1040 FORMAT (3F12.5)
0028      REWIND 8
0029      READ(8,1045)((NOUT(I,J),J=1,10),I=1,3)
0030      1045 FORMAT(3(A1,1X,6A1,1X,3A1))
0031      WRITE(6,1050)((NOUT(I,J),J=1,10),I=1,3)
0032      1050 FORMAT(' ',3(10A1,1X,' .0',8X,' .0',10X))
0033      DO 15 N=1,65
0034      15 CONTINUE
0035      25 WRITE(8,1055) (W(N,I),X(N,I),Y(N,I),I=1,3)
0036      1055 FORMAT(9E12.5)
0037      REWIND 8
0038      READ(8,1060)((NOUT(I,J),J=1,10),I=1,9)
0039      1060 FORMAT(9(A1,1X,6A1,1X,3A1))
0040      WRITE(6,1065)((NOUT(I,J),J=1,10),I=1,9)
0041      1065 FORMAT(' ',3(10A1,1X,2X))
0042      15 CONTINUE
0043      20 RETURN
0044          END

```

END OF COMPILATION \*\*\*\*\*

## TABULATED RESULTS

### 1. Plate Shapes

Eighteen representative plate shapes were selected by letting  $b/a$  take on the values 0.5, 1.0, and 2.0 and the following combinations of  $a$  and  $\beta$ :

$a$	$\beta$
1.6	1.6
2.0	2.0
3.0	3.0
5.0	5.0
10.0	10.0
1.6	10.0

### 2. Plate Loadings

Two loads were applied to each of the above plates, a "uniform load" and a "linear load". These are defined as follows:

$$\text{Uniform Load: } q_0 = 1.0 \quad q_1 = 0.0$$

$$\text{Linear Load: } q_0 = 1.0 \quad q_1 = 4.0$$

where the total load in each case is  $q = q_1 x + q_0$ . The flexural rigidity,  $D$ , is set equal to unity for all loadings.

### 3. Floating Point Notation

With the exception of the values of  $a$ ,  $\beta$ , and  $b/a$ , the tabulated values are in floating point notation as follows:

$$.12315\ 02 = 12.315$$

$$.12315\ 00 = .12315$$

$$-.12315-01 = -0.012315$$

#### 4. Output Sequence

For each of the plate shape-loadings combinations, the deflection of sixty-six points is tabulated. In the complex plane these points are ordered as follows:

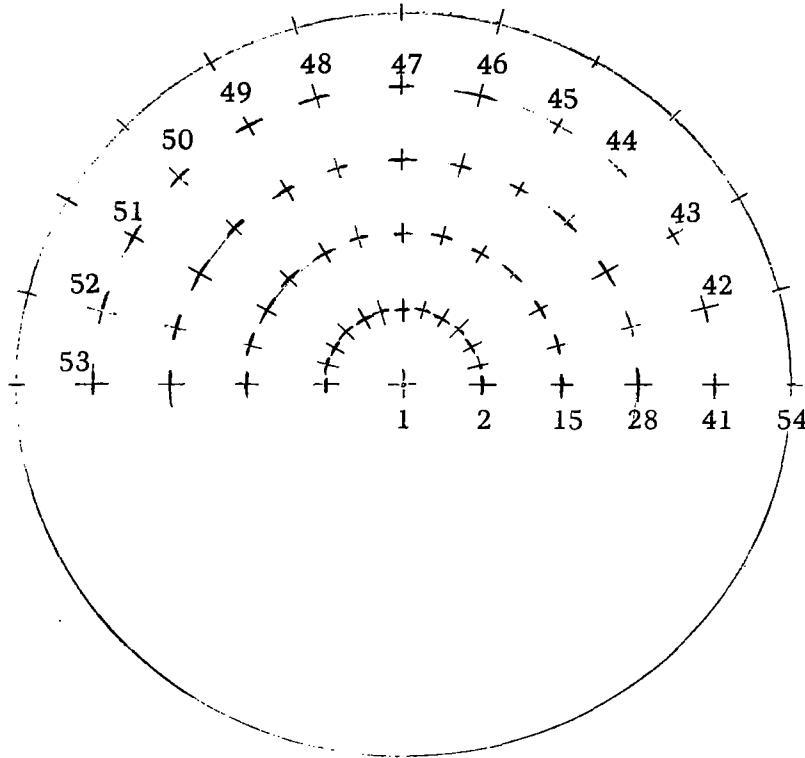


Fig. 2

The ordering in the real plane is determined by the conformal mapping  $\omega(\zeta)$ .

Deflections,  $w$ , at  $X = x/a$  and  $Y = y/a$  for a given plate are computed from  $w = \frac{a^4}{D} (\text{DEF}_u) (q_u - \frac{a}{4.0} q_\ell) + (\text{DEF}_\ell) (\frac{a}{4.0} q_\ell)$  where  $a$  is the half-length in the  $x$  direction,  $D$  is the flexural rigidity  $Eh^3/12(1 - \nu^2)$ ,  $q_\ell x + q_u$  is the plate loading, and  $\text{DEF}_u$  and  $\text{DEF}_\ell$  are read from the table's "uniform" and "linear load" pages respectively.

UNIFORM LOAD

$\alpha=1.60$

$\beta=1.60$

b/a=0.50			b/a=1.00			b/a=2.00		
DEF	X	Y	DEF	X	Y	DEF	X	Y
.18201-02	.0	.0	.12467-01	.0	.0	.29093-01	.0	.0
.17508-02	.11801 00	.0	.11491-01	.18933 00	.0	.25961-01	.23185 00	.0
.17414-02	.11371 00	.31019-01	.11489-01	.18287 00	.49011-01	.26084-01	.22445 00	.59116-01
.17166-02	.10127 00	.59517-01	.11486-01	.16395 00	.94666-01	.26428-01	.20249 00	.11490 00
.16842-02	.81962-01	.83414-01	.11485-01	.13386 00	.13386 00	.26919-01	.16678 00	.16398 00
.16534-02	.57464-01	.10127 00	.11486-01	.94666-01	.16395 00	.27437-01	.11900 00	.20249 00
.16319-02	.29565-01	.11225 00	.11489-01	.49011-01	.18287 00	.27834-01	.62021-01	.22735 00
.16242-02	.37350-07	.11595 00	.11491-01	.62057-07	.18933 00	.27984-01	.78722-07	.23596 00
.16319-02	-.29565-01	.11225 00	.11489-01	-.49010-01	.18287 00	.27834-01	-.62020-01	.22735 00
.16534-02	-.57463-01	.10127 00	.11486-01	-.94665-01	.16395 00	.27437-01	-.11900 00	.20249 00
.16842-02	-.81962-01	.83414-01	.11485-01	-.13386 00	.13386 00	.26919-01	-.16678 00	.16398 00
.17166-02	-.10127 00	.59518-01	.11486-01	-.16395 00	.94666-01	.26428-01	-.20249 00	.11490 00
.17414-02	-.11371 00	.31019-01	.11489-01	-.18287 00	.49011-01	.26084-01	-.22445 00	.59116-01
.17508-02	-.11801 00	.78700-07	.11491-01	-.18933 00	.12411-06	.25961-01	-.23185 00	.14945-06
.15401-02	.24289 00	.0	.88256-02	.37901 00	.0	.18146-01	.45254 00	.0
.14999-02	.23191 00	.67077-01	.88085-02	.36583 00	.98356-01	.18438-01	.44055 00	.11064 00
.14033-02	.20194 00	.12548 00	.87749-02	.32759 00	.18950 00	.19308-01	.40399 00	.21817 00
.12955-02	.15917 00	.17070 00	.87584-02	.26748 00	.26748 00	.20708-01	.34130 00	.31826 00
.12080-02	.10911 00	.20205 00	.87749-02	.18950 00	.32759 00	.22429-01	.25088 00	.40377 00
.11535-02	.55330-01	.22033 00	.88085-02	.98356-01	.36583 00	.23971-01	.13411 00	.46370 00
.11352-02	.69526-07	.22632 00	.88256-02	.12467-06	.37901 00	.24613-01	.17192-06	.48564 00
.11535-02	-.55330-01	.22033 00	.88085-02	-.98355-01	.36583 00	.23971-01	-.13411 00	.46370 00
.12080-02	-.10911 00	.20205 00	.87749-02	-.18950 00	.32759 00	.22429-01	-.25088 00	.40377 00
.12955-02	-.15917 00	.17070 00	.87584-02	-.26748 00	.26748 00	.20708-01	-.34130 00	.31826 00
.14033-02	-.20194 00	.12548 00	.87749-02	-.32759 00	.18950 00	.19308-01	-.40399 00	.21817 00
.14999-02	-.23191 00	.67078-01	.88085-02	-.36583 00	.98357-01	.18438-01	-.44055 00	.11064 00
.15401-02	-.24289 00	.17224-06	.88256-02	-.37901 00	.24935-06	.18146-01	-.45254 00	.27768-06
.11778-02	.38526 00	.0	.52030-02	.57084 00	.0	.91961-02	.65468 00	.0
.10781-02	.35929 00	.11668 00	.51484-02	.54926 00	.14976 00	.94526-02	.64143 00	.15055 00
.89265-03	.29852 00	.20490 00	.50501-02	.48945 00	.28529 00	.10281-01	.60049 00	.30114 00
.74052-03	.22577 00	.26352 00	.50054-02	.39969 00	.39969 00	.11837-01	.52690 00	.45146 00
.64318-03	.15060 00	.30032 00	.50501-02	.28529 00	.48945 00	.14266-01	.40966 00	.59691 00
.59132-03	.75289-01	.32079 00	.51484-02	.14976 00	.54926 00	.17227-01	.23326 00	.71837 00
.57527-03	.93748-07	.32742 00	.52030-02	.19090-06	.57084 00	.18817-01	.30993-06	.77027 00
.59132-03	-.75288-01	.32079 00	.51484-02	-.14975 00	.54926 00	.17227-01	-.23326 00	.71837 00
.64318-03	-.15060 00	.30032 00	.50501-02	-.28529 00	.48945 00	.14266-01	-.40966 00	.59691 00
.74052-03	-.22577 00	.26352 00	.50054-02	-.39969 00	.39969 00	.11837-01	-.52690 00	.45146 00
.89265-03	-.29852 00	.20490 00	.50501-02	-.48945 00	.28529 00	.10281-01	-.60049 00	.30114 00
.10781-02	-.35929 00	.11668 00	.51484-02	-.54926 00	.14976 00	.94526-02	-.64143 00	.15055 00
.11778-02	-.38526 00	.31950-06	.52030-02	-.57084 00	.38222-06	.91961-02	-.65468 00	.36113-06
.64164-03	.57087 00	.0	.17255-02	.77045 00	.0	.24722-02	.83604 00	.0
.46947-03	.49649 00	.19876 00	.16567-02	.73351 00	.20810 00	.25565-02	.82306 00	.17938 00
.30377-03	.38113 00	.30263 00	.15613-02	.64577 00	.38346 00	.28599-02	.78518 00	.36094 00
.22022-03	.27601 00	.35920 00	.15247-02	.52787 00	.52787 00	.35208-07	.71821 00	.55194 00
.17888-03	.18045 00	.39268 00	.15613-02	.38346 00	.64577 00	.48552-02	.60505 00	.76214 00
.15990-03	.89700-01	.41162 00	.16567-02	.20810 00	.73351 00	.74990-02	.39727 00	.99268 00
.15463-03	.10964-06	.41810 00	.17255-02	.27443-06	.77045 00	.10244-01	.65767-06	.11413 01
.15991-03	-.89699-01	.41162 00	.16568-02	-.20809 00	.73351 00	.74991-02	-.39727 00	.99269 00
.17888-03	-.18045 00	.39268 00	.15614-02	-.38346 00	.64577 00	.48553-02	-.60505 00	.76215 00
.22022-03	-.27601 00	.35920 00	.15247-02	-.52787 00	.52788 00	.35208-02	-.71821 00	.55194 00
.30377-03	-.38113 00	.30263 00	.15613-02	-.64576 00	.38346 00	.28599-02	-.78518 00	.36094 00
.46947-03	-.49649 00	.19876 00	.16567-02	-.73351 00	.20810 00	.25565-02	-.82306 00	.17938 00
.64164-03	-.57087 00	.71161-06	.17255-02	-.77045 00	.55202-06	.24722-02	-.83604 00	.34954-06
.71898-06	.98600 00	.0	.21607-06	.99950 00	.0	.32410-06	.99939 00	.0
.24121-06	.61316 00	.34135 00	.19744-06	.91472 00	.28320 00	.68545-06	.98351 00	.20034 00
.78231-07	.43578 00	.41300 00	.18626-06	.79042 00	.48445 00	.10431-05	.95193 00	.39760 00
.37253-07	.30745 00	.45142 00	.20117-06	.64849 00	.64849 00	.11027-05	.90255 00	.61546 00
.73283-07	.19990 00	.47614 00	.17509-06	.48445 00	.79042 00	.17062-05	.82550 00	.87174 00
.93132-08	.10037 00	.49196 00	.18626-06	.28320 00	.91472 00	-.29802-07	.68214 00	.17265 01
.46566-09	.26093-06	.49960 00	.21607-06	.53709-06	.99950 00	.10610-04	.59119-05	.19698 01
.51223-08	-.10037 00	.49196 00	.19744-06	-.28320 00	.91472 00	-.10431-06	-.68214 00	.12265 01
.72596-07	-.19990 00	.47614 00	.18999-06	-.48445 00	.79042 00	.16019-05	-.82550 00	.87174 00
.32131-07	-.30745 00	.45142 00	.18254-06	-.64849 00	.64849 00	.12740-05	-.90255 00	.61546 00
.85682-07	-.43578 00	.41300 00	.18254-06	-.79042 00	.48445 00	.12964-05	-.95193 00	.39960 00
.22165-06	-.61316 00	.34135 00	.19744-06	-.91472 00	.28320 00	.64820-06	-.98351 00	.20034 00
.71898-06	-.98600 00	.56944-05	.21607-06	-.99950 00	.10302-05	.32410-06	-.99939 00	.47647-06

LINEAR LOAD

$\alpha=1.60$

$\beta=1.60$

b/a=0.50			b/a=1.00			b/a=2.00		
DEF	X	Y	DEF	X	Y	DEF	X	Y
.18201-02	.0	.0	.12467-01	.0	.0	.29093-01	.0	.0
.22566-02	.11801 00	.0	.14418-01	.18933 00	.0	.31543-01	.23185 00	.0
.22259-02	.11371 00	.31019-01	.14314-01	.18287 00	.49011-01	.31511-01	.22445 00	.59116-01
.21413-02	.10127 00	.59517-01	.14013-01	.16395 00	.94666-01	.31383-01	.20249 00	.11490 00
.20207-02	.81962-01	.83414-01	.13541-01	.13386 00	.13386 00	.31069-01	.16678 00	.163P8 00
.18845-02	.57464-01	.10127 00	.12936-01	.94666-01	.16395 00	.30450-01	.11900 00	.20249 00
.17491-02	.29565-01	.11225 00	.12238-01	.49011-01	.18287 00	.29425-01	.62021-01	.22735 00
.16242-02	.37350-07	.11595 00	.11491-01	.62057-07	.18933 00	.27984-01	.78722-07	.23596 00
.15147-02	-.29565-01	.11225 00	.10740-01	-.49010-01	.18287 00	.26243-01	-.62020-01	.22735 00
