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POSSIBLE GEOPOTENTIAL IMPROVEMENT FROM SATELLITE ALTIMETRY

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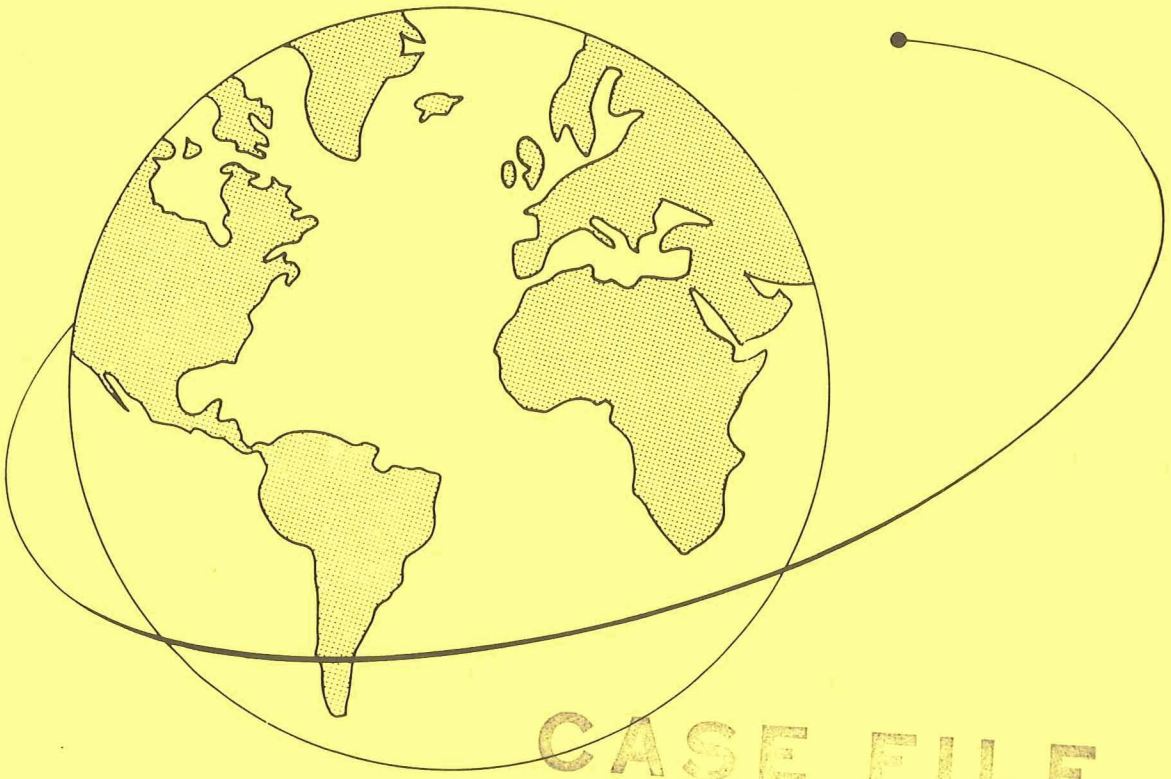

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POSSIBLE GEOPOTENTIAL IMPROVEMENT FROM SATELLITE ALTIMETRY

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NUMERICAL DEFINITION OF LOCALIZED FUNCTIONS ON A SPHERE

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ABSTRACT

To improve the geopotential representation, the use of satellite-to-ocean altitudes anticipates that the altimeter will be accurate to a few meters and that the open ocean approximates an equipotential surface to a few meters. Computational problems that might arise in the analyses could be largely circumvented by using a different, but equivalent, set of functions to represent the geopotential instead of using spherical harmonics. At any point on the geoid, only a very few of these alternative functions have significant values; the rest are negligible.

RÉSUMÉ

Pour avoir une meilleure représentation du géopotentiel, l'emploi des altitudes entre les satellites et l'océan escompte que l'altimètre sera précis à quelques mètres près et qu'au grand large un océan est proche d'une surface équipotentielle à quelques mètres près. Pour représenter le géopotentiel, il est possible de circonvenir en grande partie les problèmes de calcul qui pourraient se présenter lors des analyses en employant à la place des harmoniques sphériques une série de fonctions qui soit différente mais équivalente. Quelque soit le point sur le géoïde, il n'y a que très peu de ces fonctions alternatives qui aient une valeur appréciable; les autres sont négligeables.

РЕЗЮМЕ

С целью улучшения формы представления потенциала земли, использование высот спутников над океаном предполагает, что (а) высота эта измеряется с точностью нескольких метров и (б) что поверхность открытого океана можно приблизительно принять за поверхность равного потенциала, также с точностью нескольких метров. Иссчислительные проблемы, которые могут возникнуть при анализе, можно избежать в значительной мере, замещая сферические функции, другими, да все-таки тождественными, представляющим потенциал земли. Для любой точки на геоде только несколько из этих других, замещающих функций, имеет важное значение, всеми остальными же можно пренебречь.

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1. INITIAL ASSUMPTIONS

A promising objective for an altimeter on a satellite is the collection of information about the geopotential. This is surely not the only objective, nor was it the motivation for early studies and experiments. For a brief history of spacecraft altimetry, see Lundquist (1967a). The possibility that satellite-to-ocean altimeters offer for improving the geopotential is the only subject discussed here, but this limitation by no means detracts from the importance of other objectives.

The present discussion will not be concerned with the altimeter hardware that might be selected for satellite use. An earlier study concluded that the data from any of the several possible systems could be used in essentially the same way with only minor differences in data-processing details (Lundquist, 1967a). Equipment options are under study by other groups (e.g., Raytheon, 1968a, b, c). An accuracy no poorer than a few meters is assumed, however.

Use of satellite-to-ocean altitudes for improving the geopotential accepts the concept that the open ocean is an equipotential surface to an accuracy of a few meters. A recent study at New York University (Greenwood, Nathan, Neumann, Pierson, Jackson, and Pease, 1967) reviews departure of mean sea level from an equipotential surface due to various geophysical phenomena. In fine detail, at decimeter precision, the sea level depends upon many factors that are of great interest to oceanography. Thus, a reliable description of sea level corresponding to an equipotential surface is a necessary step on the way toward more detailed applications of altimetry to oceanography problems.

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Among these oceanographic topics, waves deserve specific discussion. Clearly, the signal returned from the ocean must be processed by the altimeter in such a way as to average over the wave structure beneath the satellite. Since ocean waves seldom exceed a few tens of meters amplitude, an averaging accuracy of 10% is all that is required for the geopotential application. This may not be a completely solved problem to date, but it seems likely to be solved. If uncertainty remains at the time an altimeter is flown on a satellite, an appropriate in-flight calibration program can certainly be established. Laser tracking from a ground station probably can provide the standard for calibration when the station is near an ocean. Hereafter, the assumption is adopted that the altimeter provides altitudes properly corrected for the ocean waves, that is, for sea state, to an accuracy of a meter or so.

Other corrections must be made because an equipotential surface calculated from the expression in spherical harmonics applicable at satellite altitudes will not be correct at sea level, owing to the gaseous and solid mass above the geoid. Veis (1967) has discussed the atmospheric correction, which has a relative magnitude of 10^{-6}. Madden (1968) has examined the mathematical questions concerned with the fact that the sea level lies within the smallest sphere containing the solid mass of the earth. He has shown that the correction that must be applied to correct the calculated equipotential is no larger than a few meters (Madden, 1968). His work also yields the formulas to make this correction. Hereafter, it will be assumed that these corrections are applied if necessary.

In summary, the discussions to follow assume that satellite-to-ocean altitudes can be measured to the accuracy with which the ocean is an equipotential surface. Quantitatively, this anticipates that the altimeter will be accurate to a few meters and that the open ocean is an equipotential surface to a few meters. The former seems to be possible in the judgment of design engineers, and the latter represents the best estimate of oceanographers.

The great value of satellite-to-ocean altitudes for improving a description of the geopotential resides in the fact that sea level is much more sensitive to fine detail in the potential than is the satellite motion governed by the potential. Stated another way, knowledge of a satellite orbit to 1 m tells much less about details in the potential than does knowledge of sea level to 1-m accuracy. Nevertheless, it seems likely that the altimeter data must be used concurrently to refine both the orbit and the potential.

2. TRACKING DATA

The conclusion was reached in previous publications that satellite-to-ocean altitudes can be treated in the same manner as other satellite-tracking data (Lundquist, 1967a, b). The arguments supporting this conclusion will not be repeated here. The referenced publications give the general expressions by which altitude observations yield equations for improving both the orbit of the satellite and the geopotential representation. The equations are identical in form to the equations employed, for example, to utilize station-to-satellite range measurements.

Altitude observations will not alone be sufficient to determine an accurate orbit for the satellite carrying the altimeter. The semimajor axis, eccentricity, and position of perigee should be well determined from the altimetry. The orbit inclination and the position of the node will depend strongly upon tracking from fixed ground stations.

Laser tracking from ground stations is likely to yield the most useful data to blend with altitudes in orbit determination and geopotential improvement. Laser ranging is particularly compatible with altimetry because both are distance measurements and because laser systems can easily measure distances to meter accuracies or better (e. g. , Plotkin, 1968; Bender, 1967; Lehr, Maestre, and Anderson, 1967). Other ground tracking data will be valuable in proportion to their ability to contribute to orbits approaching accuracies of a few meters.

The geodetic heights of tracking stations determined from conventional geodetic leveling referenced to sea level gauges can provide a valuable confirmation or calibration for the altimeter. For stations near the coast, this cross check can be accomplished through a simple calculation using the geodetic height, accurate geocentric station coordinates, and simultaneously

measured satellite-to-ocean altitudes and station-to-satellite ranges. Perhaps large lakes near tracking stations could provide a similar check. The probability that the satellite pass over the lake would be greatly increased if the latitude of the lake were the same as the inclination of the satellite.

3. GEOPOTENTIAL DETAIL

A crucial question is the detail in the geopotential representation that may be expected from analyses of satellite-to-ocean altitudes of the accuracies anticipated. As an initial approach to this problem, present knowledge of the sea profile can be examined.

Geoid surfaces calculated from previous satellite-determined geopotentials give one indication of the expected profile. The geopotential contained in the 1966 Smithsonian Institution Standard Earth is a typical example (Gaposchkin, 1966a). This is a geopotential representation in spherical harmonics through indices 8, 8, with assorted higher degree terms. It reveals large-scale variations up to more than 100 m in the geoid position relative to a reference ellipsoid. Clearly, an altimeter accurate to a few meters should easily detect and confirm these large-scale features of sea level.

Something is also known about rather small-scale variations in sea level. For example, a shipboard measurement by von Arx (1966) has shown that in $\sim 1°$ of latitude over the Puerto Rico trench, the geoid has about a 15-m depression relative to an ellipsoid. A feature of this size would also be detected by an altimeter having an accuracy of a few meters. Although the Puerto Rico trench is unusual, it is surely not unique in the oceans. The signature in the geopotential of many such features would be obtained by a satellite that observed each square degree of the ocean.

This last remark has awesome consequences, for there are some 40,000 one-degree squares on the surface of a sphere and perhaps 25,000 of these would lie over the open ocean. To represent a geopotential that is allowed to have an arbitrary value for each one-degree square, an expansion with

some 40,000 terms and coefficients is required. From a slightly different point of view, an expansion in spherical harmonics through indices 180,180 is appropriate to represent variations having wavelengths of one degree. Thus it seems that to represent the detail that could be detected by an altimeter, a very extensive geopotential model is implied.

Stated in a more affirmative manner, satellite-to-ocean altimetry offers the possibility of a vast improvement in the knowledge of the geopotential. Perhaps the realization of this possibility should be discussed (or even executed) in more modest steps than the jump from an 8,8 to a 180,180 representation.

As a first step, the possible altimeter contribution to a spherical harmonic expansion through 15,15 can be examined. This is the detail specified as an objective in the present United States National Satellite Geodesy Program (Rosenberg, 1965). Several authors have noted that even through this number of harmonics there may be coefficients that are difficult to determine only by their effects on the orbits of typical satellites (Strange and Rainey, 1968).

An expansion through 15,15 has a shortest wavelength of 12 degrees and 256 harmonic coefficients. To this detail, for altitude observations, there should be no difficulty in using exactly the same procedures and computer programs conventionally employed to determine geopotential coefficients from satellite-tracking data. The pertinent equations have been discussed (Lundquist, 1967b). Over the oceans, furthermore, the altitude measurements should easily supply the observational material necessary for a sound solution, thus alleviating the mentioned deficiencies in a solution based only on ground-station tracking.

Over land areas, there may still be a deficiency in information necessary for a full 15,15 solution since the altitude data are of no help here. However, surface gravity measurements and astrogeodetic geoids may be available in enough detail to complete the requirements for the desired

solution. Procedures for using surface gravity information in combination with satellite geopotential solutions have been demonstrated (e. g., Köhnlein, 1967). The published combinations of this kind all suffer from poor distribution of gravity data. The oceans are covered particularly sparsely, but this is just where altimetry will fill the gap.

In summary, it is quite reasonable to expect that a modest number of well-distributed satellite-to-ocean altitudes, combined with ground-station tracking, surface gravity, and astrogeodetic geoids, will provide for a strong 15, 15 geopotential solution. This may well be a convenient way to complete such a solution, although the use of enough satellites in resonance with various terms in the potential might eventually complete the task (Strange and Rainey, 1968).

The next step to consider in geopotential detail is probably a solution through 36, 36, corresponding to variations down to 5-degree wavelength. This degree of detail is suggested because it is common to average surface gravity over 5-degree squares, and a combination of commensurate surface and altimetry data could be made. This enterprise would pose some problems not encountered seriously in the 15, 15 case.

The first problem arises from the number of coefficients in an expansion terminated at 36, 36; there are $37^2 = 1369$ of these coefficients. This says that the potential at any point is calculated by summing these many terms in a series. Also, the approach discussed for the 15, 15 case, if used in the 36, 36 case, would imply the inversion of a 1369×1369 matrix to solve for the coefficients. These operations are possible on modern computers, but avoiding them would be a practical advantage.

The second problem with a 36, 36 solution arises because there is little hope that the necessary data can be obtained for this detail in all parts of the globe. Over the oceans, an altimeter could provide enough observations for each $5° \times 5°$ area, but many land areas lack correspondingly dense surface measurements. Also, the orbital perturbations caused by potential terms of

this degree are in general too small to be used to find the potential coefficients, although many resonance cases are an exception to this situation.

These problems could be largely circumvented by using a different, but equivalent, set of functions to represent the geopotential, instead of using spherical harmonics. These alternative functions are discussed in some detail in subsequent sections. In brief, there must be the same number of independent functions—that is, 1369 functions for the equivalent of a 36, 36 representation. However, at any point on the geoid, only a very few of the functions have significant values; the rest are negligible, and the potential at any point is the sum of only a very few terms. If the coefficients of the alternative functions are adjusted, it is easy to represent geopotential detail where it is known. On the other hand, short-wavelength detail can be conveniently avoided where detailed data are not available. Finally, the alternative functions are a linear combination of the spherical harmonics so that the transformation back and forth between the potential expressed in the equivalent sets of functions can be performed easily with a matrix of constant coefficients.

If a geopotential expansion through 180, 180 is finally considered so as to include such detail as those caused by the Puerto Rico trench, the problems mentioned for the 36, 36 representation are further exaggerated. Here, 32, 761 terms in a spherical harmonic expansion contribute to the potential at each point, which is clearly an impractical way to specify the potential. Still, over the oceans an altimeter promises to measure this detail. Over land, corresponding data will very probably not be known, except perhaps in highly developed regions, such as the United States or Europe. Again, an alternative set of functions seems to be a way to plan for treatment of altimeter data.

The rest of this paper pursues this thought. No claim is made that this approach is unique. Nor has the utility of the method yet been demonstrated in practice, although typical cases could easily be simulated. The use of altimetry data seems to present no obstacles of principle, but rather to pose problems of numerical procedures. The discussions in the following sections suggest a likely solution to these problems.

4. FUNCTIONS OF ONE VARIABLE

The characteristics of the functions suggested as alternatives to three-dimensional spherical harmonics can first be illustrated by more simple functions of one variable (Giacaglia and Lundquist, 1968). Any function represented by a truncated Fourier series can be represented equivalently as a linear combination of these alternative functions of one variable in essentially the same way that alternative functions of three variables would replace the spherical harmonics.

To illustrate this situation, consider a real variable $0 \leq \lambda < 2\pi$ and a set of $2N + 1$ functions $(1, \cos \lambda, \sin \lambda, \cos 2\lambda, \sin 2\lambda, \ldots, \cos N\lambda, \sin N\lambda)$. These elementary trigonometric functions span a linear vector space of dimension $2N + 1$. Any function in the space can be represented in the form

$$f(\lambda) = \sum_{j=0}^{N} (c_j \cos j\lambda + s_j \sin j\lambda) \quad , \tag{4.1}$$

where c_j and s_j are constants. Conversely, any function representable in this form is in the space. The set $(\cos j\lambda, \sin j\lambda)$ is a basis in the space.

Another set of functions forming a basis in the same space is desired, with the property that each function $q_j(\lambda)$ have significant values for arguments near some $\lambda = \lambda_j$, $0 \leq \lambda_j < 2\pi$, and small values elsewhere in the same interval. For simplicity of language, this will be called the localized property of the function, since each is significant only in one locality in the domain of its argument.

A set of functions with this property can be generated by the requirement that

$$q_k(\lambda_j) = \delta_{kj} \quad , \quad k = 0, 1, 2, \ldots, 2N \tag{4.2}$$

for

$$\lambda_j = j \frac{2\pi}{2N+1} \quad , \quad j = 0, 1, 2, \ldots, 2N \quad .$$

Conditions (4.2) are sufficient to determine the coefficients in equation (4.1) for the representation of q_i as a linear combination of the trigonometric functions.

Imposing conditions (4.2) yields the relations

$$q_{Nj}(\lambda) = \frac{1}{2N+1} \left[1 + 2 \sum_{\ell=1}^{N} \cos \ell (\lambda - \lambda_{Nj}) \right] \quad ,$$

$$\lambda_{Nj} = j \frac{2\pi}{2N+1} \quad ,$$

$$j = 0, 1, 2, \ldots, 2N \quad ,$$

$$0 \leq \lambda < 2\pi \quad . \tag{4.3}$$

The index N is added to keep track of the dimension (2N + 1) of the space in which the q_{Nj} have been generated. The inverse of (4.3) is

$$\cos m\lambda = \sum_{j=0}^{2N} \cos m\lambda_{Nj}\, q_{Nj} \quad ,$$

$$m \leq N$$

$$\sin m\lambda = \sum_{j=0}^{2N} \sin m\lambda_{Nj}\, q_{Nj} \quad . \tag{4.4}$$

With equation (4.4), any function of the form (4.1) can immediately be rewritten as a completely equivalent linear combination of the q_{Nj}; thus the first essential property of the q_{Nj} has been demonstrated. In addition, the functions have many other useful properties.

Evaluation of equation (4.4) for m = 0 yields the fact that

$$\sum_{j=0}^{2N} q_{Nj}(\lambda) = 1 \quad . \tag{4.5}$$

The $q_{Nj}(\lambda)$ are orthogonal functions; that is,

$$\int_0^{2\pi} q_{Ni}(\lambda)\, q_{Nj}(\lambda)\, d\lambda = \frac{2\pi}{2N+1}\, \delta_{ij} \quad . \tag{4.6}$$

Also,

$$\sum_{\ell=0}^{2N} q_{Ni}(\lambda_{N\ell})\, q_{Nj}(\lambda_{N\ell}) = \delta_{ij} \quad . \tag{4.7}$$

From the form of (4.3), it is clear that all the q_{Nj} have the same shape. They differ only by translations in multiples of $2\pi/(2N+1)$ along the λ axis:

$$q_{Nj}(\lambda) = q_{N,0}(\lambda - \lambda_{Nj}) \quad . \tag{4.8}$$

Finally, the localized property of the q_{Nj} must be demonstrated. For each one of the 2N + 1 values of λ equally spaced between 0 and 2π, condition (4.2) ensures that all but one of the q_{Nj} are zero. Hence, a particular q_{Np} has a maximum value 1 at point λ_{Np} and zero at all the other 2N points. Another way to state this is that at each of the 2N + 1 points, only the one function with the same indices contributes to the value of any linear combination of the q_{Np}.

Further, the function q_{Ni} remains relatively small near λ_{Nj}, $i \neq j$. This is illustrated for N = 15 in Figure 1. Note that the secondary maxima of $q_{15,j}$ are substantially lower than the primary maximum. This is another manifestation of the localized property.

Closely related to the localized property is the property that if $f(\lambda)$ is in the space spanned by the $q_{Nj}(\lambda)$, then

$$f(\lambda) = \sum_{j=0}^{2N} f(\lambda_{Nj})\, q_{Nj}(\lambda) \quad . \tag{4.9}$$

Equation (4.4) is a special case of this general formula. If $f(\lambda)$ is not in the space spanned by the $q_{Nj}(\lambda)$, then the right side of (4.9) gives the projection of $f(\lambda)$ on the space.

The relations given in this section and the procedures suggested are, of course, equivalent to numerical Fourier analysis. Thus, nothing essentially new has been accomplished. However, this formulation is useful as a guide to the subsequent treatment of the two- and three-dimensional cases.

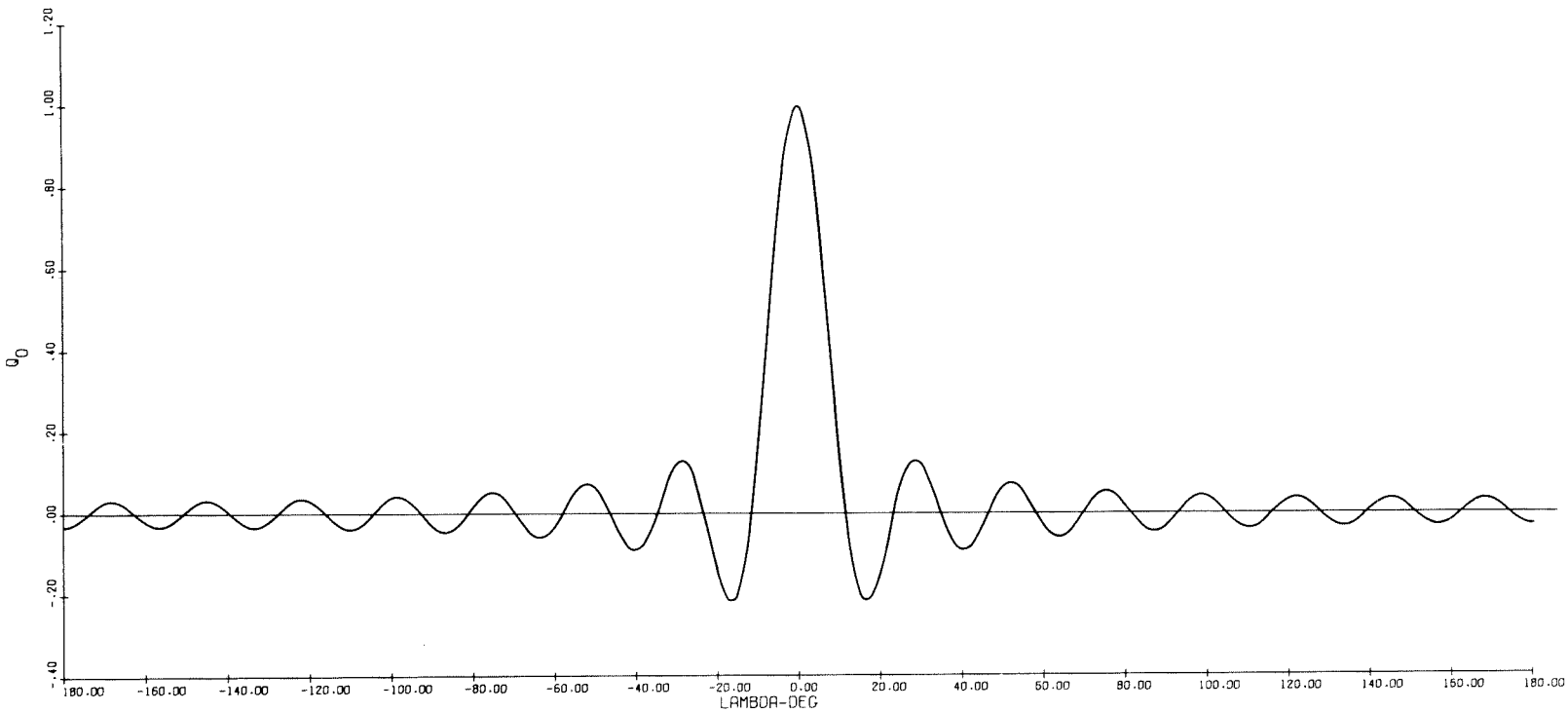

Figure 1. Graph of the function $q_{15,0}$.