.14223-02	-.57463-01	.10127 00	.10037-01	-.94665-01	.16395 00	.24425-01	-.11900 00	.20249 00
.13477-02	-.81962-01	.83414-01	.94289-02	-.13386 00	.13386 00	.22770-01	-.16678 00	.16388 00
.12919-02	-.10127 00	.59518-01	.89603-02	-.16395 00	.94666-01	.21473-01	-.20249 00	.11490 00
.12569-02	-.11371 00	.31019-01	.86645-02	-.18287 00	.49011-01	.20656-01	-.22445 00	.59116-01
.12450-02	-.11801 00	.78700-07	.85634-02	-.18933 00	.12411-06	.20379-01	-.23185 00	.14945-06
.24664-02	.24289 00	.0	.13371-01	.37901 00	.0	.25789-01	.45254 00	.0
.23590-02	.23191 00	.67077-01	.13173-01	.36583 00	.98356-01	.25985-01	.44055 00	.11064 00
.20985-02	.20194 00	.12548 00	.12634-01	.32759 00	.18950 00	.26522-01	.40399 00	.21817 00
.17970-02	.15917 00	.17070 00	.11866-01	.26748 00	.26748 00	.27200-01	.34130 00	.31826 00
.15258-02	.10911 00	.20205 00	.10954-01	.18950 00	.32759 00	.27563-01	.25088 00	.40377 00
.13065-02	.55330-01	.22033 00	.99333-02	.98356-01	.36583 00	.26888-01	.13411 00	.46370 00
.11352-02	.69526-07	.22632 00	.88257-02	.12467-06	.37901 00	.24613-01	.17192-06	.48564 00
.10004-02	-.55330-01	.22033 00	.76837-02	-.98355-01	.36583 00	.21054-01	-.13411 00	.46370 00
.89010-03	-.10911 00	.20205 00	.65960-02	-.18950 00	.32759 00	.17295-01	-.25088 00	.40377 00
.79409-03	-.15917 00	.17070 00	.56510-02	-.26748 00	.26748 00	.14215-01	-.34130 00	.31826 00
.70816-03	-.20194 00	.12548 00	.49158-02	-.32759 00	.18950 00	.12094-01	-.44039 00	.21817 00
.64074-03	-.23191 00	.67078-01	.44437-02	-.36583 00	.98357-01	.10890-01	-.44055 00	.11064 00
.61372-03	-.24289 00	.17224-06	.42799-02	-.37901 00	.24935-06	.10502-01	-.45254 00	.27763-06
.23257-02	.38526 00	.0	.93107-02	.57084 00	.0	.14834-01	.65468 00	.0
.20504-02	.35929 00	.11668 00	.90274-02	.54926 00	.14976 00	.15109-01	.64143 00	.15055 00
.15498-02	.29852 00	.20490 00	.83718-02	.48945 00	.28529 00	.15985-01	.60049 00	.30114 00
.11447-02	.22577 00	.26352 00	.76239-02	.39969 00	.39969 00	.17520-01	.52690 00	.45146 00
.87321-03	.15060 00	.30032 00	.68845-02	.28529 00	.49945 00	.19512-01	.40966 00	.59691 00
.69565-03	.75289-01	.32079 00	.61076-02	.14976 00	.54926 00	.20785-01	.23326 00	.71837 00
.57527-03	.93748-07	.32742 00	.52030-02	.19090-06	.57084 00	.18817-01	.30993-06	.70277 00
.48700-03	-.75288-01	.32079 00	.41893-02	-.14975 00	.54926 00	.13670-01	-.23326 00	.71837 00
.41316-03	-.15060 00	.30032 00	.32158-02	-.28529 00	.48945 00	.90710-02	-.40966 00	.59691 00
.33631-03	-.22577 00	.26352 00	.23871-02	-.39969 00	.39969 00	.61531-02	-.52690 00	.45146 00
.23553-03	-.29852 00	.20490 00	.17284-02	-.48945 00	.28529 00	.45780-02	-.60049 00	.30114 00
.10581-03	-.35929 00	.11668 00	.12694-02	-.54926 00	.14976 00	.37960-02	-.64143 00	.15055 00
.29766-04	-.38526 00	.31950-06	.10952-02	-.57084 00	.38222-06	.35583-02	-.65468 00	.36113-06
.16059-02	.57087 00	.0	.36180-02	.77045 00	.0	.44251-02	.83604 00	.0
.10675-02	.49649 00	.19876 00	.33532-02	.73351 00	.20810 00	.45304-02	.82306 00	.17938 00
.58998-03	.38113 00	.30263 00	.29161-02	.64577 00	.38346 00	.49330-02	.78518 00	.36084 00
.36557-03	.27601 00	.35920 00	.25602-02	.52787 00	.52787 00	.56074-02	.71821 00	.55194 00
.25380-03	.18045 00	.39268 00	.22955-02	.38346 00	.64577 00	.74474-02	.60505 00	.76214 00
.19234-03	.89700-01	.41162 00	.20583-02	.20810 00	.73351 00	.10054-01	.39727 00	.99269 00
.15463-03	.10964-06	.41810 00	.17255-02	.27443-06	.77045 00	.10244-01	.65767-06	.11413 01
.12748-03	-.89699-01	.41162 00	.12554-02	-.20809 00	.73351 00	.49439-02	-.39727 00	.99269 00
.10397-03	-.18045 00	.39268 00	.82738-03	-.38346 00	.64577 00	.22633-02	-.60505 00	.76215 00
.74886-04	-.27601 00	.35920 00	.48945-03	-.52787 00	.52788 00	.12344-02	-.71821 00	.55194 00
.17621-04	-.38113 00	.30263 00	.20674-03	-.64576 00	.38346 00	.78709-03	-.78518 00	.36084 00
-.12846-03	-.49649 00	.19876 00	-.39532-04	-.73351 00	.20810 00	.58273-03	-.82306 00	.17938 00
-.32259-03	-.57087 00	.71161-06	-.16676-03	-.77045 00	.55202-06	.51954-03	-.83604 00	.34954-06
.16913-05	.98600 00	.0	.62212-06	.99950 00	.0	.11325-05	.99939 00	.0
.15758-05	.61316 00	.34135 00	.56624-06	.91472 00	.28320 00	.11250-05	.98351 00	.20034 00
.44843-06	.43578 00	.41300 00	.49919-06	.79042 00	.48445 00	.15348-05	.95193 00	.39960 00
.31665-06	.30745 00	.45142 00	.50664-06	.64849 00	.64849 00	.16317-05	.90255 00	.61546 00
.47032-07	.19990 00	.47614 00	.42468-06	.48445 00	.79042 00	.33379-05	.82550 00	.87174 00
.36089-07	.10037 00	.49196 00	.40606-06	.28320 00	.91472 00	.28372-04	.68214 00	.12265 01
.31432-07	.26093-06	.49960 00	.31292-06	.53709-06	.99950 00	.19491-04	.59119-05	.19698 01
.59139-07	-.10037 00	.49196 00	.39488-06	-.28320 00	.91472 00	-.15348-05	-.68214 00	.12265 01
.95693-07	-.19990 00	.47614 00	.42941-06	-.48445 00	.79042 00	.14196-05	-.82550 00	.87174 00
.77067-07	-.30745 00	.45142 00	.33388-06	-.64849 00	.64849 00	.23283-05	-.90255 00	.61546 00
.81724-07	-.43578 00	.41300 00	.21444-06	-.79042 00	.48445 00	.17546-05	-.95193 00	.39960 00
.66590-07	-.61316 00	.34135 00	.20722-06	-.91472 00	.28320 00	.55879-06	-.98351 00	.20034 00
-.74133-06	-.98600 00	.56944-05	-.31292-06	-.99950 00	.10302-05	-.11176-06	-.99939 00	.47647-06

UNIFORM LOAD

$\alpha = 2.00$

$\beta = 2.00$

b/a=0.50			b/a=1.00			b/a=2.00		
DEF	X	Y	DEF	X	Y	DEF	X	Y
.21200-02	.0	.0	.15625-01	.0	.0	.33987-01	.0	.0
.20569-02	.12247 00	.0	.14400-01	.20000 00	.0	.30096-01	.23997 00	.0
.20441-02	.11796 00	.32265-01	.14400-01	.19319 00	.51764-01	.30265-01	.23240 00	.61042-01
.20099-02	.10496 00	.61849-01	.14400-01	.17321 00	.10000 00	.30739-01	.20987 00	.11876 00
.19654-02	.84831-01	.86566-01	.14400-01	.14142 00	.14142 00	.31416-01	.17309 00	.16962 00
.19231-02	.59395-01	.10496 00	.14400-01	.10000 00	.17320 00	.32128-01	.12367 00	.20986 00
.18934-02	.30529-01	.11623 00	.14400-01	.51764-01	.19319 00	.32673-01	.64515-01	.23587 00
.18828-02	.38553-07	.12002 00	.14400-01	.65539-07	.20000 00	.32879-01	.81916-07	.24486 00
.18934-02	-.30528-01	.11623 00	.14400-01	-.51763-01	.19319 00	.32673-01	-.64514-01	.23587 00
.19231-02	-.59395-01	.10496 00	.14400-01	-.10000 00	.17321 00	.32128-01	-.12367 00	.20987 00
.19654-02	-.84831-01	.86566-01	.14400-01	-.14142 00	.14142 00	.31416-01	-.17309 00	.16962 00
.20099-02	-.10496 00	.61849-01	.14400-01	-.17320 00	.10000 00	.30739-01	-.20987 00	.11876 00
.20441-02	-.11796 00	.32266-01	.14400-01	-.19319 00	.51764-01	.30265-01	-.23240 00	.61043-01
.20569-02	-.12247 00	.81885-07	.14400-01	-.20000 00	.13108-06	.30096-01	-.23997 00	.15478-06
.18573-C2	.25310 00	.0	.11025-01	.40000 00	.0	.20740-01	.46652 00	.0
.18020-02	.24129 00	.70500-01	.11025-01	.38637 00	.10353 00	.21146-01	.45478 00	.11292 00
.16688-02	.20924 00	.13137 00	.11025-01	.34641 00	.20000 00	.22356-01	.41862 00	.22357 00
.15199-02	.16401 00	.17779 00	.11025-01	.28284 00	.28284 00	.24295-01	.35549 00	.37793 00
.13986-02	.11181 00	.20936 00	.11025-01	.20000 00	.34641 00	.26675-01	.26268 00	.41837 00
.13229-02	.56476-01	.22745 00	.11025-01	.10353 00	.38637 00	.28802-01	.14096 00	.48246 00
.12975-02	.70860-07	.23332 00	.11025-01	.13108-06	.40000 00	.29686-01	.18095-06	.50607 00
.13229-02	-.56476-01	.22745 00	.11025-01	-.10353 00	.38637 00	.28802-01	-.14096 00	.48247 00
.13986-02	-.11181 00	.20936 00	.11025-01	-.20000 00	.34641 00	.26675-01	-.26268 00	.41838 00
.15199-02	-.16401 00	.17779 00	.11025-01	-.28284 00	.28284 00	.24295-01	-.35549 00	.37793 00
.16688-02	-.20924 00	.13137 00	.11025-01	-.34641 00	.20000 00	.22356-01	-.41862 00	.22357 00
.18020-02	-.24129 00	.70501-01	.11025-01	-.38637 00	.10353 00	.21146-01	-.45478 00	.11292 00
.18573-02	-.25310 00	.18126-06	.11025-01	-.40000 00	.26215-06	.20740-01	-.46652 00	.28302-06
.14845-02	.40420 00	.0	.64000-02	.60000 00	.0	.10267-01	.67043 00	.0
.13468-02	.37557 00	.12454 00	.64000-02	.57956 00	.15529 00	.10634-01	.65884 00	.15049 00
.10887-02	.30894 00	.21692 00	.64000-02	.51962 00	.30000 00	.11807-01	.62177 00	.30383 00
.87517-03	.23065 00	.27586 00	.64000-02	.42426 00	.42426 00	.13990-01	.55159 00	.46120 00
.73860-03	.15195 00	.31096 00	.64000-02	.30000 00	.51961 00	.17394-01	.43373 00	.61775 00
.66526-C3	.75266-01	.32950 00	.64000-02	.15529 00	.57956 00	.21525-01	.24000 00	.75096 00
.64231-03	.93347-07	.33530 00	.64000-02	.19662-06	.60000 00	.23723-01	.33151-06	.80818 00
.66526-03	-.75265-01	.32950 00	.64000-02	-.15529 00	.57956 00	.21525-01	-.24000 00	.75096 00
.73860-03	-.15195 00	.31096 00	.64000-02	-.30000 00	.51962 00	.17394-01	-.43373 00	.61775 00
.87517-03	-.23065 00	.27586 00	.64000-02	-.42426 00	.42426 00	.13990-01	-.55159 00	.46120 00
.10887-02	-.30894 00	.21692 00	.64000-02	-.51961 00	.30000 00	.11807-01	-.62177 00	.30383 00
.13468-02	-.37557 00	.12454 00	.64000-02	-.57956 00	.15529 00	.10634-01	-.65884 00	.15049 00
.14845-02	-.40420 00	.32407-06	.64000-02	-.60000 00	.39323-06	.10267-01	-.67043 00	.35775-06
.85567-03	.60425 00	.0	.20250-02	.80000 00	.0	.26698-02	.84804 00	.0
.62062-03	.52235 00	.21589 00	.20250-02	.77274 00	.20705 00	.28011-02	.83955 00	.17350 00
.38205-03	.35282 00	.32456 00	.20250-02	.69282 00	.40000 00	.32449-02	.81172 00	.35550 00
.26201-03	.27792 00	.37794 00	.20250-02	.56569 00	.56569 00	.41891-02	.75572 00	.55574 00