5. FUNCTIONS ON A SPHERE

The usual surface harmonics defined on a sphere have the expressions

$$X_{nm}(\theta, \lambda) = P_{nm}(\theta) \cos m\lambda \quad , \qquad n = 0, 1, \ldots, N; \; m = 0, 1, \ldots, n \quad ,$$

$$Y_{nm}(\theta, \lambda) = P_{nm}(\theta) \sin m\lambda \quad , \qquad n = 1, 2, \ldots, N; \; m = 1, 2, \ldots, n \quad , \tag{5.1}$$

where for brevity $P_{nm}(\theta)$ are associated Legendre functions more properly represented by $P_{nm}(\cos \theta)$. If the set of functions is truncated at $n = N$, there are $M = (N + 1)^2$ independent functions in the set.

By analogy to the one-dimensional example, it is desired to define another set of M independent functions $Z_j(\theta, \lambda)$ spanning the same space as the surface harmonics and having localized properties generated by the condition that

$$Z_j(\theta_i, \lambda_i) = \delta_{ij} \quad , \qquad i, j = 1, 2, \ldots, M \tag{5.2}$$

for M points, θ_i, λ_i, on the sphere. From these requirements follow immediately the relations analogous to (4.4):

$$X_{nm}(\theta, \lambda) = \sum_{j=1}^{M} X_{nm}(\theta_j, \lambda_j) \, Z_j(\theta, \lambda) \quad ,$$

$$Y_{nm}(\theta, \lambda) = \sum_{j=1}^{M} Y_{nm}(\theta_j, \lambda_j) \, Z_j(\theta, \lambda) \quad . \tag{5.3}$$

Since the Z_j span the same space as the X_{nm}, Y_{nm}, the former must also be expressible as linear combinations of the latter. Thus,

$$Z_j(\theta, \lambda) = \sum_{n=0}^{N} \sum_{m=0}^{n} \left[A_j^{nm} X_{nm}(\theta, \lambda) + B_j^{nm} Y_{nm}(\theta, \lambda) \right] \quad . \tag{5.4}$$

The constants A_j^{nm} and B_j^{nm} can be determined either from conditions (5.2) and equation (5.4) or from inverting equation (5.3). The two operations are equivalent.

One important property of the Z_j follows directly from writing (5.3) for $n = m = 0$. Since $X_{00}(\theta, \lambda) = 1$, equation (5.3) gives

$$\sum_{j=1}^{M} Z_j(\theta, \lambda) = 1 \quad . \tag{5.5}$$

Equations (5.3) are implicit definitions of the functions $Z_j(\theta, \lambda)$ once a set of points θ_j, λ_j has been selected on the sphere. The equations (5.3) are conceptually simple, but the selection of points seems to be a more profound topic.

First, the points must be distributed in such a way that the matrix corresponding to the coefficients in equation (5.3) is not singular. That is,

$$\begin{vmatrix} X_{00}(\theta_1, \lambda_1) & X_{00}(\theta_2, \lambda_2) & \cdots & X_{00}(\theta_M, \lambda_M) \\ X_{10}(\theta_1, \lambda_1) & X_{10}(\theta_2, \lambda_2) & \cdots & X_{10}(\theta_M, \lambda_M) \\ & & \cdots & \\ Y_{11}(\theta_1, \lambda_1) & Y_{11}(\theta_2, \lambda_2) & \cdots & Y_{11}(\theta_M, \lambda_M) \\ & & \cdots & \\ Y_{NN}(\theta_1, \lambda_1) & Y_{NN}(\theta_2, \lambda_2) & \cdots & Y_{NN}(\theta_M, \lambda_M) \end{vmatrix} \neq 0 \quad . \tag{5.6}$$

Clearly, also, it is desirable to distribute the $M = (N + 1)^2$ points uniformly over the sphere in some sense. Of course, there are but five regular polyhedra, and only the tetrahedron has a number of vertices equal to the square of an integer. Hence, the distribution must depart somehow from ideal regularity.

Numerical experiments or general arguments show further that a distribution that is symmetrical with respect to the equatorial plane and has rotational symmetry about the polar axis yields a zero value for the determinant (5.6). For example, if $N = 3$, a distribution with one point at each pole and seven uniformly spaced points at 30°N and 30°S latitude is not an acceptable array of points, even though it is an attractively uniform distribution of the correct number of points.

If one selects an arbitrary distribution of points satisfying (5.6), then (5.3) and its inverse by mathematical brute force are virtually the end of the story, unless particular properties of the distribution allow further conclusions to be reached. The cases in which (5.3) must be inverted numerically to express the Z_i as combinations of the X_{nm}, Y_{nm} can already be quite useful, since the inversion need be done only once to obtain a usable expression for the Z_i.

6. THE FUNCTIONS $W_{kj}(\theta, \lambda)$

There is at least one distribution of points on a sphere for which much can be proved about the properties of the $Z_j(\theta, \lambda)$. This distribution recognizes that there are some natural requirements on the point distribution suggested by the wavelengths inherent in the surface harmonics. Thus, there are $2N + 1$ independent functions of longitude involved in the surface harmonics, and it is natural to expect that there be $2N + 1$ distinct longitudes in the point distribution. Similarly, one might expect $(2N + 1)/2$ divisions of latitude between the poles.

First, define $N + 1$ latitude values by the equations

$$\theta_{2i} = \frac{i2\pi}{2N + 1} \quad , \qquad i = 0, 1, \ldots, \left[\frac{N}{2}\right] \quad ,$$

$$\theta_{2i+1} = \frac{(N - i)2\pi}{2N + 1} \quad , \qquad i = 0, 1, \ldots, \left[\frac{N - 1}{2}\right] \quad . \tag{6.1}$$

Figure 2 illustrates the spacing of these points and the indexing convention. Next, at each of these latitudes, θ_k, define $2k + 1$ equally spaced points in longitude:

$$\lambda_{kj} = \frac{j2\pi}{2k + 1} \quad , \qquad j = 0, 1, \ldots, 2k \quad . \tag{6.2}$$

These are also illustrated in Figure 2.

For any positive integer N, equations (6.1) and (6.2) define $(N + 1)^2$ points. There are $N + 1$ latitudes, starting at the North Pole. The spacing in latitude between circles of points is $2\pi/(2N + 1)$, except that the most southerly latitude is only half this distance from the South Pole. This most southerly latitude circle has three points. Below the single point at the North Pole, the next circle has five points. The second most southerly circle has

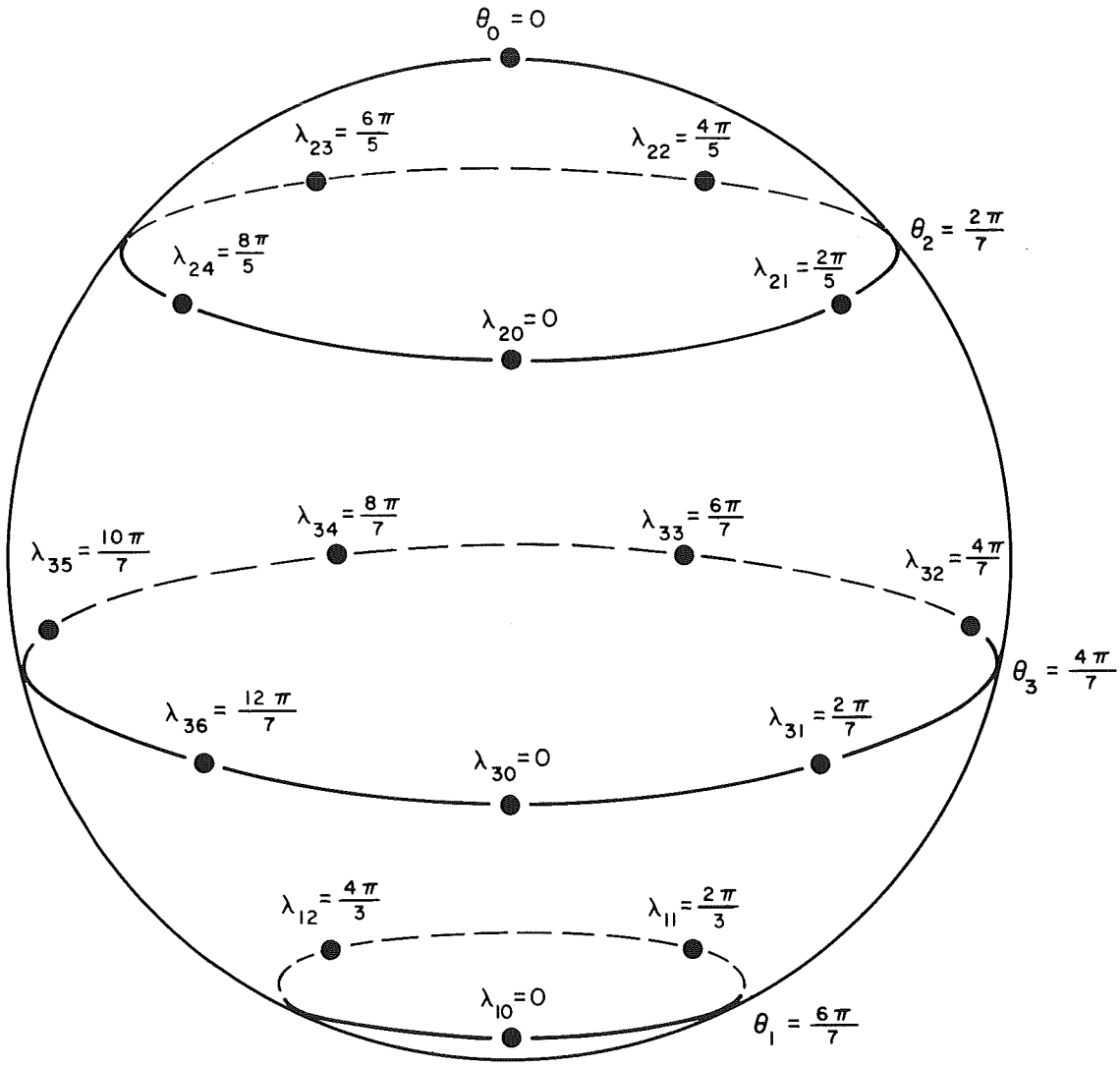

Figure 2. Distribution of points on the sphere for N = 3.

seven points, etc. The latitude circle nearest the Equator has the greatest number of points, namely, $2N + 1$. Also, any meridian circle has $2N + 1$ uniformly spaced intersections with the latitude circles. In this sense, the points are spaced equally in latitude and longitude. For notational brevity, this distribution of points will sometimes be referred to as the 1-3-5 . . . distribution.

An important property of this distribution is that condition (5.6) is satisfied, and the Z_j are well defined. For this particular point distribution, the functions $Z_j(\theta, \lambda)$ will be denoted by $W_{kj}(\theta, \lambda)$, where

$$W_{kj}(\theta_\ell, \lambda_{\ell i}) = \delta_{kj, \ell i} \quad . \tag{6.3}$$

Also,

$$W_{kj}(\theta, \lambda) = \sum_{n=0}^{N} \sum_{m=0}^{n} \left[A_{kj}^{nm} X_{nm}(\theta, \lambda) + B_{kj}^{nm} Y_{nm}(\theta, \lambda) \right] \quad , \tag{6.4}$$

and

$$X_{nm}(\theta, \lambda) = \sum_{k=0}^{N} \sum_{j=0}^{2k} X_{nm}(\theta_k, \lambda_{kj}) \, W_{kj}(\theta, \lambda) \quad ,$$

$$Y_{nm}(\theta, \lambda) = \sum_{k=0}^{N} \sum_{j=0}^{2k} Y_{nm}(\theta_k, \lambda_{kj}) \, W_{kj}(\theta, \lambda) \quad . \tag{6.5}$$

From (5.5) or (6.5) it follows that

$$\sum_{k=0}^{N} \sum_{j=0}^{2k} W_{kj}(\theta, \lambda) = 1 \quad . \tag{6.6}$$

A number of further properties of the W_{kj} can also be proved. Consider initially $k \neq 0$ and let θ_k not be a zero of $P_{nm}(\theta)$, whatever the values of n and m. This is true for the 1-3-5 $\cdots$ distribution. It follows that

$$W_{kj}(\theta_k, \lambda) = \sum_{m=0}^{N} \left\{ \left[\sum_{n=m}^{N} A_{kj}^{nm} P_{nm}(\cos \theta_k) \right] \cos m\lambda + \right.$$

$$\left. + \left[\sum_{n=m}^{N} B_{kj}^{nm} P_{nm}(\cos \theta_k) \right] \sin m\lambda \right\}$$

$$= \sum_{m=0}^{N} \left(a_{kj}^{m} \cos m\lambda + b_{kj}^{m} \sin m\lambda \right) \quad . \tag{6.7}$$

But equation (6.3) requires for a fixed k that

$$W_{kj}(\theta_k, \lambda_{k\ell}) = \delta_{j\ell} \quad . \tag{6.8}$$

Equations (6.7) and (6.8) define uniquely a set of 2k + 1 functions of λ, namely,

$$W_{kj}(\theta_k, \lambda) = q_{kj}(\lambda) = \frac{1}{2k+1} \left[1 + 2 \sum_{m=1}^{k} \cos m(\lambda - \lambda_{kj}) \right] \quad , \tag{6.9}$$

$$j = 0, 1, \ldots, 2k \quad .$$

The $q_{kj}(\lambda)$ are identically the functions discussed in Section 4. Thus, for each latitude circle defined by θ_k, the W_{kj} evaluated for $\theta = \theta_k$ reduce to the $q_{kj}(\lambda)$. This is one sense in which the W_{kj} are natural extensions of the q_{kj}.

To illustrate another related property of the W_{kj}, it is convenient first to define a further set of functions closely related to the q_{kj}:

$$C_0(\theta) = \frac{1}{2N+1}\left(1 + 2\sum_{j=1}^{N} \cos j\theta\right) ,$$

$$C_\ell(\theta) = \frac{2}{2N+1}\left(1 + 2\sum_{j=1}^{N} \cos j\theta_\ell \cos j\theta\right) , \tag{6.10}$$

$$\theta_{2i} = \frac{i2\pi}{2N+1} , \qquad i = 0, 1, \ldots, \frac{N}{2} ,$$

$$\theta_{2i+1} = \frac{(N-i)2\pi}{2N+1} , \qquad i = 0, 1, \ldots, \frac{N-1}{2} . \tag{6.11}$$

These functions have the properties that

$$C_\ell(\theta_j) = \delta_{\ell j} , \quad j, \ell = 0, 1, \ldots, N , \tag{6.12}$$

$$\sum_{\ell=0}^{N} C_\ell(\theta) = 1 . \tag{6.13}$$

Conversely, if $C_\ell(\theta)$ is a linear combination of functions $\cos j\theta$, point distribution (6.11) and conditions (6.12) and (6.13) imply equations (6.10). Thus, the functions C_ℓ are functions of latitude having localized properties similar to those of the q_{kj}.

Now for a fixed k in equation (6.4), the sum of the $W_{kj}(\theta, \lambda)$ for the values of j, $(j = 0, 1, \ldots, 2k)$, can be shown to yield the result

$$\sum_{j=0}^{2k} W_{kj}(\theta, \lambda) = C_k(\theta) , \tag{6.14}$$

and, in particular,

$$W_{00}(\theta, \lambda) = C_0(\theta) \quad . \tag{6.15}$$

Equations (6.14) and (6.15) are another manifestation of the localized properties of the W_{kj}.

7. EXAMPLES OF $W_{kj}(\theta, \lambda)$

The $W_{kj}(\theta, \lambda)$ for any N are implicitly defined by equations (6.5). For small values of N it is possible to write explicit expressions for the W_{kj} in simple form.

For N = 1, the functions are

$$W_{00} = \frac{1}{3}(1 + 2\cos\theta) \quad ,$$

$$W_{1j} = \frac{2}{9}(1 + 2\cos\theta_1 \cos\theta) + \frac{2\sin\theta}{3\sin\theta_1}\cos(\lambda - \lambda_{1j}) \quad , \tag{7.1}$$

$$\text{for } j = 0, 1, 2 \quad ,$$

where

$$\theta_0 = 0 \quad ,$$

$$\theta_1 = \frac{2\pi}{3} \quad ; \quad \lambda_{10} = 0 \, , \lambda_{11} = \frac{2\pi}{3} \, , \quad \lambda_{12} = \frac{4\pi}{3} \quad .$$

For N = 2, the functions are

$$W_{00} = \frac{1}{5}(1 + 2\cos\theta + 2\cos 2\theta) \quad ,$$

$$W_{1j} = \frac{2}{15}(1 + 2\cos\theta_1 \cos\theta + 2\cos 2\theta_1 \cos 2\theta)$$

$$+ \frac{2\sin\theta(\cos\theta_2 - \cos\theta)}{3\sin\theta_1(\cos\theta_2 - \cos\theta_1)}\cos(\lambda - \lambda_{1j}) \quad , \quad j = 0, 1, 2 \quad ,$$

$$W_{2j} = \frac{2}{25}(1 + 2\cos\theta_2 \cos\theta + 2\cos 2\theta_2 \cos 2\theta)$$

$$+ \frac{2\sin\theta_2 \sin\theta(\cos\theta - \cos\theta_1)}{5\sin^2\theta_2(\cos\theta_2 - \cos\theta_1)} \cos(\lambda - \lambda_{2j})$$

$$+ \frac{2\sin\theta_1 \sin\theta(\cos\theta - \cos\theta_2)}{5\sin^2\theta_2(\cos\theta_2 - \cos\theta_1)} \cos(\lambda + 2\lambda_{2j})$$

$$+ \frac{2\sin^2\theta}{5\sin^2\theta_2} \cos 2(\lambda - \lambda_{2j}) \quad , \qquad j = 0, 1, 2, 3, 4 \quad ,$$

where

$$\theta_0 = 0 \quad ,$$

$$\theta_1 = \frac{4\pi}{5} \quad ; \quad \lambda_{10} = 0, \ \lambda_{11} = \frac{2\pi}{3}, \ \lambda_{12} = \frac{4\pi}{3} \quad ,$$

$$\theta_2 = \frac{2\pi}{5} \quad ; \quad \lambda_{20} = 0, \ \lambda_{21} = \frac{2\pi}{5}, \ \lambda_{22} = \frac{4\pi}{5}, \ \lambda_{23} = \frac{6\pi}{5}, \ \lambda_{24} = \frac{8\pi}{5} \quad .$$

Numerical examples for larger values of N are given by Hebb and Mair (1969).

8. FUNCTIONS IN THREE DIMENSIONS

In three dimensions, the functions in which the potential is usually expanded can be written as

$$\mathcal{X}_{nm}(r, \theta, \lambda) = R_n(r)\, X_{nm}(\theta, \lambda) \quad ,$$

$$\mathcal{Y}_{nm}(r, \theta, \lambda) = R_n(r)\, Y_{nm}(\theta, \lambda) \quad , \tag{8.1}$$

where the X_{nm} and Y_{nm} are the surface harmonics in equation (5.1) and

$$R_n(r) = \left(\frac{a}{r}\right)^{n+1} \quad . \tag{8.2}$$

There are $M = (N + 1)^2$ functions (8.1) in a space that corresponds to a maximum value $n = N$.

As with the one- and two-dimensional cases, it is again desired to define an alternative set of functions $\mathcal{Z}_j(r, \theta, \lambda)$ that have localized properties generated by the condition that

$$\mathcal{Z}_i(r_j, \theta_j, \lambda_j) = \delta_{ij} \quad , \tag{8.3}$$

where $(r_j, \theta_j, \lambda_j)$ is a point in a selected set of $(N + 1)^2$ points. It follows immediately that

$$\mathcal{X}_{nm}(r, \theta, \lambda) = \sum_{j=1}^{M} \mathcal{X}_{nm}(r_j, \theta_j, \lambda_j)\, \mathcal{Z}_j(r, \theta, \lambda) \quad ,$$

$$\mathcal{Y}_{nm}(r, \theta, \lambda) = \sum_{j=1}^{M} \mathcal{Y}_{nm}(r_j, \theta_j, \lambda_j)\, \mathcal{Z}_j(r, \theta, \lambda) \quad . \tag{8.4}$$

Let the inverse of this be written as

$$\mathcal{Z}_j(r,\theta,\lambda) = \sum_{n=0}^{N}\sum_{m=0}^{n}\left[a_j^{nm}\,\mathcal{X}_{nm}(r,\theta,\lambda) + \mathcal{B}_j^{nm}\,\mathcal{Y}_{nm}(r,\theta,\lambda)\right] . \tag{8.5}$$

Analogously to equations (5.3), equations (8.4) are an implicit definition for the $\mathcal{Z}_j(r,\theta,\lambda)$. Again, the crucial question is the distribution of points $(r_j, \theta_j, \lambda_j)$. For the $\mathcal{Z}_j(r,\theta,\lambda)$ to be well defined, it is necessary and sufficient that

$$\begin{vmatrix} \mathcal{X}_{00}(r_1,\theta_1,\lambda_1) & \mathcal{X}_{00}(r_2,\theta_2,\lambda_2) & \cdots & \mathcal{X}_{00}(r_M,\theta_M,\lambda_M) \\ \mathcal{X}_{10}(r_1,\theta_1,\lambda_1) & \mathcal{X}_{10}(r_2,\theta_2,\lambda_2) & \cdots & \mathcal{X}_{10}(r_M,\theta_M,\lambda_M) \\ & & \cdots & \\ \mathcal{Y}_{11}(r_1,\theta_1,\lambda_1) & \mathcal{Y}_{11}(r_1,\theta_1,\lambda_1) & \cdots & \mathcal{Y}_{11}(r_M,\theta_M,\lambda_M) \\ & & \cdots & \\ \mathcal{Y}_{NN}(r_1,\theta_1,\lambda_1) & \mathcal{Y}_{NN}(r_2,\theta_2,\lambda_2) & \cdots & \mathcal{Y}_{NN}(r_M,\theta_M,\lambda_M) \end{vmatrix} \neq 0 . \tag{8.6}$$

If all the points $(r_j, \theta_j, \lambda_j)$ are distributed on a sphere of some radius $r_j = r_0$, then condition (8.6) reduces immediately to (5.6), and all the discussions of Sections 5, 6, and 7 are pertinent to the three-dimensional case. In this situation, equations (8.4) become

$$\mathcal{X}_{nm}(r,\theta,\lambda) = \left(\frac{a}{r_0}\right)^{n+1}\sum_{j=1}^{M} X_{nm}(\theta_j,\lambda_j)\,\mathcal{Z}_j(r,\theta,\lambda) ,$$

$$\mathcal{Y}_{nm}(r,\theta,\lambda) = \left(\frac{a}{r_0}\right)^{n+1}\sum_{j=1}^{M} Y_{nm}(\theta_j,\lambda_j)\,\mathcal{Z}_j(r,\theta,\lambda) , \tag{8.7}$$

or

$$\left(\frac{r_0}{r}\right)^{n+1} X_{nm}(\theta, \lambda) = \sum_{j=1}^{M} X_{nm}(\theta_j, \lambda_j)\, \mathcal{J}_j(r, \theta, \lambda) \quad ,$$

$$\left(\frac{r_0}{r}\right)^{n+1} Y_{nm}(\theta, \lambda) = \sum_{j=1}^{M} Y_{nm}(\theta_j, \lambda_j)\, \mathcal{J}_j(r, \theta, \lambda) \quad . \tag{8.8}$$

Equations (8.8) have the same form as equation (5.3), so their inverse can be expressed simply in terms

$$\mathcal{J}_j(r, \theta, \lambda) = \sum_{n=0}^{M} \sum_{m=0}^{n} \left[a_j^{nm} \left(\frac{r_0}{r}\right)^{n+1} X_{nm}(\theta, \lambda) + b_j^{nm} \left(\frac{r_0}{r}\right)^{n+1} Y_{nm}(\theta, \lambda) \right] \quad , \tag{8.9}$$

where the a_j^{nm} and b_j^{nm} are identical to those of Sections 5, 6, and 7 if the same points on the sphere are selected. This form is convenient for investigating the properties of the $\mathcal{J}_j(r, \theta, \lambda)$.