.20296-03	.17780 00	.40594 00	.20250-02	.40000 00	.69282 00	.61073-02	.64895 00	.78549 00
.17527-03	.86788-01	.41988 00	.20250-02	.20706 00	.77274 00	.99166-02	.43159 00	.10444 01
.16703-03	.10405-06	.42414 00	.20250-02	.26215-06	.80000 00	.13668-01	.70225-06	.12081 01
.17527-03	-.86787-01	.41988 00	.20250-02	-.20705 00	.77274 00	.99166-02	-.43159 00	.10444 01
.20296-03	-.17780 00	.40594 00	.20250-02	-.40000 00	.69282 00	.61073-02	-.64895 00	.78550 00
.26201-03	-.27792 00	.37794 00	.20250-02	-.56568 00	.56569 00	.41891-02	-.75572 00	.55574 00
.38205-03	-.35282 00	.32456 00	.20250-02	-.69282 00	.40000 00	.32449-02	-.81172 00	.35550 00
.62067-03	-.52235 00	.21589 00	.20250-02	-.77274 00	.20706 00	.28011-02	-.83955 00	.17350 00
.85567-03	-.60425 00	.76677-06	.20250-02	-.80000 00	.52431-06	.26698-02	-.84804 00	.31444-06
.62957-06	.99990 00	.0	.0	.10000 01	.0	.47684-06	.99989 00	.0
.22724-C6	.64924 00	.38096 00	.0	.96593 00	.25882 00	.43213-06	.99551 00	.18445 00
.57742-07	.44392 00	.44820 00	.74506-08	.86603 00	.50000 00	.17136-06	.98164 00	.38175 00
-.14901-07	.30328 00	.47652 00	.74506-08	.70711 00	.70711 00	.43958-06	.95297 00	.60634 00
-.13970-07	.19080 00	.49104 00	-.74506-08	.50000 00	.86602 00	.14454-05	.89595 00	.88776 00
.16299-07	.92464-01	.49792 00	.74506-C8	.25882 00	.96593 00	-.11921-06	.76040 00	.12982 01
.43306-07	.19400-06	.50010 00	.0	.32769-06	.10000 01	.78678-05	.40380-05	.19989 01
.13970-07	-.92463-01	.49792 00	.0	-.25882 00	.96593 00	.55605-07	-.76040 00	.12982 01
-.37253-08	-.19080 00	.49104 00	.74506-08	-.50000 00	.86603 00	.12964-05	-.89595 00	.88776 00
-.17695-07	-.30328 00	.47652 00	.74506-08	-.70711 00	.70711 00	.54389-06	-.95297 00	.60634 00
.69518-07	-.44392 00	.44820 00	.0	-.86602 00	.50000 00	.26822-06	-.98164 00	.38175 00
.23097-06	-.64924 00	.38096 00	.74506-08	-.96593 00	.25882 00	.36509-06	-.99551 00	.18445 00
.62957-06	-.99990 00	.37149-05	.0	-.10000 01	.65539-06	.47684-06	-.99989 00	.28836-06

LINEAR LOAD

$\alpha=2.00$

$\beta=2.00$

b/a=0.50			b/a=1.00			b/a=2.00		
DEF	X	Y	DEF	X	Y	DEF	X	Y
.21200-02	.0	.0	.15625-01	.0	.0	.33887-01	.0	.0
.27405-02	.12247 00	.0	.18240-01	.20000 00	.0	.36480-01	.23997 00	.0
.26983-02	.11796 00	.32265-01	.18109-01	.19319 00	.51764-01	.36482-01	.23240 00	.61042-01
.25823-02	.10496 00	.61849-01	.17726-01	.17321 00	.10000 00	.36442-01	.20987 00	.11876 00
.24178-02	.84831-01	.86566-01	.17115-01	.14142 00	.14142 00	.36222-01	.17309 00	.16962 00
.22330-02	.59395-01	.10496 00	.16320-01	.10000 00	.17320 00	.35640-01	.12367 00	.20986 00
.20502-02	.30529-01	.11623 00	.15394-01	.51764-01	.19319 00	.34537-01	.64515-01	.23587 00
.18828-02	.38553-07	.12002 00	.14400-01	.65539-07	.20000 00	.32879-01	.81916-07	.24488 00
.17366-02	-.30528-01	.11623 00	.13406-01	-.51763-01	.19319 00	.30810-01	-.64514-01	.23587 00
.16132-02	-.59395-01	.10496 00	.12480-01	-.10000 00	.17321 00	.28616-01	-.12367 00	.20987 00
.15130-02	-.84831-01	.86566-01	.11685-01	-.14142 00	.14142 00	.26609-01	-.17309 00	.16962 00
.14375-02	-.10496 00	.61849-01	.11074-01	-.17320 00	.10000 00	.25037-01	-.20987 00	.11876 00
.13898-02	-.11796 00	.32266-01	.10691-01	-.19319 00	.51764-01	.24049-01	-.23240 00	.61043-01
.13734-02	-.12247 00	.81885-07	.10560-01	-.20000 00	.13108-06	.23713-01	-.23997 00	.15428-06
.31329-02	.25310 00	.0	.16905-01	.40000 00	.0	.29292-01	.46652 00	.0
.29818-02	.24129 00	.70500-01	.16705-01	.38637 00	.10353 00	.29647-01	.45478 00	.11292 00
.26163-02	.20924 00	.13137 00	.16117-01	.34641 00	.20000 00	.30678-01	.41862 00	.22357 00
.21962-02	.16401 00	.17779 00	.15183-01	.28284 00	.28284 00	.31429-01	.35549 00	.32793 00
.18229-02	.11181 00	.20936 00	.13965-01	.20000 00	.34641 00	.32868-01	.26268 00	.41837 00
.15256-02	.56476-01	.22745 00	.12547-01	.10353 00	.38637 00	.32391-01	.14096 00	.44246 00
.12975-02	.70860-07	.23332 00	.11025-01	.13108-06	.40000 00	.29686-01	.18095-06	.50607 00
.11202-02	-.56476-01	.22745 00	.95032-02	-.10353 00	.38637 00	.25214-01	-.14096 00	.48247 00
.97430-03	-.11181 00	.20936 00	.80850-02	-.20000 00	.34641 00	.20482-01	-.26268 00	.41839 00
.84355-03	-.16401 00	.17779 00	.68672-02	-.28284 00	.28284 00	.16661-01	-.35549 00	.32793 00
.72137-03	-.20924 00	.13137 00	.59328-02	-.34641 00	.20000 00	.14084-01	-.41862 00	.22357 00
.62217-03	-.24129 00	.70501-01	.53454-02	-.38637 00	.10353 00	.12646-01	-.45478 00	.11292 00
.58177-03	-.25310 00	.18126-06	.51450-02	-.40000 00	.26715-06	.12188-01	-.46652 00	.28302-06
.31127-02	.40420 00	.0	.11520-01	.60000 00	.0	.16351-01	.67043 00	.0
.27194-02	.37557 00	.12454 00	.11346-01	.57956 00	.15529 00	.16827-01	.65884 00	.15049 00
.20004-02	.30894 00	.21692 00	.10834-01	.51962 00	.30000 00	.13296-01	.62177 00	.30383 00
.14229-02	.23065 00	.27586 00	.10020-01	.42426 00	.42426 00	.20811-01	.55159 00	.46120 00
.10431-02	.15195 00	.31096 00	.89600-02	.30000 00	.51961 00	.24062-01	.43373 00	.61775 00
.80111-03	.75266-01	.32950 00	.77252-02	.15529 00	.57956 00	.26262-01	.24900 00	.75096 00
.64231-03	.93347-07	.33530 00	.64000-02	.19662-06	.60000 00	.23723-01	.33151-06	.80818 00
.52943-03	-.75265-01	.32950 00	.50749-02	-.15529 00	.57956 00	.16788-01	-.24900 00	.75096 00
.43412-03	-.15195 00	.31096 00	.38400-02	-.30000 00	.51962 00	.10726-01	-.43373 00	.61775 00
.32749-03	-.23065 00	.27586 00	.27796-02	-.42426 00	.42426 00	.71695-02	-.55159 00	.46120 00
.17597-03	-.30894 00	.21692 00	.19660-02	-.51961 00	.30000 00	.53184-02	-.62177 00	.30383 00
-.25771-04	-.37557 00	.12454 00	.14545-02	-.57956 00	.15529 00	.44418-02	-.65884 00	.15049 00
-.14373-03	-.40420 00	.34207-06	.12800-02	-.60000 00	.39323-06	.41834-02	-.67043 00	.35775-06
.22587-02	.60425 00	.0	.41850-02	.80000 00	.0	.46706-02	.84804 00	.0
.15005-02	.52235 00	.21589 00	.41114-02	.77274 00	.20705 00	.48794-02	.83955 00	.17350 00
.78932-03	.39282 00	.32456 00	.38956-02	.69282 00	.40000 00	.55731-02	.81172 00	.35550 00
.45965-03	.27792 00	.37794 00	.35524-02	.56569 00	.56569 00	.65869-02	.75572 00	.55574 00
.30086-03	.17780 00	.40594 00	.31050-02	.40000 00	.69282 00	.96097-02	.64895 00	.78549 00
.21648-03	.86788-01	.41988 00	.25841-02	.20706 00	.77274 00	.13699-01	.43159 00	.10444 01
.16703-03	.10405-06	.42414 00	.20250-02	.26215-06	.80000 00	.13668-01	.70229-06	.12081 01
.13398-03	-.86787-01	.41988 00	.14660-02	-.20705 00	.77274 00	.61340-02	-.43159 00	.10444 01
.10507-03	-.17780 00	.40594 00	.94501-03	-.40000 00	.69282 00	.26051-02	-.64895 00	.78550 00
.64447-04	-.27792 00	.37794 00	.49767-03	-.56568 00	.56569 00	.13914-02	-.75572 00	.55574 00
-.25160-04	-.39282 00	.32456 00	.15439-03	-.69282 00	.40000 00	.91696-03	-.81172 00	.35550 00
-.25911-03	-.52235 00	.21589 00	-.61399-04	-.77274 00	.20706 00	.72289-03	-.83955 00	.17350 00
-.54729-03	-.60425 00	.76677-06	-.13501-03	-.80000 00	.52431-06	.66927-03	-.84804 00	.31444-06
.13225-05	.99990 00	.0	.37253-08	.10000 01	.0	.70781-07	.99989 00	.0
.12480-05	.64924 00	.38096 00	.11176-07	.96593 00	.25882 00	.10543-05	.99551 00	.19485 00
.28312-06	.44392 00	.44820 00	.37253-08	.86603 00	.50000 00	.38743-06	.98164 00	.38175 00
.22072-06	.30328 00	.47652 00	.74506-08	.70711 00	.70711 00	.46939-06	.95297 00	.60634 00
.18626-07	.19080 00	.49104 00	-.26077-07	.50000 00	.86602 00	.19670-05	.89595 00	.88776 00
.26543-07	.92464-01	.49792 00	.74506-08	.25882 00	.96593 00	.21100-04	.76040 00	.12982 01
.62166-07	.19400-06	.50010 00	.37253-08	.32769-06	.10000 01	.12755-04	.40380-05	.19989 01
.59837-07	-.92463-01	.49792 00	.74506-08	-.25882 00	.96593 00	-.67800-06	-.76040 00	.12982 01
.17928-07	-.19080 00	.49104 00	.29802-07	.50000 00	.86603 00	.25630-05	-.89595 00	.83776 00
.11176-07	-.30328 00	.47652 00	.0	-.70711 00	.70711 00	.17546-05	-.95297 00	.60634 00
.85449-07	-.44392 00	.44820 00	.60536-08	-.86602 00	.50000 00	.84937-06	-.98164 00	.38175 00
.30268-07	-.64924 00	.38096 00	-.37253-08	-.96593 00	.25882 00	-.56605-07	-.99551 00	.18485 00
-.62585-06	-.99990 00	.37149-05	-.37253-08	-.10000 01	.65539-06	.10096-05	-.99989 00	.28836-06

UNIFORM LOAD

$\alpha=3.00$

$\beta=3.00$

b/a=0.50			b/a=1.00			b/a=2.00		
DEF	X	Y	DEF	X	Y	DEF	X	Y
.24094-02	.0	.0	.18886-01	.0	.0	.38553-01	.0	.0
.23635-02	.12632 00	.0	.17395-01	.21034 00	.0	.34054-01	.24682 00	.0
.23461-02	.12162 00	.33368-01	.17398-01	.20319 00	.54427-01	.34282-01	.23913 00	.62617-01
.22998-02	.10809 00	.63889-01	.17404-01	.18219 00	.10517 00	.34920-01	.21618 00	.12196 00
.22395-02	.87226-01	.89283-01	.17407-01	.14876 00	.14876 00	.35834-01	.17857 00	.17445 00
.21824-02	.60980-01	.10809 00	.17404-01	.10517 00	.18219 00	.36798-01	.12778 00	.21618 00
.21426-02	.31309-01	.11956 00	.17398-01	.54427-01	.20319 00	.37539-01	.66737-01	.24325 00
.21283-02	.39523-07	.12341 00	.17395-01	.68903-07	.21034 00	.37818-01	.84775-07	.25265 00
.21426-C2	-.31309-01	.11956 00	.17398-01	-.54427-C1	.20319 00	.37539-01	-.66737-01	.24325 00
.21824-02	-.60979-01	.10809 00	.17404-01	-.10517 00	.18219 00	.36798-01	-.12778 00	.21618 00
.22395-02	-.87226-01	.89283-01	.17407-01	-.14876 00	.14876 00	.35834-01	-.17857 00	.17445 00
.22998-02	-.10809 00	.63889-01	.17404-01	-.18219 00	.10517 00	.34920-01	-.21618 00	.12196 00
.23461-02	-.12162 00	.33369-01	.17398-01	-.20319 00	.54427-01	.34282-01	-.23913 00	.62618-01