Let $r = r_0 + h$, so that

$$\left(\frac{r_0}{r}\right)^{n+1} = \left(\frac{r_0}{r}\right)\left(\frac{r_0}{r_0 + h}\right)^{n} = \left(\frac{r_0}{r}\right)\left(1 + \frac{h}{r_0}\right)^{-n} \quad . \tag{8.10}$$

Expanding this in a series gives

$$\left(\frac{r_0}{r}\right)^{n+1} = \left(\frac{r_0}{r}\right)\left[1 + (-n)\left(\frac{h}{r_0}\right) + \frac{(-n)(-n-1)}{2}\left(\frac{h}{r_0}\right)^2 + \ldots\right] \quad . \tag{8.11}$$

Substitution of (8. 11) into (8. 9) then gives

$$\mathcal{J}_j(r,\theta,\lambda) = \sum_{n=0}^{M} \sum_{m=0}^{n} \left\{ \left(\frac{r_0}{r}\right) \left[a_j^{nm} X_{nm} + b_j^{nm} Y_{nm}\right] \right.$$

$$+ \left(\frac{r_0}{r}\right) \left(\frac{h}{r_0}\right) \left[a_j^{nm}(-n) X_{nm} + b_j^{nm}(-n) Y_{nm}\right]$$

$$+ \left(\frac{r_0}{h}\right) \left(\frac{h}{r_0}\right)^2 \left[a_j^{nm} \frac{(-n)(-n-1)}{2} X_{nm} + b_j^{nm} \frac{(-n)(-n-1)}{2} Y_{nm}\right]$$

$$\left. + \ldots \right\} . \qquad (8.12)$$

But the first term on the right of (8. 12) can be expressed simply in terms of the Z_j as defined in (5. 4). Define $\mathcal{J}_j^0(r,\theta,\lambda)$ by

$$\mathcal{J}_j^0(r,\theta,\lambda) = \left(\frac{r_0}{r}\right) Z_j(\theta,\lambda) \quad . \qquad (8.13)$$

Then

$$\mathcal{J}_j(r,\theta,\lambda) = \mathcal{J}_j^0(r,\theta,\lambda)$$

$$+ \left(\frac{h}{r_0 + h}\right) \sum_{n=0}^{M} \sum_{m=0}^{n} \left[a_j^{nm}(-n) X_{nm} + b_j^{nm}(-n) Y_{nm}\right]$$

$$+ \ldots \quad .$$

Since the $\mathcal{J}_j$ will be evaluated on the geoid, a value of r_0 can be selected such that

$$\frac{h}{r_0 + h} \sim -\frac{1}{2}\,\frac{1}{298} \quad \text{at the poles, and}$$

$$\frac{h}{r_0 + h} \sim +\frac{1}{2}\,\frac{1}{298} \quad \text{at the Equator.}$$

From the expanded form of $\mathcal{J}_j(r, \theta, \lambda)$, it can be seen that, for small values of (h/r), the function retains the localized properties imposed by the factor Z_j in the dominant term $\mathcal{J}_j^0$. If the 1-3-5$\cdots$ distribution is selected, then the Z_j becomes W_{jk}, and still more can be said about the behavior of the $\mathcal{J}_j$.

However, there may be advantages in selecting a distribution of points not lying on a sphere. For example, the ellipsoid best approximating the geoid might be chosen, and points distributed on it according to the 1-3-5$\cdots$ distribution. In this case, the terms on the right of equations (8.4) have different factors $(a/r_j)^{n+1}$ because the r_j are different. Still, from general considerations, it seems that the first terms accounting for displacements of the geoid from the ellipsoid will be proportional to (h/r_R), where r_R is on the reference ellipsoid and h is the distance from the ellipsoid. The maximum value of h for sea level will be less than 100 m, so $(h/r_R) \sim 10^{-5}$.

9. COEFFICIENTS OF $\mathcal{J}_j$ IN THE GEOPOTENTIAL

In spherical harmonics, the geopotential can be represented by

$$V(r,\theta,\lambda) = GM \sum_{n=0}^{N} \sum_{m=0}^{n} \left[C_{nm} \mathcal{X}_{nm}(r,\theta,\lambda) + S_{nm} \mathcal{Y}_{nm}(r,\theta,\lambda) \right] , \qquad (9.1)$$

where GM is the gravitational constant for the earth. For objects constrained to rotate with the earth, such as the oceans, the centrifugal potential must be added to this, namely,

$$+ \frac{\omega^2 r^2}{2} \sin^2 \theta , \qquad (9.2)$$

where ω is the rotational rate of the earth.

Substituting expressions for $\mathcal{X}_{nm}$ and $\mathcal{Y}_{nm}$ into (9.1) gives

$$V(r,\theta,\lambda) = GM \sum_{j=1}^{M} \left[\sum_{n=0}^{N} \sum_{m=0}^{n} C_{nm} \mathcal{X}_{nm}(r_j,\theta_j,\lambda_j) + S_{nm} \mathcal{Y}_{nm}(r_j,\theta_j,\lambda_j) \right] \mathcal{J}_j(r,\theta,\lambda) . \qquad (9.3)$$

If the coefficient L_j is defined by

$$L_j = \sum_{n=0}^{N} \sum_{m=0}^{n} \left[C_{nm} \mathcal{X}_{nm}(r_j,\theta_j,\lambda_j) + S_{nm} \mathcal{Y}_{nm}(r_j,\theta_j,\lambda_j) \right] , \qquad (9.4)$$

then

$$V(r,\theta,\lambda) = GM \sum_{j=1}^{M} L_j \mathcal{J}_j(r,\theta,\lambda) . \qquad (9.5)$$

This is a representation of the geopotential that is completely equivalent to equation (9.1). However, each term in the sum dominates in one local region of the geoid, namely, the region around one of the selected grid of points. The functions $\mathcal{J}_j$ were defined so as to produce this situation. Determining the coefficients L_j is equivalent to determining the coefficients C_{nm} and S_{nm}, since the transformation and its inverse from $\mathcal{J}_j$ to $\mathcal{X}_{nm}$ and $\mathcal{Y}_{nm}$ also define the transformations between the coefficients.

In the space around the earth, the equation of an equipotential surface is

$$GM \sum_{j=1}^{M} L_j \mathcal{J}_j(r, \theta, \lambda) - V = 0 \quad , \tag{9.6}$$

where V is a constant. The geoid, that is, mean sea level, is given by

$$GM \sum_{j=1}^{M} L_j \mathcal{J}_j(r, \theta, \lambda) + \frac{\omega^2 r^2}{2} \sin^2 \theta - V_0 = 0 \quad . \tag{9.7}$$

There are several ways that a determination of the geopotential might proceed utilizing the localized properties of the $\mathcal{J}_j$ and equation (9.5). The particular procedure employed would depend somewhat upon the knowledge of the geopotential existing at the time the determination process is initiated. A simplified scenario, based on assumed conditions that might exist, can illustrate the general character of the procedures.

First, it can be assumed that the coefficients are available for a reasonably accurate geopotential in spherical harmonics through 15, 15. Presumably this geopotential representation would be the product of orbital analyses of many satellites, perhaps including altimeter data as outlined in Section 3 and in Lundquist (1967a).

Second, it will be assumed that an altimeter-bearing satellite has been flown and has produced altitude data sufficient for a substantial improvement in the ocean geoid beyond the profile given by the 15, 15 solution. The accuracy of the altitudes should be in the few-meter range as discussed in Section 1.

Third, laser tracking of the satellite to meter accuracy will be assumed from a network of several ground stations.

Fourth, it will be assumed that the knowledge of the geopotential (including coefficients for resonant harmonics) together with ground-station tracking data allows an orbit for the satellite to be determined with meter accuracy in the vicinity of the tracking stations. However, the orbit based on ground-station tracking may not be expected to maintain meter accuracy over the long stretches of ocean between ground stations.

This last assumption leads to the fifth assumption, namely, that the altitude data themselves must be used to help generate the orbit to meter accuracy over the oceans. At the same time, the altitudes will be used to define the ocean geoid. An improvement of the geopotential probably will not be required for orbit determination, but if it is required, the determination can be done as a separate step in the chain of calculations.

Given these assumptions, the procedure to be followed is broadly a differential improvement calculation. The steps of the process might go as follows:

From the ground-station tracking, initial orbital elements and a corresponding initial orbit would be generated. From this orbit, a position $\vec{r}(t_a)$ of the satellite can be calculated for the time t_a of each altitude measurement.

From the position of the satellite and from the ocean geoid corresponding to the initial geopotential, the point $\vec{S}$ on the ocean to which the altitude has been measured can be calculated. This calculation, of course, depends upon

the characteristics of the altimeter. The calculation might be quite different for a broad-beam radio altimeter than for a narrow-beam laser altimeter. The calculated or expected value of the altitude is then the magnitude h of the vector

$$\vec{h}(t_a) = \vec{r}(t_a) - \mathcal{R}_3 \mathcal{R} \vec{S}[\vec{r}(t_a), V_0, L_1, L_2, \ldots, L_M] \quad . \tag{9.8}$$

The position $\vec{r}(t_a)$ is to be considered as a function of the orbital elements E_k, although this dependency has not been explicitly indicated in equation (9.8). The transformations $\mathcal{R}$ and $\mathcal{R}_3$ carry the earth-fixed vector $\vec{S}$ into the space-fixed system in which $\vec{r}$ is expressed (see Gaposchkin, 1966b, or Lundquist, 1967a).

Formally expressing the differential of h gives

$$dh = \sum_{i,k} \frac{\partial h}{\partial r_i} \frac{\partial r_i}{\partial E_k} dE_k + \sum_{\ell,i,k} \frac{\partial h}{\partial S_\ell} \frac{\partial S_\ell}{\partial r_i} \frac{\partial r_i}{\partial E_k} dE_k$$

$$+ \sum_{\ell} \frac{\partial h}{\partial S_\ell} \frac{\partial S_\ell}{\partial V_0} dV_0 + \sum_{\ell,j} \frac{\partial h}{\partial S_\ell} \frac{\partial S_\ell}{\partial L_j} dL_j + \sum \frac{\partial h}{\partial r_i} \frac{\partial r_i}{\partial L_j} dL_j \quad . \tag{9.9}$$

Because of the fifth assumption, it could be possible to neglect the last term, involving the dependence of h on the coefficients L_j through the dependence of r_i on the L_j.

If dh is identified with the difference between the calculated and the observed altitudes, the equation (9.9) leads to an observation equation for corrections δE_k to the orbital elements and for corrections δV_0 and δL_i to the parameters specifying the geoid. The observation equation derived from equation (9.9) must also provide for errors δh in the observations of h. In conventional format, for each measurement h_i at some time t_i, an observation equation is written (see Kaula, 1966, p. 72):

$$h_i(\text{observed at } t_i) - h_i(\text{calculated for } t_i) = \mathcal{M}_{ij}\delta F_j - \delta h_i \quad , \qquad (9.10)$$

where δF_j are the corrections δE_j, δV_0, δL_j; and $\mathcal{M}_{ij}$ are the partial derivatives with respect to F_j from equation (9.9) evaluated at time t_i.

The next step in utilizing altimetry data is a solution for the δF_j from equations (9.10) and similar observation equations from ground-station tracking. The latter equations, by the assumptions above, will involve only the δE_j. Each of the equations (9.10) will have a term in δV_0. However, the occurrences of terms in δL_j are strongly limited by the localized properties of the $\mathcal{J}_j$.

To illustrate this situation, a simplified procedure can be considered. The surface of the reference surface can be divided into $M = (N+1)^2$ areas centered on the points in the selected set from which the $\mathcal{J}_j$ were derived. For the region around point $(r_k, \delta_k, \lambda_k)$, the term $L_k \mathcal{J}_k$ dominates the sum in equation (9.7). Each line from the satellite through the subaltimeter point $\vec{S}_i$, for an observation at time t_i, intersects one of the M regions, noted for example by an index k, $\vec{S}_i^k$.

This suggests that a vector $\vec{T}_i^k$ be defined by

$$\vec{T}_i^k = \vec{S}_i^{k,0} - \vec{G}^{k,0} \quad , \qquad (9.11)$$

where $\vec{G}^{k,0}$ is the point with arguments θ_k, λ_k on the surface defined by (9.7) with the initial values V_0^0 and L_j^0 in the geopotential, and $\vec{S}_i^{k,0}$ is the subaltimeter point calculated with the initial V_0^0 and L_j^0. The vector $\vec{T}_i^k$ is a chord connecting two points on the geoid.

It is reasonable to expect that $\vec{T}_i^k$ will be essentially unaffected by small changes in V_0 and the L_j, since both terms on the right of (9.11) respond similarly to these changes. Thus, $\vec{S}_i^k$ will be assumed to have a satisfactory representation as

$$\vec{S}_i^k = \vec{G}^k + \vec{T}_i^k \quad . \tag{9.12}$$

This asserts that the dependence of $\vec{S}_i^k$ on small changes in V_0 and the L_j arises mainly through the dependence of $\vec{G}^k$ on V_0 and the L_j. But by the localized properties of the $\mathcal{J}_j$, only changes in the single coefficient L_k contribute significantly to changes in $\vec{G}^k$. Hence,

$$\frac{\partial \vec{S}_i^k}{\partial L_j} = \delta_{jk} \frac{\partial \vec{G}^k}{\partial L_k} \quad . \tag{9.13}$$

The result of equation (9.13) is a substantial simplification of equations (9.10) through a simplification of the form of $\mathcal{M}_{ij}$. To illustrate this, consider the submatrix of $\mathcal{M}_{ij}$, which concerns corrections δL_j. This submatrix has M columns corresponding to the M independent coefficients L_j. There will be as many rows as there are altitude measurements.

The altitudes can be collected into M sets corresponding to the regions into which the corresponding $\vec{S}_i$ fall. The observation equations can be grouped in the same way, so that $\mathcal{M}_{ij}$ first has some number of rows corresponding to altitudes to the first region, then some other number of rows corresponding to the second region, etc.

Consider next the submatrix of $\mathcal{M}_{ij}$ corresponding to a region identified by index k. By equation (9.13), this submatrix has nonzero entries only in the k<u>th</u> column, where the entry in the row for the i<u>th</u> observation is

$$\sum_{\ell} \frac{\partial h}{\partial S_\ell^k} \frac{\partial G_\ell^k}{\partial L_j} \bigg|_{t = t_i} \quad . \tag{9.14}$$

Note that here the subscript ℓ denotes the component of the vector, not the particular observation. The latter is explicitly indicated by the observation time at which the expression is evaluated.

The solution of the observation equations proceeds with formation of the normal equations. However, the form of $\mathcal{M}_{ij}$ in those columns that concern the δL_j is just that for which the solution of the normal equations is greatly simplified. Kaula discusses this in detail, and his development will not be repeated here. (See Kaula, 1966, beginning on page 104. The matrix $\mathcal{M}$ has the form required in Kaula's equation 5.61 on page 105.)

In broad terms, when solving for the δF_j, there would be finally a largest submatrix to invert having the dimension of the number of orbital elements plus one for V_0. This is a vast simplification compared with inverting a matrix of this dimension plus M, particularly when M is very large.

As a final step, the δF_j are added to their respective F_j, resulting in an improvement to both orbital elements and to the geopotential coefficients. If necessary, the whole process can be iterated, beginning again with the improved elements and geopotential.

An additional feature of the procedure deserves mention. There will, of course, be no altitude observation equations for regions corresponding to land masses. Hence, the coefficients L_j for these regions will maintain their initial values, which presumably reflect the best information available from other arguments.

The scenario for a geopotential solution offered in this section has been drastically simplified and depends upon assumptions that may or may not prevail when an altimeter satellite is flown. In a more realistic treatment, most of the assumptions and approximations could be relaxed without essential effect on the general features of the procedures. Thus, it seems likely that use of functions $\mathcal{F}_j(r, \theta, \lambda)$ can significantly facilitate an improvement of the

geopotential based on altitude observations. This allows the final conclusion that satellite-to-ocean altitudes promise substantial geopotential information in a form that can be analyzed without undue difficulty.

10. ACKNOWLEDGMENTS

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NUMERICAL DEFINITION OF LOCALIZED FUNCTIONS ON A SPHERE

K. Hebb and S. G. Mair

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1. INTRODUCTION

As stated in the preceding paper, the constants A_j^{nm} and B_j^{nm} of the expression

$$Z_j(\theta, \lambda) = \sum_{n=0}^{N} \sum_{m=0}^{n} \left[A_j^{nm} X_{nm}(\theta, \lambda) + B_j^{nm} Y_{nm}(\theta, \lambda) \right] \qquad (5.4)^*$$

can be determined either from inversion of the equations

$$X_{nm}(\theta, \lambda) = \sum_{j=1}^{M} X_{nm}(\theta_j, \lambda_j) Z_j(\theta, \lambda)$$

$$Y_{nm}(\theta, \lambda) = \sum_{j=1}^{M} Y_{nm}(\theta_j, \lambda_j) Z_j(\theta, \lambda) \qquad (5.3)$$

or from equation (5.4) and the conditions

$$Z_j(\theta_i, \lambda_i) = \delta_{ij} \quad , \quad i, j = 1, 2, \ldots M, \text{ where } \delta_{ST} = \begin{cases} 1 & S = T \\ 0 & S \neq T \end{cases} . \qquad (5.2)$$

For numerical evaluation of the constants, the latter method was used, and although involved, it provided a convenient way to introduce a series of checks that would attest to the validity of the coefficients A_j^{nm} and B_j^{nm}.

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*The equations and numbers correspond to those in Lundquist and Giacaglia, this report.

2. METHOD

The procedures had the following steps:

1) Define $(N + 1)^2$ points on a sphere with spherical coordinates

$$(\theta_k, \lambda_{kj}) \quad ,$$

where

$$\theta_{2i} = \frac{i2\pi}{2N + 1} \quad , \quad i = 0, 1, 2, \ldots, \left[\frac{N}{2}\right] \quad ,$$

with the value of $[P/2]$ representing the greatest integer contained in $P/2$, and

$$\theta_{2i+1} = \frac{2(N - i)\pi}{2N + 1} \quad , \quad i = 0, 1, 2, \ldots, \left[\frac{N - 1}{2}\right] \quad ;$$

that is,

$$\theta_i = \frac{i\pi}{2N + 1} \quad , \quad i \text{ even}$$

$$\theta_i = \pi - \frac{i\pi}{2N + 1} \quad , \quad i \text{ odd} \quad .$$

Also,

$$\lambda_{kj} = j\,\frac{2\pi}{2k + 1} \quad , \quad k = 0, 1, 2, \ldots, N$$

$$j = 0, 1, 2, \ldots, 2k \quad .$$

There are $(N + 1)^2$ different pairs (θ_k, λ_{kj}).

2) Define the $(N+1)^2$ functions $W_{kj}(\theta, \lambda)$. The coefficients that are computed are the A's and the B's of the expression

$$W_{kj}(\theta, \lambda) = \sum_{n=0}^{N} A_{kj}^{no} P_{no}(\theta) + \sum_{n=1}^{N} \sum_{m=1}^{n} (A_{kj}^{nm} \cos m\lambda +$$

$$+ B_{kj}^{nm} \sin m\lambda) P_{nm}(\theta) \quad , \quad k = 0, 1, 2, \ldots, N$$

$$j = 0, 1, 2, \ldots, 2k \quad ,$$

where the P_{nm} are associated Legendre polynomials. The above expression is analogous to equations (5.4) and (6.4).

3) Consider the $(N+1)^2$ conditions:

$$W_{kj}(\theta_i, \lambda_{i\ell}) = \delta_{ki} \delta_{j\ell} \quad ,$$

$$k = 0, 1, 2, \ldots, N$$

$$j = 0, 1, 2, \ldots, 2k$$

$$i = 0, 1, 2, \ldots, N$$

$$\ell = 0, 1, 2, \ldots, 2i \quad .$$

For any given pair of values (k, j) there are $(N+1)^2$ coefficients A_{kj}^{nm} $(n = 0, 1, 2, \ldots, N;\ m = 0, 1, 2, \ldots, n)$ and B_{kj}^{nm} $(n = 0, 1, 2, \ldots, N;\ m = 0, 1, 2, \ldots, n)$, since there are

$$A_{kj}^{nm} \quad : \quad \frac{(N+1)(N+2)}{2}$$

$$B_{kj}^{nm} \quad : \quad \frac{N(N+1)}{2}$$

$$\text{Total} \quad : \quad (N+1)^2 \text{ coefficients} \quad .$$

There are also $(N + 1)^2$ conditions for every pair (k, j), so we can solve equation (2) for every such pair to find all $(N + 1)^2$ coefficients A_{kj}^{nm} and B_{kj}^{nm} for each condition.

3. CHECKS

The following series of checks was written into the program:

1) The values

$$a_{kj}^{0}(\theta) = \sum_{n=0}^{N} A_{kj}^{no} P_{no}(\theta)$$

$$a_{kj}^{m}(\theta) = \sum_{n=m}^{N} A_{kj}^{nm} P_{nm}(\theta)$$

$$b_{jk}^{m}(\theta) = \sum_{n=m}^{N} B_{kj}^{nm} P_{nm}(\theta)$$

for all θ as defined above.

2) The summations

$$\sum_{k=0}^{N} \sum_{j=0}^{2k} A_{kj}^{oo} = 1$$

$$\sum_{k=0}^{N} \sum_{j=0}^{2k} A_{kj}^{no} = 0 \quad , \quad n = 1, 2, \ldots, N$$

$$\sum_{k=0}^{N} \sum_{j=0}^{2k} A_{kj}^{nm} = 0 \quad , \quad n = 1, 2, \ldots, N \quad m = 1, 2, \ldots, n$$

$$\sum_{k=0}^{N} \sum_{j=0}^{2k} B_{kj}^{nm} = 0 \quad .$$

3) (a) $a^{o}_{kj}(\theta_k) = \frac{1}{2k+1}$

$$a^{m}_{kj}(\theta_k) = \frac{2}{2k+1} \cos m\lambda_{kj} \quad , \quad m = 1, 2, \ldots, k$$

$$k = 0, 1, \ldots, N$$

$$b^{m}_{kj}(\theta_k) = \frac{2}{2k+1} \sin m\lambda_{kj} \quad , \quad j = 0, 1, \ldots, 2k \quad .$$

(b) $a^{m}_{kj}(\theta_k) = b^{m}_{kj}(\theta_k) = 0 \quad , \quad m = k+1, \ldots, N \quad .$

(c) $a^{o}_{kj}(\theta_s) = 0 \quad , \quad s \neq k \quad .$

(d) $a^{m}_{kj}(\theta_s) = 0 \quad , \quad s > k \quad .$

(e) $b^{m}_{kj}(\theta_s) = 0 \quad .$

4) (a) $A^{nm}_{kj} = B^{nm}_{kj} = 0 \quad , \quad \text{for } m > k \quad , \quad k = 0, 1, \ldots, N \quad .$

(b) For any N, k, $B^{nm}_{ko} = 0 \quad .$

(c) $A^{nm}_{k,2k+1-j} = A^{nm}_{kj} \quad , \quad j = 1, 2, \ldots, k \quad .$

(d) $B^{nm}_{k,2k+1-j} = - B^{nm}_{kj} \quad .$

4. OUTPUT

The following printout lists the A and B coefficients of the expression

$$W_{kj}(\theta, \lambda) = \sum_{n=0}^{N} A_{kj}^{no} P_{no}(\theta) + \sum_{n=1}^{N} \sum_{m=1}^{n} (A_{kj}^{nm} \cos m\lambda +$$

$$+ B_{kj}^{nm} \sin m\lambda) P_{nm}(\cos \theta) \quad , \quad k = 0, 1, 2, \ldots, N$$

$$j = 0, 1, 2, \ldots, 2k \quad ,$$

where the P_{nm} are the Legendre polynomials, for the cases N = 4, 5, and 9. The lengthy series of checks has been omitted to save space.