.23635-02	-.12632 00	.84712-07	.17395-01	-.21034 00	.13781-06	.34054-01	-.24682 00	.15821-06
.22072-02	.26233 00	.0	.13237-01	.42012 00	.0	.23106-01	.47776 00	.0
.21307-02	.24961 00	.73828-01	.13275-01	.40623 00	.10831 00	.23646-01	.46639 00	.11440 00
.19470-02	.21536 00	.13689 00	.13351-01	.36488 00	.21006 00	.25267-01	.43101 00	.22738 00
.17432-02	.16773 00	.18408 00	.13390-01	.29792 00	.29792 00	.27892-01	.36816 00	.33564 00
.15791-02	.11369 00	.21550 00	.13351-01	.21006 00	.36488 00	.31154-01	.27379 00	.43072 00
.14779-02	.57203-01	.23319 00	.13275-01	.10831 00	.40623 00	.34093-01	.14766 00	.49923 00
.14441-02	.71668-07	.23888 00	.13237-01	.13691-06	.42012 00	.35319-01	.18989-06	.52467 00
.14779-02	-.57202-01	.23320 00	.13275-01	-.10831 00	.40623 00	.34094-01	-.14766 00	.49923 00
.15791-02	-.11369 00	.21550 00	.13351-01	-.21005 00	.36488 00	.31154-01	-.27379 00	.43072 00
.17432-02	-.16773 00	.18408 00	.13390-01	-.29792 00	.29792 00	.27892-01	-.36816 00	.33564 00
.19470-02	-.21536 00	.13689 00	.13351-01	-.36488 00	.21006 00	.25267-01	-.43101 00	.22738 00
.21307-02	-.24961 00	.73829-01	.13275-01	-.40623 00	.10831 00	.23646-01	-.46639 00	.11440 00
.22072-02	-.26233 00	.19018-06	.13237-01	-.42012 00	.27384-06	.23106-01	-.47776 00	.28626-06
.18686-02	.42261 00	.0	.75028-02	.62658 00	.0	.11170-01	.68204 00	.0
.16753-02	.39068 00	.13307 00	.76077-02	.60833 00	.15897 00	.11649-01	.67196 00	.14940 00
.13081-02	.31713 00	.22900 00	.78320-02	.55050 00	.31316 00	.13201-01	.63899 00	.30379 00
.10103-02	.23328 00	.28691 00	.79524-02	.44955 00	.44955 00	.16166-01	.57384 00	.46655 00
.82502-03	.15191 00	.31949 00	.78320-02	.31316 00	.55050 00	.20933-01	.45801 00	.63426 00
.72811-03	.74712-01	.33599 00	.76077-02	.15897 00	.60833 00	.26808-01	.26615 00	.78138 00
.69820-03	.92381-07	.34103 00	.75028-02	.19970-06	.62658 00	.29900-01	.35517-06	.84524 00
.72810-03	-.74711-01	.33599 00	.76077-02	-.15897 00	.60833 00	.26808-01	-.26615 00	.78138 00
.82502-C3	.15191 00	.31949 00	.78320-02	-.31316 00	.55050 00	.20933-01	-.45801 00	.63426 00
.10103-02	-.23328 00	.28691 00	.79524-02	.44955 00	.44955 00	.16166-01	-.57384 00	.46655 00
.13081-02	-.31713 00	.22900 00	.78320-02	-.55050 00	.31316 00	.13201-01	-.63899 00	.30379 00
.16753-02	-.39068 00	.13307 00	.76077-02	-.60833 00	.15897 00	.11649-01	-.67196 00	.14940 00
.18686-02	.42261 00	.36749-06	.75028-02	.62658 00	.39995-06	.11170-01	-.68204 00	.35C89-06
.11479-02	.63912 00	.0	.22364-02	.82318 00	.0	.28210-02	.85569 00	.0
.83535-03	.54789 00	.23681 00	.23278-02	.80704 00	.19996 00	.28875-02	.85008 00	.16771 00
.47574-03	.39949 00	.34781 00	.25503-02	.74534 00	.40982 00	.35623-02	.83076 00	.34682 00
.30242-03	.27556 00	.39407 00	.26913-02	.60958 00	.60958 00	.48398-02	.78819 00	.55110 00
.22260-03	.17344 00	.41536 00	.25503-02	.40982 00	.74534 00	.76142-02	.69567 00	.79901 00
.18673-03	.83893-01	.42506 00	.23278-02	.19996 00	.80704 00	.13367-01	.47362 00	.10958 00
.17634-03	.97750-07	.42789 00	.22364-02	.24637-06	.82318 00	.18364-01	.73866-06	.12782 01
.18673-03	-.83893-01	.42506 00	.23278-02	-.19996 00	.80704 00	.13367-01	-.47362 00	.10958 00
.22260-03	-.17344 00	.41536 00	.25503-02	-.40982 00	.74534 00	.76142-02	-.69567 00	.79901 00
.30242-03	-.27556 00	.39407 00	.26913-02	-.60958 00	.60958 00	.48398-02	-.78819 00	.55110 00
.47574-03	-.39949 00	.34781 00	.25503-02	-.74534 00	.40982 00	.35623-02	-.83076 00	.34682 00
.83534-03	-.54789 00	.23681 00	.23278-02	-.80704 00	.19996 00	.28875-02	-.85008 00	.16771 00
.11479-02	-.63912 00	.82631-06	.22364-02	-.82318 00	.50101-06	.28210-02	-.85569 00	.26952-06
.31292-06	.99979 00	.0	.11548-06	.99980 00	.0	.18626-06	.99999 00	.0
.34645-06	.68567 00	.43897 00	.74506-07	.99622 00	.22166 00	.20117-06	.99946 00	.17206 00
.11642-06	.43977 00	.48540 00	.89407-07	.95973 00	.48700 00	.24587-06	.99809 00	.36085 00
-.46566-08	.29161 00	.49582 00	.74506-07	.79366 00	.79366 00	.37253-06	.99164 00	.58309 00
.14901-07	.18070 00	.49883 00	.12666-06	.48700 00	.95973 00	.52154-06	.97085 00	.87996 00
.17695-07	.86895-01	.49992 00	.59605-07	.22166 00	.99622 00	.20266-05	.87819 00	.13719 01
.14435-07	.88664-07	.49980 00	.11548-06	.24253-06	.99980 00	.71526-05	.19392-05	.19994 01
.97789-08	-.86894-01	.49992 00	.74506-08	-.22166 00	.99622 00	.18689-05	-.87819 00	.13719 01
.27940-07	-.18070 00	.49883 00	.10431-06	-.48700 00	.95973 00	.37253-06	-.97085 00	.87996 00
-.14901-07	-.29161 00	.49582 00	.59605-07	-.79366 00	.79366 00	.55134-06	-.99164 00	.58309 00
.11083-06	-.43977 00	.48540 00	.96858-07	-.95973 00	.48700 00	.43213-06	-.99809 00	.36085 00
.34273-06	-.68567 00	.43897 00	.37253-07	-.99622 00	.22166 00	.23842-06	-.99946 00	.17306 00
.31292-06	-.99979 00	.22370-05	.11548-06	-.99980 00	.55931-06	.18626-06	-.99999 00	-.10621-06



LINEAR LOAD

$\alpha = 3.00$

$\beta = 3.00$

b/a=0.50			b/a=1.00			b/a=2.00		
DEF	X	Y	DEF	X	Y	DEF	X	Y
.24094-02	.0	.0	.18886-01	.0	.0	.38553-01	.0	.0
.32850-02	.12632 00	.0	.22315-01	.21034 00	.0	.41120-01	.24682 00	.0
.32273-02	.12162 00	.33368-01	.22157-01	.20319-00	.54427-01	.41177-01	.23913 00	.62617-01
.30688-02	.10809 00	.63889-01	.21687-01	.18219 00	.10517 00	.41279-01	.21618 00	.12196 00
.28452-02	.87226-01	.89283-01	.20921-01	.14876 00	.14876 00	.41233-01	.17857 00	.17445 00
.25960-02	.60980-01	.10809 00	.19899-01	.10517 00	.18219 00	.40774-01	.12778 00	.21618 00
.23514-02	.31309-01	.11956 00	.18693-01	.54427-01	.20319 00	.39660-01	.66737-01	.24325 00
.21283-02	.39523-07	.12341 00	.17395-01	.68903-07	.21034 00	.37818-01	.84775-07	.25265 00
.19338-02	-.31309-01	.11956 00	.16103-01	-.54427-01	.20319 00	.35417-01	-.66737-01	.24325 00
.17689-02	-.60979-01	.10809 00	.14910-01	-.10517 00	.18219 00	.32822-01	-.12778 00	.21618 00
.16338-02	-.87226-01	.89283-01	.13894-01	-.14876 00	.14876 00	.30434-01	-.17857 00	.17445 00
.15307-02	-.10809 00	.63889-01	.13121-01	-.18219 00	.10517 00	.28563-01	-.21618 00	.12196 00
.14648-02	-.12162 00	.33369-01	.12639-01	-.20319 00	.54427-01	.27387-01	-.23913 00	.62618-01
.14420-02	-.12632 00	.84712-07	.12475-01	-.21034 00	.13781-06	.26988-01	-.24682 00	.15821-06
.39689-02	.26233 00	.0	.20627-01	.42012 00	.0	.32358-01	.47776 00	.0
.37540-02	.24961 00	.73828-01	.20476-01	.40623 00	.10831 00	.32950-01	.46639 00	.11440 00
.32371-02	.21536 00	.13689 00	.19944-01	.36488 00	.21006 00	.34454-01	.43101 00	.22738 00
.26513-02	.16773 00	.18408 00	.18886-01	.29792 00	.29792 00	.36620-01	.36816 00	.33546 00
.21413-02	.11369 00	.21550 00	.17284-01	.21006 00	.36488 00	.38466-01	.27379 00	.43072 00
.17440-02	.57203-01	.23319 00	.15316-01	.10831 00	.40623 00	.38441-01	.14766 00	.49923 00
.14441-02	.71668-07	.23888 00	.13237-01	.13691-06	.42012 00	.35319-01	.18989-06	.52467 00
.12118-02	-.57202-01	.23320 00	.11233-01	-.10831 00	.40623 00	.25746-01	-.14766 00	.49923 00
.10170-02	-.11369 00	.21550 00	.94191-02	-.21005 00	.36488 00	.23842-01	-.27379 00	.43072 00
.83499-03	-.16773 00	.18408 00	.78941-02	-.25792 00	.29792 00	.19165-01	-.36816 00	.33546 00
.65678-03	-.21536 00	.13689 00	.67590-02	-.36488 00	.21006 00	.16080-01	-.43101 00	.22738 00
.50728-03	-.24961 00	.73829-01	.60741-02	-.40623 00	.10831 00	.14387-01	-.46639 00	.11440 00
.44553-03	-.26233 00	.19018-06	.58475-02	-.42012 00	.27384-06	.13853-01	-.47776 00	.28626-06
.42051-02	.42261 00	.0	.13630-01	.62658 00	.0	.17528-01	.68204 00	.0
.36334-02	.39068 00	.13307 00	.13706-01	.60833 00	.15897 00	.18201-01	.67196 00	.14940 00
.25777-02	.31713 00	.22900 00	.13687-01	.55050 00	.31316 00	.20323-01	.63899 00	.30379 00
.17469-02	.23328 00	.28691 00	.13008-01	.44955 00	.44955 00	.24116-01	.57384 00	.46655 00
.12227-02	.15191 00	.31949 00	.11437-01	.31316 00	.55050 00	.29322-01	.45801 00	.63426 00
.90230-03	.74712-01	.33599 00	.94337-02	.15897 00	.60833 00	.33194-01	.26615 00	.78138 00
.69820-03	.92381-07	.34103 00	.75028-02	.15970-06	.62658 00	.29900-01	.35517-06	.84524 00
.55392-03	-.74711-01	.33599 00	.57819-02	-.15897 00	.60833 00	.20421-01	-.26615 00	.78138 00
.42731-03	-.15191 00	.31949 00	.42266-02	-.31316 00	.55050 00	.17545-01	-.45801 00	.63426 00
.27370-03	-.23328 00	.28691 00	.28966-02	-.44955 00	.44955 00	.82168-02	-.57384 00	.46655 00
.38625-04	-.31713 00	.22900 00	.19768-02	-.55050 00	.31316 00	.60790-02	-.63899 00	.30379 00
-.28277-03	-.39068 00	.13307 00	.15092-02	-.60833 00	.15897 00	.50975-02	-.67196 00	.14940 00
-.46783-03	-.42261 00	.36749-06	.13760-02	-.62658 00	.39995-06	.48121-02	-.68204 00	.35089-06
.32067-02	.63912 00	.0	.45740-02	.82318 00	.0	.48245-02	.85569 00	.0
.21707-02	.54789 00	.23681 00	.47593-02	.80704 00	.19966 00	.51036-02	.85008 00	.16771 00
.10587-02	.39949 00	.34781 00	.51452-02	.74534 00	.40982 00	.60575-02	.83076 00	.34642 00
.56654-03	.27556 00	.39407 00	.51034-02	.60958 00	.60958 00	.81249-02	.78819 00	.55110 00
.34742-03	.17344 00	.41536 00	.41949-02	.40982 00	.74534 00	.12341-01	.69567 00	.79901 00
.23797-03	.83893-01	.42506 00	.30929-02	.19996 00	.80704 00	.19361-01	.47362 00	.10958 00
.17635-03	.97750-07	.42789 00	.22364-02	.24637-06	.82318 00	.18364-01	.73866-06	.12732 00
.13551-03	-.83893-01	.42506 00	.15629-02	-.19996 00	.80704 00	.73742-02	-.47362 00	.10958 00