Each solution consists of the coefficients in the following order (consider N = 4):

A_{kj}^{00}	A_{kj}^{10}	A_{kj}^{20}	A_{kj}^{30}	A_{kj}^{40}
A_{kj}^{11}	A_{kj}^{21}	A_{kj}^{31}	A_{kj}^{41}	A_{kj}^{22}
A_{kj}^{32}	A_{kj}^{42}	A_{kj}^{33}	A_{kj}^{43}	A_{kj}^{44}
B_{kj}^{11}	B_{kj}^{21}	B_{kj}^{31}	B_{kj}^{41}	B_{kj}^{22}
B_{kj}^{32}	B_{kj}^{42}	B_{kj}^{33}	B_{kj}^{43}	B_{kj}^{44}

4 K= 0 J= 0

SOLUTION

2.2222222222E-02	8.8888888889E-02	1.2698412698E-01	3.5555555556E-01	4.0634920635E-01
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

4 K= 1 J= 0

SOLUTION

3.4529675128E-02	-9.4769277153E-02	1.3171692109E-01	-1.1851851852E-01	4.7041199453E-02
5.0019277798E-02	-7.1390413031E-02	1.3685339714E-01	-1.3339194961E-01	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

4 K= 1 J= 1

SOLUTION

3.4529675128E-02	-9.4769277153E-02	1.3171692109E-01	-1.1851851852E-01	4.7041199453E-02
-2.5009638899E-02	3.5695206515E-02	-6.8426698571E-02	6.6695974807E-02	0.
0.	0.	0.	0.	0.
4.3317965252E-02	-6.1825911271E-02	1.1851851852E-01	-1.1552081703E-01	0.
0.	0.	0.	0.	0.

4 K= 1 J= 2

SOLUTION

3.4529675128E-02	-9.4769277153E-02	1.3171692109E-01	-1.1851851852E-01	4.7041199453E-02
-2.5009638899E-02	3.5695206515E-02	-6.8426698571E-02	6.6695974807E-02	0.
0.	0.	0.	0.	0.
-4.3317965252E-02	6.1825911271E-02	-1.1851851852E-01	1.1552081703E-01	0.
0.	0.	0.	0.	0.

4 K= 2 J= 0

SOLUTION

4.4867862118E-02	9.4759506055E-02	8.4221083205E-02	-7.1111111111E-02	-1.5273734027E-01
7.7935425113E-02	1.1305177049E-01	6.6938346912E-02	4.2585824342E-02	2.4109420606E-02
2.8083971103E-02	2.4586937148E-02	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

4 K= 2 J= 1

SOLUTION

4.4867862118E-02	9.4759506055E-02	8.4221083205E-02	-7.1111111111E-02	-1.5273734027E-01
3.0283890462E-02	2.6085177237E-02	3.7649789460E-02	-3.3758692188E-03	-1.9504930994E-02
-2.2720409892E-02	-1.9891249992E-02	0.	0.	0.
8.2655277032E-02	9.5337999370E-02	8.7012061088E-02	1.7742207433E-02	1.4171161873E-02
1.6507344040E-02	1.4451839054E-02	0.	0.	0.

4 K= 2 J= 2

SOLUTION

4.4867862118E-02	9.4759506055E-02	8.4221083205E-02	-7.1111111111E-02	-1.5273734027E-01
-6.9251603019E-02	-8.2611062484E-02	-7.1118962917E-02	-1.7917042952E-02	7.4502206917E-03
8.6784243403E-03	7.5977814182E-03	0.	0.	0.
4.3794622555E-02	6.9325618628E-02	3.3833207084E-02	3.0404065747E-02	-2.2929421571E-02
-2.6709443721E-02	-2.3383566790E-02	0.	0.	0.

4 K= 2 J= 3

SOLUTION

4.4867862118E-02	9.4759506055E-02	8.4221083205E-02	-7.1111111111E-02	-1.5273734027E-01
-6.9251603019E-02	-8.2611062484E-02	-7.1118962917E-02	-1.7917042952E-02	7.4502206917E-03
8.6784243403E-03	7.5977814182E-03	0.	0.	0.
-4.3794622555E-02	-6.9325618628E-02	-3.3833207084E-02	-3.0404065747E-02	2.2929421571E-02
2.6709443721E-02	2.3383566790E-02	0.	0.	0.

4 K= 2 J= 4

SOLUTION

4.4867862118E-02	9.4759506055E-02	8.4221083205E-02	-7.1111111111E-02	-1.5273734027E-01
3.0283890462E-02	2.6085177237E-02	3.7649789460E-02	-3.3758692188E-03	-1.9504930995E-02
-2.2720409892E-02	-1.9891249992E-02	0.	0.	0.
-8.2655277032E-02	-9.5337999370E-02	-8.7012061088E-02	-1.7742207433E-02	-1.4171161873E-02
-1.6507344040E-02	-1.4451839054E-02	0.	0.	0.

4 K= 3 J= 0

SOLUTION

4.1431411735E-02	-6.1571776113E-02	-2.9634106092E-02	1.1192913572E-01	-6.2154665253E-02
1.0110213641E-01	-8.1602427314E-02	-2.4266639431E-02	7.3925537240E-02	4.7268100759E-02
-2.0769212223E-02	1.4822931023E-02	7.5593750382E-03	-6.2189579773E-03	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

4 K= 3 J= 1

SOLUTION

4.7159093113E-02	-7.7291826243E-02	-7.7852889994E-03	9.2269630994E-02	-5.4351608864E-02
7.1506098337E-02	-6.2967081103E-02	8.0438842919E-03	2.3504071639E-02	-1.4719261378E-02
-2.7210909644E-04	-7.5827402117E-03	-6.8107615702E-03	5.6030875284E-03	0.
9.2619411114E-02	-8.3173771284E-02	1.8167799748E-02	2.1596481539E-02	3.7359276356E-02
-3.0410344174E-02	5.5547909388E-03	3.2798899070E-03	-2.6983047406E-03	0.

4 K= 3 J= 2

SOLUTION

4.2565849278E-02	-6.4685324835E-02	-2.5306679909E-02	1.0803532970E-01	-6.0609174237E-02
-1.8651407263E-02	1.2669107580E-02	1.5922362432E-02	-2.6706359354E-02	-3.3147257509E-02
2.9708443325E-02	-3.7282022987E-03	4.7131932448E-03	-3.8774568770E-03	0.
1.0509767747E-01	-8.8877024864E-02	-5.7910117838E-03	5.4656774648E-02	-1.2986847301E-02
1.7780464528E-02	1.2456857579E-03	-5.9101573927E-03	4.8621771348E-03	0.

4 K= 3 J= 3

SOLUTION

4.5114907297E-02	-7.1681405309E-02	-1.5583041538E-02	9.9286026997E-02	-5.7136487446E-02
-1.0340575928E-01	9.1099187180E-02	-1.1832927009E-02	-3.3760480906E-02	2.4232468508E-02
-1.9051728117E-02	3.8994769988E-03	-1.6821191936E-03	1.3838483374E-03	0.
4.0505456591E-02	-3.0608786119E-02	-1.9724958580E-02	4.1038549961E-02	-3.8151390722E-02
1.4845205588E-02	-1.2808417898E-02	7.3698457234E-03	-6.0630357168E-03	0.

4 K= 3 J= 4

SOLUTION

4.5114907297E-02	-7.1681405309E-02	-1.5583041538E-02	9.9286026996E-02	-5.7136487446E-02
-1.0340575928E-01	9.1099187180E-02	-1.1832927009E-02	-3.3760480906E-02	2.4232468508E-02
-1.9051728117E-02	3.8994769987E-03	-1.6821191936E-03	1.3838483373E-03	0.
-4.0505456591E-02	3.0608786119E-02	1.9724958580E-02	-4.1038549961E-02	3.8151390722E-02
-1.4845205588E-02	1.2808417898E-02	-7.3698457234E-03	6.0630357168E-03	0.

4 K= 3 J= 5

SOLUTION

4.2565849278E-02	-6.4685324835E-02	-2.5306679909E-02	1.0803532970E-01	-6.0609174237E-02
-1.8651407263E-02	1.2669107580E-02	1.5922362432E-02	-2.6706359354E-02	-3.3147257509E-02
2.9708443325E-02	-3.7282022987E-03	4.7131932448E-03	-3.8774568770E-03	0.
-1.0509767747E-01	8.8877024864E-02	5.7910117838E-03	-5.4656774648E-02	1.2986847301E-02
-1.7780464528E-02	-1.2456857579E-03	5.9101573927E-03	-4.8621771348E-03	0.

4 K= 3 J= 6

SOLUTION

4.7159093113E-02	-7.7291826243E-02	-7.7852889994E-03	9.2269630994E-02	-5.4351608864E-02
7.1506098337E-02	-6.2967081103E-02	8.0438842919E-03	2.3504071639E-02	-1.4719261378E-02
-2.7210909645E-04	-7.5827402117E-03	-6.8107615702E-03	5.6030875284E-03	0.
-9.2619411114E-02	8.3173771284E-02	-1.8167799748E-02	-2.1596481539E-02	-3.7359276356E-02
3.0410344174E-02	-5.5547909388E-03	-3.2798899070E-03	2.6983047406E-03	0.

4 K= 4 J= 0

SOLUTION

3.9668424590E-02	1.7816262281E-02	-8.2948316862E-02	-4.6476734641E-02	7.1946364633E-02
1.1176377803E-01	1.5719524186E-02	-3.8002050498E-02	-4.7317582602E-02	3.6085180938E-02
-1.3249928178E-03	-2.1012086924E-02	7.9966656246E-03	6.1819641623E-03	2.2500509444E-03
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

4 K= 4 J= 1

SOLUTION

3.6005971115E-02	2.7868139894E-02	-9.6919114257E-02	-3.3905850081E-02	6.6956853328E-02
9.4980165331E-02	3.7251754488E-02	-2.8651973775E-02	-1.8149147798E-02	1.4189077673E-02
8.9978398907E-03	4.4301450956E-03	-2.4523406396E-03	-4.3628412371E-03	-2.1143562688E-03
7.3758413659E-02	2.9638032419E-02	-3.3706247530E-02	-1.0663374212E-02	5.0343554715E-02
1.5942660814E-02	-5.5930147632E-03	1.1172894162E-02	1.8593336982E-03	7.6956274649E-04

4 K= 4 J= 2

SOLUTION

3.8396467847E-02	2.1307242740E-02	-8.7800323879E-02	-4.2110912250E-02	7.0207525542E-02
9.3773724179E-03	3.6484158208E-03	-2.5303385336E-02	3.5737733211E-03	-4.1899528132E-02
-8.0627433498E-03	1.1596090537E-02	-8.4498398580E-03	5.7119040176E-04	1.7236390227E-03
1.0511813390E-01	3.0277081911E-02	-5.6006789628E-02	-2.4767977552E-02	1.1510420307E-02
-1.4216791911E-03	-8.0344630852E-03	-1.2230415091E-02	-9.8933079664E-04	-1.4463048682E-03

4 K= 4 J= 3

SOLUTION

3.7566257044E-02	2.3585818409E-02	-9.0967246542E-02	-3.9261324063E-02	6.9076495152E-02
-5.3466674222E-02	-1.1306896664E-02	2.5609084460E-02	1.7217870434E-02	-2.8542110659E-02
-1.1567918682E-02	-2.0143255791E-04	1.3270777924E-02	1.8430495577E-03	-1.1250254722E-03
1.0882777454E-01	3.5602915005E-02	-2.5525260374E-02	-2.9344914810E-02	-4.2301214896E-02
-1.1724785751E-02	6.9276002764E-03	3.0450101556E-03	-2.5050735150E-03	1.9486012777E-03

4 K= 4 J= 4

SOLUTION

3.7566257044E-02	2.3585818409E-02	-9.0967246542E-02	-3.9261324063E-02	6.9076495152E-02
-1.0677275254E-01	-3.7453035737E-02	4.7347299900E-02	2.1016295344E-02	3.8210970649E-02
1.1295318550E-02	-5.3187596133E-03	-6.3669302384E-03	-1.1423808035E-03	3.9071724615E-04
3.5542994978E-02	-5.3315627259E-03	-1.0855047805E-02	-2.5260605530E-02	-2.0647431985E-02
3.8193603300E-03	1.6104444165E-02	6.5076679438E-03	5.6973289898E-03	-2.2158676147E-03