.97783-04	-.17344 00	.41536 00	.90571-03	-.40982 00	.74534 00	.28876-02	-.69567 00	.79901 00
.38359-04	-.27556 00	.39407 00	.27941-03	-.60958 00	.60958 00	.15549-02	-.78819 00	.55110 00
-.10712-03	-.39949 00	.34781 00	-.44599-04	-.74534 00	.40982 00	.10673-02	-.83076 00	.34642 00
-.49993-03	-.54789 00	.23681 00	-.10351-03	-.80704 00	.19996 00	.87158-03	-.85008 00	.16771 00
-.91090-03	-.63912 00	.82631-06	-.10101-03	-.82318 00	.50101-06	.81763-03	-.85569 00	.26952-06
.46566-06	.99979 00	.0	.34645-06	.99980 00	.0	-.11660-05	.99999 00	.0
.90152-06	.86567 00	.43897 00	.26077-06	.99622 00	.22166 00	-.14491-05	.99946 00	.17306 00
.11548-06	.43977 00	.48540 00	.20862-06	.95973 00	.48700 00	-.59232-06	.99809 00	.36085 00
.11292-06	.29161 00	.49582 00	.19372-06	.79366 00	.79366 00	-.41723-06	.99164 00	.58308 00
-.53784-07	.18070 00	.49883 00	.18254-06	.48700 00	.95973 00	.61393-05	.97085 00	.87996 00
.15367-07	.86895-01	.49992 00	.17136-06	.22166 00	.99622 00	.13411-04	.87819 00	.13710 00
.26543-07	.88664-07	.49980 00	.18626-06	.24253-06	.99980 00	.12040-04	.19392-05	.19994 00
.52387-07	-.86894-01	.49992 00	.16391-06	-.22166 00	.99622 00	.45747-05	-.87819 00	.13719 00
.12270-06	-.18070 00	.49883 00	.81956-07	-.48700 00	.95973 00	.28051-05	-.97085 00	.87997 00
.82422-07	-.29161 00	.49582 00	.13737-06	-.79366 00	.79366 00	.20824-05	-.99164 00	.58308 00
.13970-06	-.43977 00	.48540 00	.11548-06	-.95973 00	.48700 00	.16652-05	-.99809 00	.36035 00
.78231-07	-.68567 00	.43897 00	-.44703-07	-.99622 00	.22166 00	.18366-05	-.99946 00	.17306 00
-.33155-06	-.99979 00	.22370-05	-.44703-07	-.99980 00	.55931-06	.16727-05	-.99999 00	-.10621-06

UNIFORM LOAD

$\alpha=5.00$

$\beta=5.00$

b/a=0.50			b/a=1.00			b/a=2.00		
DEF	X	Y	DEF	X	Y	DEF	X	Y
.25144-02	.0	.0	.20044-01	.0	.0	.40218-01	.0	.0
.24796-02	.12769 00	.0	.18449-01	.21455 00	.0	.35439-01	.24913 00	.0
.24599-02	.12291 00	.33771-01	.18454-01	.20726 00	.55508-01	.35693-01	.24140 00	.63126-01
.24078-02	.10918 00	.64624-01	.18465-01	.18586 00	.10727 00	.36406-01	.21834 00	.12301 00
.23400-02	.88042-01	.90245-01	.18470-01	.15175 00	.15175 00	.37429-01	.18048 00	.17607 00
.22761-02	.61508-01	.10918 00	.18465-01	.10727 00	.18586 00	.38513-01	.12924 00	.21834 00
.22315-02	.31566-01	.12071 00	.18454-01	.55508-01	.20726 00	.39347-01	.67537-01	.24581 00
.22156-02	.39840-07	.12457 00	.18449-01	.70268-07	.21455 00	.39661-01	.85808-07	.25536 00
.22315-02	-.31565-01	.12071 00	.18454-01	-.55508-01	.20726 00	.39347-01	-.67536-01	.24581 00
.22761-02	-.61508-01	.10918 00	.18465-01	-.10727 00	.18586 00	.38513-01	-.12924 00	.21834 00
.23400-02	-.88042-01	.90245-01	.18470-01	-.15175 00	.15175 00	.37429-01	-.18048 00	.17607 00
.24078-02	-.10918 00	.64624-01	.18465-01	-.18586 00	.10728 00	.36406-01	-.21834 00	.12301 00
.24599-02	-.12291 00	.33771-01	.18454-01	-.20726 00	.55508-01	.35693-01	-.24140 00	.63126-01
.24796-02	-.12769 00	.85748-07	.18449-01	-.21455 00	.14054-06	.35439-01	-.24913 00	.15948-06
.23549-02	.26580 00	.0	.13980-01	.42819 00	.0	.23885-01	.48132 00	.0
.22671-02	.25266 00	.75182-01	.14041-01	.41428 00	.11014 00	.24481-01	.47011 00	.11473 00
.20572-02	.21744 00	.13903 00	.14166-01	.37251 00	.21408 00	.26277-01	.43516 00	.22835 00
.18264-02	.16886 00	.18636 00	.14231-01	.30416 00	.30416 00	.29214-01	.37269 00	.33769 00
.16428-02	.11419 00	.21760 00	.14166-01	.21408 00	.37251 00	.32905-01	.27803 00	.43484 00
.15305-02	.57370-01	.23508 00	.14041-01	.11014 00	.41428 00	.36262-01	.15036 00	.50528 00
.14933-02	.71839-07	.24068 00	.13980-01	.13910-06	.42819 00	.37667-01	.19355-06	.53156 00
.15305-02	-.57369-01	.23508 00	.14041-01	-.11014 00	.41428 00	.36262-01	-.15036 00	.50528 00
.16428-02	-.11419 00	.21760 00	.14166-01	-.21408 00	.37251 00	.32905-01	-.27803 00	.43484 00
.18264-02	-.16886 00	.18636 00	.14231-01	-.30416 00	.30416 00	.29214-01	-.37269 00	.33769 00
.20572-02	-.21744 00	.13903 00	.14166-01	-.37251 00	.21408 00	.26277-01	-.43516 00	.22835 00
.22671-02	-.25266 00	.75183-01	.14041-01	-.41428 00	.11014 00	.24481-01	-.47011 00	.11473 00
.23549-02	-.26580 00	.19397-06	.13980-01	-.42819 00	.27825-06	.23885-01	-.48132 00	.28682-06
.20534-02	.43020 00	.0	.78168-02	.63663 00	.0	.11442-01	.68538 00	.0
.18288-02	.39648 00	.13702 00	.79756-02	.61968 00	.15968 00	.11959-01	.67578 00	.14875 00
.14005-02	.31950 00	.23399 00	.83405-02	.56390 00	.31784 00	.13650-01	.64431 00	.30297 00
.10597-02	.23353 00	.29084 00	.85531-02	.46067 00	.46067 00	.16950-01	.58165 00	.46701 00
.85341-03	.15150 00	.32218 00	.83405-02	.31784 00	.56390 00	.22402-01	.46795 00	.63896 00
.74765-03	.74383-01	.33792 00	.79756-02	.15968 00	.61968 00	.29252-01	.27403 00	.79290 00
.71533-03	.91876-07	.34272 00	.78168-02	.15975-06	.63663 00	.32844-01	.36616-06	.86035 00
.74765-03	-.74382-01	.33792 00	.79756-02	-.15968 00	.61968 00	.29252-01	-.27403 00	.79290 00
.85340-03	-.15150 00	.32218 00	.83405-02	-.31784 00	.56390 00	.22403-01	-.46794 00	.63896 00
.10597-02	-.23353 00	.29084 00	.85531-02	-.46067 00	.46067 00	.16950-01	-.58165 00	.46701 00
.14005-02	-.31950 00	.23399 00	.83405-02	-.56389 00	.31784 00	.13650-01	-.64431 00	.30297 00
.18288-02	-.39648 00	.13703 00	.79756-02	-.61968 00	.15968 00	.11959-01	-.67578 00	.14875 00
.20534-02	-.43020 00	.38040-06	.78168-02	-.63663 00	.40156-06	.11442-01	-.68538 00	.34604-06
.12955-02	.65486 00	.0	.22677-02	.83070 00	.0	.28622-02	.85763 00	.0
.95389-03	.55831 00	.24817 00	.23862-02	.81867 00	.19507 00	.30368-02	.85259 00	.16532 00
.51546-03	.39945 00	.35758 00	.27359-02	.76957 00	.40902 00	.36472-02	.83544 00	.34292 00
.31542-03	.27314 00	.39911 00	.30337-02	.63271 00	.63271 00	.50454-02	.79816 00	.54622 00
.22803-03	.17148 00	.41776 00	.27359-02	.40902 00	.76957 00	.82463-02	.71515 00	.79884 00
.18984-03	.82911-01	.42633 00	.23862-02	.19507 00	.81867 00	.15257-01	.49629 00	.11166 01
.17890-03	.93688-07	.42885 00	.22677-02	.23156-06	.83070 00	.20714-01	.74520-06	.13096 01
.18983-03	-.82910-01	.42633 00	.23862-02	-.19506 00	.81867 00	.15257-01	-.49629 00	.11166 01
.22803-03	-.17148 00	.41776 00	.27359-02	-.40902 00	.76957 00	.82464-02	-.71514 00	.79885 00
.31542-03	-.27314 00	.39911 00	.30337-02	-.63271 00	.63271 00	.50454-02	-.79816 00	.54622 00
.51546-03	-.39945 00	.35758 00	.27359-02	-.76957 00	.40902 00	.36472-02	-.83544 00	.34292 00
.55389-03	-.55831 00	.24817 00	.23862-02	-.81867 00	.19507 00	.30368-02	-.85259 00	.16532 00
.12955-02	-.65486 00	.85639-06	.22677-02	-.83070 00	.49663-06	.28622-02	-.85763 00	.23815-06
.21979-06	.10010 01	.0	.31292-06	.99980 00	.0	.48056-06	.99969 00	.0
.55507-06	.69439 00	.48274 00	.20117-06	.55984 00	.20739 00	.29057-06	.99997 00	.17049 00
.14994-06	.43111 00	.49820 00	.25332-06	.99601 00	.45715 00	-.11176-06	.99999 00	.35415 00
-.93132-09	.28539 00	.49964 00	.28312-06	.87031 00	.87031 00	-.20862-06	.99963 00	.57056 00
.31665-07	.17710 00	.49987 00	.32037-06	.45715 00	.99601 00	.77486-06	.99694 00	.86212 00
.20489-07	.85284-01	.49999 00	.12666-06	.20739 00	.99984 00	.66757-05	.96517 00	.13885 01
-.14764-07	.15355-07	.49960 00	.31292-06	.92582-07	.99980 00	.12279-04	.11666-05	.20001 01
.74506-08	-.85284-01	.49999 00	.14156-06	-.20739 00	.99984 00	.63181-05	-.96512 00	.13885 01
.54482-07	-.17710 00	.49987 00	.34273-06	-.45715 00	.99601 00	.86427-06	-.99655 00	.86213 00
-.21470-07	-.28539 00	.49964 00	.28312-06	-.87030 00	.87031 00	-.89407-07	-.99963 00	.57056 00
.15646-06	-.43111 00	.49820 00	.21607-06	.99601 00	.45715 00	-.13411-06	.99999 00	.35415 00
.57369-06	-.69438 00	.48274 00	.18626-06	-.99984 00	.20739 00	.31292-06	-.99997 00	.17049 00
.21979-06	-.10010 01	.20053-05	.31292-06	-.99980 00	.48211-06	.48056-06	-.99969 00	-.40579-06

LINEAR LOAD

$\alpha = 5.00$

$\beta = 5.00$

b/a=0.50			b/a=1.00			b/a=2.00		
DEF	X	Y	DEF	X	Y	DEF	X	Y
.25144-02	.0	.0	.20044-01	.0	.0	.40218-01	.0	.0
.35208-02	.12769 00	.0	.23861-01	.21455 00	.0	.42715-01	.24913 00	.0
.34551-02	.12291 00	.33771-01	.23694-01	.20726 00	.55508-01	.42799-01	.24140 00	.63126-01
.32750-02	.10918 00	.64624-01	.23190-01	.18586 00	.10727 00	.42975-01	.21834 00	.12301 00
.30218-02	.88042-01	.90245-01	.22357-01	.15175 00	.15175 00	.43027-01	.18048 00	.17607 00
.27407-02	.61508-01	.10918 00	.21231-01	.10727 00	.18586 00	.42649-01	.12924 00	.21834 00
.24657-02	.31566-01	.12071 00	.19892-01	.55508-01	.20726 00	.41561-01	.67537-01	.24581 CC
.22156-02	.39840-07	.12457 00	.18449-01	.70268-07	.21455 00	.39661-01	.85808-07	.25536 CC
.19972-02	-.31565-01	.12071 00	.17016-01	-.55508-01	.20726 00	.37133-01	-.67536-01	.24581 CC
.18114-02	-.61508-01	.10918 00	.15698-01	-.10727 00	.18586 00	.34376-01	-.12924 00	.21834 00
.16582-02	-.88042-01	.90245-01	.14583-01	-.15175 00	.15175 00	.31831-01	-.18048 00	.17607 00
.15405-02	-.10918 00	.64624-01	.13739-01	-.18586 00	.10728 00	.29838-01	-.21834 00	.12301 00
.14647-02	-.12291 00	.33771-01	.13215-01	-.20726 00	.55508-01	.28587-01	-.24140 00	.63126-01
.14384-02	-.12769 00	.85748-07	.13037-01	-.21455 00	.14054-06	.28162-01	-.24913 00	.15948-06
.43717-02	.26580 00	.0	.22025-01	.42819 00	.0	.33325-01	.48132 00	.0
.41213-02	.25266 00	.75182-01	.21920-01	.41428 00	.11014 00	.33952-01	.47011 00	.11473 00
.35217-02	.21744 00	.13903 00	.21468-01	.37251 00	.21408 00	.35749-01	.43516 00	.22835 00
.28491-02	.16886 00	.18636 00	.20393-01	.30416 00	.30416 00	.38332-01	.37269 00	.33769 00
.22713-02	.11419 00	.21760 00	.18603-01	.21408 00	.37251 00	.40670-01	.27803 00	.43484 00
.18267-02	.57370-01	.23508 00	.16346-01	.11014 00	.41428 00	.40946-01	.15036 00	.50528 00
.14933-02	.71839-07	.24068 00	.13980-01	.13910-06	.42819 00	.37667-01	.19355-06	.53156 CC
.12344-02	-.57369-01	.23508 00	.11736-01	-.11014 00	.41428 00	.31579-01	-.15035 00	.50528 00
.10143-02	-.11419 00	.21760 00	.97300-02	-.21408 00	.37251 00	.25141-01	-.27803 00	.43484 00
.80379-03	-.16886 00	.18636 00	.80685-02	-.30416 00	.30416 00	.20097-01	-.37269 00	.33769 CC
.59272-03	-.21744 00	.13903 00	.68646-02	-.37251 00	.21408 00	.16804-01	-.43516 00	.22836 00
.41285-03	-.25266 00	.75183-01	.61623-02	-.41428 00	.11014 00	.15010-01	-.47011 00	.11473 00
.33810-03	-.26580 00	.19392-06	.59356-02	-.42819 00	.27825-06	.14446-01	-.48132 00	.28582-06
.47861-02	.43020 00	.0	.14321-01	.63663 00	.0	.17848-01	.68538 00	.0
.41105-02	.39648 00	.13702 00	.14549-01	.61968 00	.15968 00	.18584-01	.67578 00	.14875 00
.28559-02	.31950 00	.23399 00	.14911-01	.56390 00	.31784 00	.20942-01	.64431 00	.30297 00
.18873-02	.23353 00	.29084 00	.14436-01	.46067 00	.46067 00	.25301-01	.58165 00	.467C1 CC
.12938-02	.15150 00	.32218 00	.12535-01	.31784 00	.56390 00	.31590-01	.46795 00	.63896 00
.93901-03	.74383-01	.33792 00	.10061-01	.15968 00	.61968 00	.36574-01	.27403 00	.79290 00
.71534-03	.91876-07	.34272 00	.78168-02	.19975-06	.63663 00	.32844-01	.36616-06	.86C35 00
.55630-03	-.74382-01	.33792 00	.58904-02	-.15968 00	.61968 00	.21930-01	-.27403 00	.79290 00
.41300-03	-.15150 00	.32218 00	.41458-02	-.31784 00	.56390 00	.13216-01	-.46794 00	.63896 00
.23205-03	-.23353 00	.29084 00	.26700-02	-.46067 00	.46067 00	.85991-02	-.58165 00	.46701 CC
-.54834-04	.31950 00	.23399 00	.17705-02	-.56389 00	.31784 00	.63586-02	-.64431 00	.30297 00
-.45285-03	-.39648 00	.13703 00	.14025-02	-.61968 00	.15968 00	.53342-02	-.67578 00	.14875 00
-.67922-03	-.43020 00	.38040-06	.13123-02	-.63663 00	.40156-06	.50362-02	-.68538 00	.34604-06
.37213-02	.65486 00	.0	.46432-02	.83070 00	.0	.48560-02	.85763 00	.0
.25761-02	.55831 00	.24817 00	.49185-02	.81867 00	.19507 00	.51481-02	.85259 00	.16582 CC
.11902-02	.39945 00	.35758 00	.57151-02	.76957 00	.40902 00	.61654-02	.83544 00	.34292 CC
.60924-03	.27314 00	.39911 00	.61439-02	.63271 00	.63271 00	.84720-02	.79816 00	.54622 00
.36419-03	.17148 00	.41776 00	.47285-02	.40902 00	.76957 00	.13573-01	.71515 00	.79884 00
.24525-03	.82911-01	.42633 00	.32449-02	.19507 00	.81867 00	.22950-01	.49629 00	.11166 01
.17891-03	.93688-07	.42885 00	.22678-02	.23156-06	.83070 00	.20714-01	.74520-06	.13096 01
.13444-03	-.82910-01	.42633 00	.15278-02	-.19506 00	.81867 00	.75673-02	-.49629 00	.11166 01
.91872-04	-.17148 00	.41776 00	.74341-03	-.40902 00	.76957 00	.29197-02	-.71514 00	.79885 CC
.21676-04	-.27314 00	.39911 00	-.76392-04	-.63271 00	.63271 00	.16191-02	-.79816 00	.54622 CC
-.15922-03	-.39945 00	.35758 00	-.24323-03	-.76957 00	.40902 00	.11293-02	-.83544 00	.34292 00
-.66814-03	-.55831 00	.24817 00	-.14597-03	-.81867 00	.19507 00	.92566-03	-.85259 00	.16582 CC
-.11303-02	-.65486 00	.85639-06	-.10754-03	-.83070 00	.49663-06	.86848-03	-.85763 00	.23815-06
-.63330-07	.10010 01	.0	.81956-06	.99980 00	.0	.13448-05	.99969 00	.0
.10096-05	.69439 00	.48274 00	.56624-06	.99984 00	.20739 00	-.41351-06	.99997 00	.17049 00
.17136-06	.43111 00	.49820 00	.53644-06	.99601 00	.45715 00	-.27530-05	.99999 00	.35415 CC
.27940-06	.28539 00	.49964 00	.83447-06	.87031 00	.87031 00	-.46492-05	.99963 00	.57056 00
.74040-07	.17710 00	.49987 00	.51036-06	.45715 00	.99601 00	.54240-05	.99694 00	.86212 00
.11176-06	.85284-01	.49999 00	.47684-06	.20739 00	.99984 00	.23901-04	.96512 00	.13885 01
-.13970-08	.15355-07	.49960 00	.48429-06	.92582-07	.99980 00	.18716-04	.11666-05	.20001 01
-.17928-07	-.85284-01	.49999 00	.51036-06	-.20739 00	.99984 00	-.83037-05	-.96512 00	.13885 01
.52387-07	-.17710 00	.49987 00	.45821-06	-.45715 00	.99601 00	.87172-05	-.99695 00	.86213 CC
.36089-07	-.28539 00	.49964 00	.38743-06	-.87030 00	.87031 00	.57332-05	.99963 00	.57056 00
.21490-06	-.43111 00	.49820 00	.35390-06	-.99601 00	.45715 00	.34645-05	-.99999 00	.35415 00
-.79395-07	-.69438 00	.48274 00	.74506-08	-.99984 00	.20739 00	.96485-06	-.99997 00	.17049 00
-.17509-06	-.10010 01	.20053-05	.11176-07	-.99980 00	.48211-06	-.93132-07	-.99969 00	-.40579-06

UNIFORM LOAD

$\alpha=10.0$

$\beta=10.0$

b/a=0.50			b/a=1.00			b/a=2.00		
DEF	X	Y	DEF	X	Y	DEF	X	Y
.25304-02	.0	.0	.20226-01	.0	.0	.40499-01	.0	.0
.24984-02	.12796 00	.0	.18611-01	.21557 00	.0	.35665-01	.24960 00	.0
.24782-02	.12316 00	.33852-01	.18617-01	.20824 00	.55768-01	.35925-01	.24187 00	.63227-01
.24248-02	.10938 00	.64769-01	.18628-01	.18674 00	.10778 00	.36654-01	.21879 00	.12322 00
.23555-02	.88193-01	.90431-01	.18634-01	.15248 00	.15248 00	.37700-01	.18088 00	.17640 00
.22902-02	.61604-01	.10939 00	.18628-01	.10778 00	.18674 00	.38810-01	.12955 00	.21879 00
.22446-02	.31611-01	.12092 00	.18617-01	.55769-01	.20824 00	.39665-01	.67709-01	.24635 00
.22284-02	.39896-07	.12479 00	.18611-01	.70596-07	.21557 00	.39987-01	.86031-07	.25594 00
.22446-02	-.31611-01	.12092 00	.18617-01	-.55768-01	.20824 00	.39665-01	-.67708-01	.24635 00
.22902-02	-.61604-01	.10939 00	.18628-01	-.10778 00	.18674 00	.38810-01	-.12955 00	.21879 00
.23555-02	-.88193-01	.90431-01	.18634-01	-.15248 00	.15248 00	.37700-01	-.18088 00	.17640 00
.24248-02	-.10938 00	.64770-01	.18628-01	-.18674 00	.10778 00	.36654-01	-.21879 00	.12322 00
.24782-02	-.12316 00	.33852-01	.18617-01	-.20824 00	.55769-01	.35925-01	-.24187 00	.63227-01
.24984-02	-.12796 00	.85957-07	.18611-01	-.21557 00	.14119-06	.35665-01	-.24960 00	.15973-06
.23822-02	.26652 00	.0	.14081-01	.43012 00	.0	.24000-01	.48202 00	.0
.22917-02	.25327 00	.75488-01	.14147-01	.41622 00	.11056 00	.24606-01	.47085 00	.11478 00
.20757-02	.21782 00	.13948 00	.14284-01	.37437 00	.21504 00	.26435-01	.43601 00	.22851 00
.18392-02	.16904 00	.18681 00	.14355-01	.30568 00	.30568 00	.29437-01	.37365 00	.33810 00
.16517-02	.11425 00	.21799 00	.14284-01	.21504 00	.37437 00	.33223-01	.27899 00	.43567 00
.15375-02	.57385-01	.23541 00	.14147-01	.11056 00	.41622 00	.36679-01	.15099 00	.50658 00
.14996-02	.71850-07	.24099 00	.14081-01	.13959-06	.43012 00	.38129-01	.19443-06	.53309 00
.15375-02	-.57384-01	.23541 00	.14147-01	-.11056 00	.41622 00	.36679-01	-.15099 00	.50658 00
.16517-02	-.11425 00	.21799 00	.14284-01	-.21504 00	.37437 00	.33223-01	-.27899 00	.43567 00
.18392-02	-.16904 00	.18681 00	.14355-01	-.30568 00	.30568 00	.29437-01	-.37365 00	.33810 00
.20757-02	-.21782 00	.13948 00	.14284-01	-.37437 00	.21504 00	.26435-01	-.43601 00	.22851 00
.22917-02	-.25327 00	.75488-01	.14147-01	-.41622 00	.11056 00	.24606-01	-.47085 00	.11478 00
.23822-02	-.26652 00	.19480-06	.14081-01	-.43012 00	.27926-06	.24000-01	-.48202 00	.28684-06
.20930-02	.43197 00	.0	.78404-02	.63892 00	.0	.11474-01	.68601 00	.0
.18599-02	.39769 00	.13805 00	.80089-02	.62234 00	.15972 00	.11996-01	.67649 00	.14860 00
.14162-02	.31981 00	.23510 00	.84049-02	.56729 00	.31881 00	.13709-01	.64532 00	.30272 00
.10664-02	.23343 00	.29158 00	.86428-02	.46354 00	.46354 00	.17068-01	.58323 00	.46689 00
.85660-03	.15136 00	.32263 00	.84049-02	.31881 00	.56729 00	.22668-01	.47025 00	.63968 00
.74959-03	.74298-01	.33822 00	.80089-02	.15972 00	.62234 00	.29769-01	.27612 00	.79546 00
.71696-03	.91736-07	.34298 00	.78404-02	.19948-06	.63892 00	.33498-01	.36920-06	.86401 00
.74959-03	-.74298-01	.33822 00	.80088-02	-.15972 00	.62234 00	.25769-01	-.27612 00	.79546 00
.85660-03	-.15135 00	.32263 00	.84049-02	-.31881 00	.56729 00	.22668-01	-.47025 00	.63968 00
.10664-02	-.23343 00	.29158 00	.86428-02	-.46354 00	.46354 00	.17068-01	-.58323 00	.46689 00
.14162-02	-.31981 00	.23510 00	.84049-02	-.56729 00	.31881 00	.13709-01	-.64532 00	.30272 00
.18599-02	-.39769 00	.13805 00	.80089-02	-.62234 00	.15972 00	.11996-01	-.67649 00	.14860 00
.20930-02	-.43197 00	.38426-06	.78404-02	-.63892 00	.40186-06	.11474-01	-.68601 00	.34426-06
.13283-02	.65899 00	.0	.22595-02	.83225 00	.0	.28643-02	.85799 00	.0
.98149-03	.56050 00	.25166 00	.23786-02	.82102 00	.19367 00	.30394-02	.85301 00	.16546 00
.52085-03	.39874 00	.35961 00	.27465-02	.77567 00	.40757 00	.36531-02	.83618 00	.34213 00
.31640-03	.27244 00	.39984 00	.30985-02	.63986 00	.63986 00	.50644-02	.79578 00	.54487 00
.22828-03	.17107 00	.41806 00	.27465-02	.40757 00	.77567 00	.83385-02	.71934 00	.79756 00
.18993-03	.82731-01	.42648 00	.23786-02	.19367 00	.82102 00	.15708-01	.50335 00	.11211 01
.17897-03	.91987-07	.42898 00	.22595-02	.22368-06	.83225 00	.21253-01	.74598-06	.13181 01
.18993-03	-.82730-01	.42648 00	.23786-02	-.19367 00	.82102 00	.15708-01	-.50335 00	.11211 01
.22828-03	-.17107 00	.41806 00	.27465-02	-.40757 00	.77567 00	.83385-02	-.71934 00	.79756 00
.31640-03	-.27243 00	.39984 00	.30985-02	-.63986 00	.63986 00	.50645-02	-.79978 00	.54487 00
.52085-03	-.39873 00	.35961 00	.27465-02	-.77567 00	.40757 00	.36531-02	-.83618 00	.34213 00
.98148-03	-.56050 00	.25166 00	.23786-02	-.82102 00	.19367 00	.30394-02	-.85301 00	.16546 00
.13283-02	-.65899 00	.86696-06	.22595-02	-.83225 00	.49513-06	.28643-02	-.85799 00	.22634-06
.47311-06	.59959 00	.0	.63702-06	.99990 00	.0	.29802-07	.10007 01	.0
.63702-06	.68806 00	.50076 00	.42468-06	.95981 00	.20496 00	.64820-06	.59995 00	.17063 00
.16205-06	.42686 00	.49965 00	.36508-06	.99982 00	.44685 00	.44703-07	.99964 00	.35365 00
-.17695-07	.28411 00	.49964 00	.74506-06	.92105 00	.93105 00	-.38743-06	.99978 00	.56816 00
.49360-07	.17655 00	.49978 00	.42468-06	.44685 00	.99982 00	.53644-06	.99954 00	.85468 00
.44238-07	.85114-01	.49998 00	.52154-06	.20496 00	.99982 00	.75102-05	.10011 01	.13756 01
-.15357-07	.91054-08	.50040 00	.63702-06	-.66063-07	.99990 00	.13947-04	.86415-06	.19995 01
.30268-07	-.85114-01	.49998 00	.44703-06	-.20496 00	.99981 00	.83447-05	-.10011 01	.13756 01
.66590-07	-.17655 00	.49978 00	.37998-06	-.44685 00	.99982 00	.43213-06	-.99954 00	.85468 00
-.29802-07	-.28411 00	.49964 00	.70035-06	-.93104 00	.93105 00	-.29802-07	-.99987 00	.56816 00
.18813-06	-.42686 00	.49965 00	.43958-06	-.99982 00	.44685 00	-.17881-06	-.99964 00	.35365 00
.64075-06	-.68806 00	.50076 00	.51409-06	-.99982 00	.20496 00	.58115-06	-.99994 00	.17063 00
.47311-06	-.99959 00	.16949-05	.63702-06	-.99990 00	.22996-06	.25802-07	-.10007 01	-.58824-06

LINEAR LOAD

$\alpha = 10.0$

$\beta = 10.0$

b/a=0.50			b/a=1.00			b/a=2.00		
DEF	X	Y	DEF	X	Y	DEF	X	Y
.25304-02	.0	.0	.20226-01	.0	.0	.40495-01	.0	.0
.35661-02	.12796 00	.0	.24131-01	.21557 00	.0	.42974-01	.24960 00	.0
.34985-02	.12316 00	.33852-01	.23962-01	.20824 00	.55768-01	.43064-01	.24187 00	.63227-01
.33136-02	.10938 00	.64769-01	.23452-01	.18674 00	.10778 00	.43257-01	.21879 00	.12322 00
.30538-02	.88193-01	.90431-01	.22605-01	.15248 00	.15248 00	.43332-01	.18088 00	.17640 00
.27658-02	.61604-01	.10939 00	.21456-01	.10778 00	.18674 00	.42975-01	.12955 00	.21879 00
.24843-02	.31611-01	.12092 00	.20087-01	.55769-01	.20824 00	.41895-01	.67709-01	.24635 00
.22284-02	.39896-07	.12479 00	.18611-01	.70596-07	.21557 00	.39987-01	.86031-07	.25594 00
.20049-02	-.31611-01	.12092 00	.17146-01	-.55768-01	.20824 00	.37434-01	-.67708-01	.24635 00
.18145-02	-.61604-01	.10939 00	.15800-01	-.10778 00	.18674 00	.34644-01	-.12955 00	.21879 00
.16572-02	-.88193-01	.90431-01	.14663-01	-.15248 00	.15248 00	.32069-01	-.18088 00	.17640 00
.15361-02	-.10938 00	.64770-01	.13804-01	-.18674 00	.10778 00	.30051-01	-.21879 00	.12322 00
.14580-02	-.12316 00	.33852-01	.13271-01	-.20824 00	.55769-01	.28785-01	-.24187 00	.63227-01
.14307-02	-.12796 00	.85957-07	.13091-01	-.21557 00	.14119-06	.28356-01	-.24960 00	.15973-06
.44582-02	.26652 00	.0	.22262-01	.43012 00	.0	.33462-01	.48202 00	.0
.41987-02	.25327 00	.75488-01	.22171-01	.41622 00	.11056 00	.34105-01	.47085 00	.11478 00
.35788-02	.21782 00	.13948 00	.21746-01	.37437 00	.21504 00	.35951-01	.43601 00	.22851 00
.28862-02	.16904 00	.18681 00	.20674-01	.30568 00	.30568 00	.38623-01	.37365 00	.33810 00
.22939-02	.11425 00	.21799 00	.18840-01	.21504 00	.37437 00	.41079-01	.27899 00	.43567 00
.18397-02	.57385-01	.23541 00	.16514-01	.11056 00	.41622 00	.41438-01	.15099 00	.50658 00
.14996-02	.71850-07	.24099 00	.14081-01	.13959-06	.43012 00	.38179-01	.19443-06	.53309 00
.12352-02	-.57384-01	.23541 00	.11780-01	-.11056 00	.41622 00	.31921-01	-.15099 00	.50658 00
.10095-02	-.11425 00	.21799 00	.97279-02	-.21504 00	.37437 00	.25367-01	-.27899 00	.43567 00
.79217-03	-.16904 00	.18681 00	.80359-02	-.30568 00	.30568 00	.20251-01	-.37365 00	.33810 00
.57267-03	-.21782 00	.13948 00	.68222-02	-.37437 00	.21504 00	.16920-01	-.43601 00	.22851 00
.38463-03	-.25327 00	.75488-01	.61234-02	-.41622 00	.11056 00	.15108-01	-.47085 00	.11478 00
.30630-03	-.26652 00	.19480-06	.58996-02	-.43012 00	.27926-06	.14538-01	-.48202 00	.28684-06
.49249-02	.43197 00	.0	.14409-01	.63892 00	.0	.17879-01	.68601 00	.0
.42203-02	.39769 00	.13805 00	.14672-01	.62234 00	.15972 00	.18623-01	.67645 00	.14860 00
.29125-02	.31981 00	.23510 00	.15141-01	.56729 00	.31881 00	.21019-01	.64532 00	.30272 00
.19122-02	.23343 00	.29158 00	.14745-01	.46354 00	.46354 00	.25483-01	.58323 00	.46689 00
.13051-02	.15136 00	.32263 00	.12748-01	.31881 00	.56729 00	.32029-01	.47025 00	.63968 00
.94413-03	.74298-01	.33822 00	.10153-01	.15972 00	.62234 00	.37347-01	.27612 00	.79546 00
.71696-03	.91736-07	.34298 00	.78404-02	.19948-06	.63892 00	.33498-01	.36920-06	.86401 00
.55505-03	-.74298-01	.33822 00	.58645-02	-.15972 00	.62234 00	.22192-01	-.27612 00	.79546 00
.40810-03	-.15135 00	.32263 00	.40618-02	-.31881 00	.56729 00	.13307-01	-.47025 00	.63968 00
.22057-03	-.23343 00	.29158 00	.25410-02	-.46354 00	.46354 00	.86534-02	-.58323 00	.46689 00
-.80115-04	-.31981 00	.23510 00	.16688-02	-.56729 00	.31881 00	.64003-02	-.64532 00	.30272 00
-.50045-03	-.39769 00	.13805 00	.13458-02	-.62234 00	.15972 00	.53696-02	-.67645 00	.14860 00
-.73898-03	-.43197 00	.38426-06	.12714-02	-.63892 00	.40186-06	.50696-02	-.68601 00	.34426-06
.38484-02	.65899 00	.0	.46334-02	.83225 00	.0	.48527-02	.85799 00	.0
.26827-02	.56050 00	.25166 00	.49185-02	.82102 00	.19367 00	.51452-02	.85301 00	.16546 00
.17138-02	.39874 00	.35961 00	.58071-02	.77567 00	.40757 00	.61678-02	.83618 00	.34213 00
.61513-03	.27244 00	.39984 00	.64574-02	.63986 00	.63986 00	.85022-02	.79978 00	.54487 00
.36631-03	.17107 00	.41806 00	.48242-02	.40757 00	.77567 00	.13783-01	.71934 00	.79756 00
.24603-03	.82731-01	.42648 00	.32538-02	.19367 00	.82102 00	.24002-01	.50335 00	.11211 01
.17897-03	.91987-07	.42898 00	.22595-02	.22368-06	.83225 00	.21753-01	.74598-06	.13181 01
.13384-03	-.82730-01	.42648 00	.15037-02	-.19367 00	.82102 00	.74165-02	-.50335 00	.11211 01
.90279-04	-.17107 00	.41806 00	.66890-03	-.40757 00	.77567 00	.28943-02	-.71934 00	.79756 00
.17734-04	-.27243 00	.39984 00	-.26011-03	-.63986 00	.63986 00	.16271-02	-.79978 00	.54487 00
-.17205-03	-.39873 00	.35961 00	-.31400-03	-.77567 00	.40757 00	.11387-02	-.83618 00	.34213 00
-.71961-03	-.56050 00	.25166 00	-.16114-03	-.82102 00	.19367 00	.93383-03	-.95301 00	.16546 00
-.11918-02	-.65899 00	.86696-06	-.11420-03	-.83225 00	.49513-06	.87605-03	-.85799 00	.22634-06
.68545-06	.99959 00	.0	.15646-05	.99990 00	.0	-.13039-06	.10007 01	.0
.12480-05	.68806 00	.50076 00	.11474-05	.99981 00	.20496 00	.65663-06	.99995 00	.17063 00
.23097-06	.42686 00	.49965 00	.82701-06	.99982 00	.44685 00	-.29057-05	.99964 00	.35365 00
.31851-06	.28411 00	.49964 00	.13173-04	.93105 00	.93105 00	-.42319-05	.99878 00	.56816 00
.15250-06	.17655 00	.49978 00	.10654-05	.44685 00	.99982 00	.47088-05	.99954 00	.85468 00
.16484-06	.85114-01	.49998 00	.12517-05	.20496 00	.99982 00	.27418-04	.10011 01	.13756 01
.10245-07	.91054-08	.50040 00	.95367-06	-.66063-07	.99990 00	.22888-04	.86415-06	.19985 01
-.25611-08	-.85114-01	.49998 00	.11995-05	-.20496 00	.99981 00	-.82366-05	-.10011 01	.13756 01
.28871-07	-.17655 00	.49978 00	.38370-06	-.44685 00	.99982 00	.10118-04	-.99954 00	.85468 00
.17695-07	-.28411 00	.49964 00	.62212-06	-.93104 00	.93105 00	.55209-05	-.99878 00	.56816 00
.72771-06	-.42686 00	.49965 00	.52154-06	-.99982 00	.44685 00	.38855-05	-.99964 00	.35365 00
.40536-06	-.68806 00	.50076 00	-.96858-07	-.99982 00	.20496 00	.10729-05	-.99994 00	.17063 00
-.33528-06	-.99959 00	.16949-05	.74506-07	-.99990 00	.22996-06	.51782-06	-.10007 01	-.58824-06

UNIFORM LOAD

$\alpha=1.60$

$\beta=10.0$

b/a=0.50			b/a=1.00			b/a=2.00		
DEF	X		DEF	X	Y	DEF	X	Y
.24103-02	.0	.0	.19539-01	.0	.0	.40251-01	.0	.0
.23704-02	.12640 00	.0	.18006-01	.21310 00	.0	.35470-01	.24917 00	.0
.23522-02	.12169 00	.33408-01	.18008-01	.20584 00	.55167-01	.35723-01	.24144 00	.63138-01
.23041-02	.10812 00	.63948-01	.18010-01	.18454 00	.10659 00	.36436-01	.21837 00	.12303 00
.22416-02	.87226-01	.89336-01	.18004-01	.15063 00	.15073 00	.37457-01	.18050 00	.17610 00
.21826-02	.60963-01	.10812 00	.17990-01	.10644 00	.18454 00	.38538-01	.12925 00	.21837 00
.21414-02	.31295-01	.11958 00	.17974-01	.55067-01	.20574 00	.39370-01	.67544-01	.24584 00
.21268-02	.39503-07	.12342 00	.17967-01	.69705-07	.21296 00	.39683-01	.85816-07	.25540 00
.21414-02	-.31295-01	.11958 00	.17974-01	-.55067-01	.20574 00	.39370-01	-.67543-01	.24584 00
.21826-02	-.60963-01	.10812 00	.17990-01	-.10644 00	.18454 00	.38538-01	-.12925 00	.21837 00
.22416-02	-.87226-01	.89336-01	.18004-01	-.15062 00	.15073 00	.37457-01	-.18050 00	.17610 00
.23041-02	-.10812 00	.63948-01	.18010-01	-.18454 00	.10659 00	.36436-01	-.21837 00	.12303 00
.23522-02	-.12169 00	.33408-01	.18008-01	-.20584 00	.55168-01	.35723-01	-.24144 00	.63138-01
.23704-02	-.12640 00	.84821-07	.18006-01	-.21310 00	.13968-06	.35470-01	-.24917 00	.15951-06
.22343-02	.26281 00	.0	.13696-01	.42579 00	.0	.23908-01	.48140 00	.0
.21527-02	.24992 00	.74159-01	.13745-01	.41177 00	.10982 00	.24504-01	.47020 00	.11475 00
.19585-02	.21534 00	.13727 00	.13837-01	.36982 00	.21319 00	.26300-01	.43525 00	.22840 00
.17459-02	.16752 00	.18428 00	.13861-01	.30152 00	.30236 00	.29235-01	.37275 00	.33778 00
.15769-02	.11348 00	.21551 00	.13772-01	.21203 00	.36977 00	.32915-01	.27804 00	.43494 00
.14737-02	.57084-01	.23308 00	.13644-01	.10906 00	.41096 00	.36249-01	.15032 00	.50593 00
.14394-02	.71513-07	.23874 00	.13586-01	.13774-06	.42470 00	.37640-01	.19348-06	.53158 00
.14737-02	-.57084-01	.23308 00	.13644-01	-.10906 00	.41096 00	.36249-01	-.15032 00	.50533 00
.15769-02	-.11348 00	.21551 00	.13772-01	-.21203 00	.36977 00	.32915-01	-.27804 00	.43494 00
.17459-02	-.16752 00	.18428 00	.13861-01	-.30152 00	.30236 00	.29235-01	-.37275 00	.33778 00
.19585-02	-.21534 00	.13727 00	.13837-01	-.36982 00	.21319 00	.26300-01	-.43525 00	.22841 00
.21527-02	-.24992 00	.74159-01	.13745-01	-.41177 00	.10982 00	.24504-01	-.47020 00	.11475 00
.22343-02	-.26281 00	.19127-06	.13696-01	-.42579 00	.27729-06	.23908-01	-.48140 00	.28694-06
.19320-02	.42468 00	.0	.77068-02	.63427 00	.0	.11452-01	.68549 00	.0
.17188-02	.39159 00	.13470 00	.78531-02	.61690 00	.16011 00	.11970-01	.67590 00	.14875 00
.13214-02	.31649 00	.23024 00	.81697-02	.55976 00	.31805 00	.13665-01	.64448 00	.30300 00
.10095-02	.23236 00	.28714 00	.82981-02	.45523 00	.45863 00	.16970-01	.58185 00	.46717 00
.82090-03	.15134 00	.31919 00	.80546-02	.31382 00	.55893 00	.22416-01	.46797 00	.63932 00
.72396-03	.74498-01	.33558 00	.77309-02	.15821 00	.61404 00	.29179-01	.27362 00	.79303 00
.69430-03	.92062-07	.34064 00	.75984-02	.19792-06	.63122 00	.32667-01	.36473-06	.85993 00
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.17188-02	-.39158 00	.13470 00	.78531-02	-.61690 00	.16011 00	.11970-01	-.67590 00	.14875 00
.19320-02	-.42468 00	.37517-06	.77068-02	-.63427 00	.39849-06	.11452-01	-.68549 00	.34692-06
.12308-02	.64662 00	.0	.22512-02	.82938 00	.0	.28641-02	.85770 00	.0
.88161-03	.54929 00	.24352 00	.23680-02	.81702 00	.19657 00	.30390-02	.85269 00	.16576 00
.47886-03	.39617 00	.35006 00	.27060-02	.76551 00	.41316 00	.36508-02	.83566 00	.34283 00
.29948-03	.27339 00	.39346 00	.29024-02	.61932 00	.63247 00	.50545-02	.79865 00	.54621 00
.22020-03	.17271 00	.41427 00	.25889-02	.40253 00	.75830 00	.82817-02	.71622 00	.79976 00
.18526-03	.83856-01	.42431 00	.23146-02	.19558 00	.81042 00	.15205-01	.49381 00	.11186 01
.17526-03	.95670-07	.42740 00	.22258-02	.22822-06	.82521 00	.20243-01	.72244-06	.13055 01
.18525-03	-.83855-01	.42431 00	.23146-02	-.19558 00	.81042 00	.15205-01	-.49380 00	.11186 01
.22020-03	-.17271 00	.41427 00	.25889-02	-.40253 00	.75830 00	.82818-02	-.71601 00	.79976 00
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.12308-02	-.64662 00	.86505-06	.22512-02	-.82938 00	.46752-06	.28641-02	-.85770 00	.24042-06
.52899-06	.10002 01	.0	.76368-06	.99989 00	.0	.79721-06	.99989 00	.0
.58860-06	.67356 00	.46271 00	.56624-06	.99983 00	.20893 00	.40978-06	.99982 00	.17022 00
.16298-06	.43154 00	.48525 00	.65565-06	.99965 00	.46265 00	.28312-06	.99982 00	.35395 00
-.15832-07	.28864 00	.49285 00	.76741-06	.75938 00	.88664 00	-.32783-06	.99991 00	.57000 00
.43772-07	.18015 00	.49684 00	.76741-06	.49615 00	.96692 00	.46194-06	.10000 01	.86143 00
.19092-07	.86877-01	.49884 00	.69290-06	.21572 00	.99120 00	.63181-05	.97996 00	.14169 01
-.16764-07	.53488-07	.49980 00	.80094-06	.13022-06	.99969 00	.10550-04	.13790-05	.19991 01
.10245-07	-.86877-01	.49884 00	.73016-06	-.21572 00	.99120 00	.60797-05	-.97996 00	.14169 01
.63330-07	-.18015 00	.49684 00	.78976-06	-.45615 00	.96692 00	.40233-06	-.10000 01	.86143 00
-.18626-07	-.28864 00	.49285 00	.85682-06	-.79938 00	.88664 00	-.74506-07	-.99991 00	.57000 00
.17695-06	-.43154 00	.48525 00	.52154-06	-.99965 00	.46265 00	.26077-06	-.99982 00	.35395 00
.59605-06	-.67356 00	.46271 00	.58115-06	-.99983 00	.20893 00	.46194-06	-.99983 00	.17022 00
.52899-06	-.10002 01	.21363-05	.76368-06	-.99989 00	.28715-06	.79721-06	-.99989 00	-.30697-06

LINEAR LOAD

$\alpha=1.60$

$\beta=10.0$

b/a=0.50			b/a=1.00			b/a=2.00		
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.24103-02	.0	.0	.19539-01	.0	.0	.40251-01	.0	.0
.33308-02	.12640 00	.0	.23305-01	.21310 00	.0	.42762-01	.24917 00	.0
.32702-02	.12169 00	.33408-01	.23136-01	.20584 00	.55167-01	.42846-01	.24144 00	.63138-01
.31042-02	.10812 00	.63948-01	.22629-01	.18454 00	.10659 00	.43020-01	.21837 00	.12303 00
.28708-02	.87226-01	.89336-01	.21798-01	.15063 00	.15073 00	.43069-01	.18050 00	.17610 00
.26115-02	.60963-01	.10812 00	.20685-01	.10644 00	.18454 00	.42686-01	.12925 00	.21837 00
.23578-02	.31295-01	.11958 00	.19373-01	.55067-01	.20574 00	.41590-01	.67544-01	.24584 00
.21268-02	.39503-07	.12342 00	.17967-01	.69705-07	.21296 00	.39683-01	.85816-07	.25540 00
.19251-02	-.31295-01	.11958 00	.16575-01	-.55067-01	.20574 00	.37150-01	-.67543-01	.24584 00
.17536-02	-.60963-01	.10812 00	.15255-01	-.10644 00	.18454 00	.34389-01	-.12925 00	.21837 00
.16123-02	-.87226-01	.89336-01	.14211-01	-.15062 00	.15073 00	.31845-01	-.18050 00	.17610 00
.15039-02	-.10812 00	.63948-01	.13390-01	-.18454 00	.10659 00	.29851-01	-.21837 00	.12303 00
.14342-02	-.12169 00	.33408-01	.12879-01	-.20584 00	.55168-01	.28601-01	-.24144 00	.63138-01
.14100-02	-.12640 00	.84821-07	.12706-01	-.21310 00	.13968-06	.28177-01	-.24917 00	.15951-06
.40910-02	.26281 00	.0	.21625-01	.42575 00	.0	.33366-01	.48140 00	.0
.38593-02	.24992 00	.74159-01	.21497-01	.41177 00	.10982 00	.33995-01	.47020 00	.11475 00
.33063-02	.21534 00	.13727 00	.20985-01	.36982 00	.21319 00	.35799-01	.43525 00	.22840 00
.26881-02	.16752 00	.18428 00	.19849-01	.30152 00	.30236 00	.38386-01	.37275 00	.33778 00
.21570-02	.11348 00	.21551 00	.18053-01	.21203 00	.36977 00	.40714-01	.27804 00	.43494 00
.17475-02	.57084-01	.23308 00	.15859-01	.10906 00	.41096 00	.40955-01	.15032 00	.50533 00
.14394-02	.71513-07	.23874 00	.13586-01	.13774-06	.42470 00	.37640-01	.19348-06	.53158 00
.12000-02	-.57084-01	.23308 00	.11430-01	-.10906 00	.41096 00	.31544-01	-.15032 00	.50533 00
.99682-03	-.11348 00	.21551 00	.94916-02	-.21203 00	.36977 00	.25116-01	-.27804 00	.43494 00
.80365-03	-.16752 00	.18428 00	.78733-02	-.30152 00	.30236 00	.20085-01	-.37275 00	.33778 00
.61069-03	-.21534 00	.13727 00	.66890-02	-.36982 00	.21319 00	.16801-01	-.43525 00	.22841 00
.44612-03	-.24992 00	.74159-01	.59935-02	-.41177 00	.10982 00	.15013-01	-.47020 00	.11475 00
.37753-03	-.26281 00	.19127-06	.57683-02	-.42579 00	.27729-06	.14450-01	-.48140 00	.28694-06
.44523-02	.42468 00	.0	.14179-01	.63427 00	.0	.17867-01	.68549 00	.0
.38129-02	.39159 00	.13470 00	.14380-01	.61690 00	.16011 00	.18607-01	.67590 00	.14875 00
.26525-02	.31649 00	.23024 00	.14632-01	.55976 00	.31805 00	.20979-01	.64448 00	.30300 00
.17692-02	.23236 00	.28714 00	.13963-01	.45523 00	.45863 00	.25367-01	.58185 00	.46717 00
.12274-02	.15134 00	.31919 00	.12019-01	.31382 00	.55893 00	.31678-01	.46797 00	.63932 00
.90133-03	.74498-01	.33558 00	.96942-02	.15821 00	.61404 00	.36547-01	.27362 00	.79303 00
.69430-03	.92062-07	.34064 00	.75984-02	.19792-06	.63122 00	.32667-01	.36473-06	.85993 00
.54660-03	-.74497-01	.33558 00	.57677-02	-.15820 00	.61404 00	.21810-01	-.27362 00	.79303 00
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.24975-03	-.23236 00	.28714 00	.26333-02	-.45523 00	.45863 00	.85735-02	-.58184 00	.46717 00
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-.58827-03	-.42468 00	.37517-06	.12349-02	-.63427 00	.39849-06	.50369-02	-.68549 00	.34692-06
.35270-02	.64662 00	.0	.46366-02	.82938 00	.0	.48595-02	.85770 00	.0
.23562-02	.54929 00	.24352 00	.49129-02	.81702 00	.19657 00	.51530-02	.85269 00	.16576 00
.10867-02	.39617 00	.35006 00	.56965-02	.76551 00	.41316 00	.61762-02	.83566 00	.34283 00
.56794-03	.27339 00	.39346 00	.58379-02	.61932 00	.63247 00	.85048-02	.79865 00	.54621 00
.34615-03	.17271 00	.41427 00	.43867-02	.40253 00	.75830 00	.13702-01	.71602 00	.79976 00
.23687-03	.83856-01	.42431 00	.31060-02	.19558 00	.81042 00	.22972-01	.49381 00	.11186 01
.17526-03	.95670-07	.42740 00	.22258-02	.22822-06	.82521 00	.20243-01	.72244-06	.13055 01
.13365-03	-.83855-01	.42431 00	.15235-02	-.19558 00	.81042 00	.74406-02	-.49380 00	.11186 01
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-.12886-03	-.39617 00	.35006 00	-.28431-03	-.76551 00	.41317 00	.11256-02	-.83566 00	.34293 00
-.59287-03	-.54929 00	.24352 00	-.17673-03	-.81702 00	.19657 00	.92528-03	-.85269 00	.16576 00
-.10655-02	-.64662 00	.86505-06	-.13408-03	-.82938 00	.46752-06	.86889-03	-.85770 00	.24042-06
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.11623-05	.67356 00	.46271 00	.10431-05	.99983 00	.20893 00	-.19744-06	.99982 00	.17022 00
.19744-06	.43154 00	.48525 00	.12182-05	.99965 00	.46265 00	-.99465-06	.99982 00	.35395 00
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.84052-07	.18015 00	.49684 00	.95367-06	.45615 00	.96692 00	.41723-05	.10000 01	.86143 00
.11967-06	.86877-01	.49884 00	.12554-05	.21572 00	.99120 00	.22888-04	.97996 00	.14169 01
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-.67521-08	-.86877-01	.49884 00	.12927-05	-.21572 00	.99120 00	-.27306-05	-.97996 00	.14169 01
.65658-07	-.18015 00	.49684 00	.80466-06	-.45615 00	.96692 00	.81398-05	-.10000 01	.86143 00
.35856-07	-.28864 00	.49285 00	.56775-06	-.79938 00	.88664 00	.41611-05	-.99991 00	.57000 00
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.26193-06	-.67356 00	.46271 00	.44703-07	-.99983 00	.20893 00	.80839-06	-.99983 00	.17022 00
-.53644-06	-.10002 01	.21363-05	.20489-06	-.99989 00	.28715-06	.43213-06	-.99989 00	-.30697-06