4 K= 4 J= 5

SOLUTION

3.7566257044E-02	2.3585818409E-02	-9.0967246542E-02	-3.9261324063E-02	6.9076495152E-02
-1.0677275254E-01	-3.7453035737E-02	4.7347299900E-02	2.1016295344E-02	3.8210970649E-02
1.1295318550E-02	-5.3187596133E-03	-6.3669302384E-03	-1.1423808035E-03	3.9071724615E-04
-3.5542994978E-02	5.3315627259E-03	1.0855047805E-02	2.5260605530E-02	2.0647431985E-02
-3.8193603300E-03	-1.6104444165E-02	-6.5076679439E-03	-5.6973289898E-03	2.2158676147E-03

4 K= 4 J= 6

SOLUTION

3.7566257044E-02	2.3585818409E-02	-9.0967246542E-02	-3.9261324063E-02	6.9076495152E-02
-5.3466674222E-02	-1.1306896664E-02	2.5609084460E-02	1.7217870434E-02	-2.8542110659E-02
-1.1567918682E-02	-2.0143255790E-04	1.3270777924E-02	1.8430495577E-03	-1.1250254722E-03
-1.0882777454E-01	-3.5602915005E-02	2.5525260374E-02	2.9344914810E-02	4.2301214896E-02
1.1724785751E-02	-6.9276002764E-03	-3.0450101556E-03	2.5050735150E-03	-1.9486012777E-03

4 K= 4 J= 7

SOLUTION

3.8396467847E-02	2.1307242740E-02	-8.7800323879E-02	-4.2110912250E-02	7.0207525542E-02
9.3773724181E-03	3.6484158208E-03	-2.5303385336E-02	3.5737733211E-03	-4.1899528132E-02
-8.0627433498E-03	1.1596090537E-02	-8.4498398581E-03	5.7119040176E-04	1.7236390227E-03
-1.0511813390E-01	-3.0277081910E-02	5.6006789628E-02	2.4767977552E-02	-1.1510420307E-02
1.4216791911E-03	8.0344630852E-03	1.2230415091E-02	9.8933079664E-04	1.4463048682E-03

4 K= 4 J= 8

SOLUTION

3.6005971115E-02	2.7868139893E-02	-9.6919114257E-02	-3.3905850081E-02	6.6950853328E-02
9.4980165331E-02	3.7251754488E-02	-2.8651973775E-02	-1.8149147798E-02	1.4188077673E-02
8.9978398907E-03	4.4301450956E-03	-2.4523406396E-03	-4.3628412371E-03	-2.1143562688E-03
-7.3758413659E-02	-2.9638032419E-02	3.3706247530E-02	1.0663374212E-02	-5.0343554715E-02
-1.5942660814E-02	5.5930147632E-03	-1.1172894162E-02	-1.8593336982E-03	-7.6956274649E-04

END OF RUN

```
 5          K=  0          J=  0

SOLUTION
 1.8181818182E-02   4.6753246753E-02   1.0389610390E-01   1.2929292929E-01   3.3246753247E-01
 3.6940836941E-01   0.                 0.                 0.                 0.
 0.                 0.                 0.                 0.                 0.
 0.                 0.                 0.                 0.                 0.
 0.                 0.                 0.                 0.                 0.
 0.                 0.                 0.                 0.                 0.
 0.                 0.                 0.                 0.                 0.
 0.


 5          K=  1          J=  0

SOLUTION
 2.3259129882E-02  -6.6211617220E-02   9.7595721277E-02  -1.1166970859E-01   9.2074669548E-02
-3.5048194899E-02   2.4800491962E-02  -4.5373084710E-02   5.5054105048E-02  -1.0080770165E-01
 9.7506219960E-02   0.                 0.                 0.                 0.
 0.                 0.                 0.                 0.                 0.
 0.                 0.                 0.                 0.                 0.
 0.                 0.                 0.                 0.                 0.
 0.                 0.                 0.                 0.                 0.
 0.


 5          K=  1          J=  1

SOLUTION
 2.3259129882E-02  -6.6211617220E-02   9.7595721277E-02  -1.1166970859E-01   9.2074669548E-02
-3.5048194899E-02  -1.2400245981E-02   2.2686542355E-02  -2.7527052524E-02   5.0403850825E-02
-4.8753109980E-02   0.                 0.                 0.                 0.
 0.                 0.                 0.                 0.                 0.
 0.                 2.1477856066E-02  -3.9294244006E-02   4.7678253554E-02  -8.7302030526E-02
 8.4442863513E-02   0.                 0.                 0.                 0.
 0.                 0.                 0.                 0.                 0.
 0.


 5          K=  1          J=  2

SOLUTION
 2.3259129882E-02  -6.6211617220E-02   9.7595721277E-02  -1.1166970859E-01   9.2074669548E-02
-3.5048194899E-02  -1.2400245981E-02   2.2686542355E-02  -2.7527052524E-02   5.0403850825E-02
-4.8753109980E-02   0.                 0.                 0.                 0.
 0.                 0.                 0.                 0.                 0.
 0.                -2.1477856066E-02   3.9294244006E-02  -4.7678253554E-02   8.7302030526E-02
-8.4442863513E-02   0.                 0.                 0.                 0.
 0.                 0.                 0.                 0.                 0.
 0.


 5          K=  2          J=  0

SOLUTION
 2.9468051728E-02   7.7360935316E-02   7.6569323315E-02   4.5467556507E-02  -8.7087972930E-02
-1.4177789394E-01   5.0880111607E-02   6.3230300451E-02   7.4400415412E-02   4.1281181189E-02
 2.5329345027E-02   1.1517793018E-02   1.3885236781E-02   1.5880340911E-02   1.3865882272E-02
 0.                 0.                 0.                 0.                 0.
 0.                 0.                 0.                 0.                 0.
 0.                 0.                 0.                 0.                 0.
 0.                 0.                 0.                 0.                 0.
 0.
```

5 K= 2 J= 1

SOLUTION

2.9468051728E-02	7.7360935316E-02	7.6569323315E-02	4.5467556507E-02	-8.7087972930E-02
-1.4177789394E-01	1.3255218162E-02	2.4053771602E-02	1.7513215741E-02	2.2786757946E-02
-1.8744822963E-03	-9.3180902891E-03	-1.1233392527E-02	-1.2847465673E-02	-1.1217734400E-02
0.	0.	0.	0.	0.
0.	4.4993500289E-02	6.6349312529E-02	6.3219486652E-02	5.3066082960E-02
1.0736421187E-02	6.7699888748E-03	8.1615374047E-03	9.3342301888E-03	8.1501611097E-03
0.	0.	0.	0.	0.
0.				

5 K= 2 J= 2

SOLUTION

2.9468051728E-02	7.7360935316E-02	7.6569323315E-02	4.5467556507E-02	-8.7087972930E-02
-1.4177789394E-01	-3.8695273965E-02	-5.5668921828E-02	-5.4713423447E-02	-4.3427348541E-02
-1.0790190217E-02	3.5591937802E-03	4.2907741364E-03	4.9072952180E-03	4.2847932642E-03
0.	0.	0.	0.	0.
0.	3.0708351405E-02	3.5698977021E-02	4.5511304586E-02	2.1005469252E-02
1.8040482494E-02	-1.0954072103E-02	-1.3205644921E-02	-1.5103101704E-02	-1.3187237689E-02
0.	0.	0.	0.	0.
0.				

5 K= 2 J= 3

SOLUTION

2.9468051728E-02	7.7360935316E-02	7.6569323315E-02	4.5467556507E-02	-8.7087972930E-02
-1.4177789394E-01	-3.8695273965E-02	-5.5668921828E-02	-5.4713423447E-02	-4.3427348541E-02
-1.0790190217E-02	3.5591937802E-03	4.2907741364E-03	4.9072952180E-03	4.2847932642E-03
0.	0.	0.	0.	0.
0.	-3.0708351405E-02	-3.5698977021E-02	-4.5511304586E-02	-2.1005469252E-02
-1.8040482494E-02	1.0954072103E-02	1.3205644921E-02	1.5103101704E-02	1.3187237689E-02
0.	0.	0.	0.	0.
0.				

5 K= 2 J= 4

SOLUTION

2.9468051728E-02	7.7360935316E-02	7.6569323315E-02	4.5467556507E-02	-8.7087972930E-02
-1.4177789394E-01	1.3255218162E-02	2.4053771602E-02	1.7513215741E-02	2.2786757946E-02
-1.8744822963E-03	-9.3180902891E-03	-1.1233392527E-02	-1.2847465673E-02	-1.1217734400E-02
0.	0.	0.	0.	0.
0.	-4.4993500289E-02	-6.6349312529E-02	-6.3219486652E-02	-5.3066082960E-02
-1.0736421187E-02	-6.7699888748E-03	-8.1615374047E-03	-9.3342301889E-03	-8.1501611097E-03
0.	0.	0.	0.	0.
0.				

5 K= 3 J= 0

SOLUTION

2.9645903330E-02	-5.7300680684E-02	1.9242794156E-02	6.0896270473E-02	-9.9516926560E-02
4.7032639284E-02	6.5903627115E-02	-6.6666503382E-02	3.7697498020E-02	2.9972960200E-02
-5.4451512567E-02	1.9939219183E-02	-2.3250305814E-02	9.7667601404E-03	-6.6383517166E-03
4.1822496458E-03	-3.1383578078E-03	2.5536887586E-03	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.				

5 K= 3 J= 1

SOLUTION

3.3667152492E-02	-6.8747945118E-02	3.6116026922E-02	4.1589799235E-02	-8.3598223253E-02
4.0973189722E-02	4.4842554332E-02	-4.8430833590E-02	3.1833692744E-02	3.4356277797E-03
-1.9197269789E-02	-2.8767249362E-03	7.0545359600E-03	-2.2201044325E-05	3.3554067105E-03
-3.7680767287E-03	2.8275626812E-03	-2.3007940698E-03	0.	0.
0.	5.8075672879E-02	-6.4105611092E-02	4.4013617935E-02	-3.1908614800E-03
-1.6819206978E-02	2.2679025096E-02	-1.8761733971E-02	1.3988707914E-02	-2.5717202801E-03
1.8146101142E-03	-1.3616824203E-03	1.1080040271E-03	0.	0.
0.				

5 K= 3 J= 2

SOLUTION

3.0442361044E-02	-5.9567951797E-02	2.2584744842E-02	5.7072387066E-02	-9.6364032140E-02
4.5832490984E-02	-1.2567337254E-02	1.0997085039E-02	-3.7320644398E-03	-1.5195819976E-02
2.0363574478E-02	-2.1470283068E-02	1.6721556199E-02	-1.3633041603E-02	1.7605936484E-03
2.6075900030E-03	-1.9567340878E-03	1.5921988981E-03	0.	0.
0.	6.6995504560E-02	-7.0015648257E-02	4.2844178627E-02	1.8066922295E-02
-4.2297061125E-02	-1.1446979383E-02	6.7176112942E-03	-8.0922218683E-03	-4.8534760677E-04
-3.2698144406E-03	2.4536669374E-03	-1.9965542679E-03	0.	0.
0.				

5 K= 3 J= 3

SOLUTION

3.2231985283E-02	-6.4662463743E-02	3.0094039870E-02	4.8480199043E-02	-8.9279542685E-02
4.3135782233E-02	-6.5227030636E-02	7.0767000243E-02	-4.6950377314E-02	-3.2262879039E-03
2.6059451595E-02	1.4377398413E-02	-1.2150939252E-02	8.7718625773E-03	-1.7968245006E-03
-9.3063809722E-04	6.9835031048E-04	-5.6824920760E-04	0.	0.
0.	2.7089126824E-02	-2.6171373811E-02	1.3014557281E-02	1.9123789112E-02
-2.9544235606E-02	-1.5145061934E-02	1.8713140868E-02	-7.0237231779E-03	5.7246459918E-03
4.0773919154E-03	-3.0596726252E-03	2.4896624498E-03	0.	0.
0.				

5 K= 3 J= 4

SOLUTION

3.2231985283E-02	-6.4662463743E-02	3.0094039870E-02	4.8480199043E-02	-8.9279542685E-02
4.3135782233E-02	-6.5227030636E-02	7.0767000243E-02	-4.6950377314E-02	-3.2262879039E-03
2.6059451595E-02	1.4377398413E-02	-1.2150939252E-02	8.7718625773E-03	-1.7968245006E-03
-9.3063809722E-04	6.9835031048E-04	-5.6824920760E-04	0.	0.
0.	-2.7089126824E-02	2.6171373811E-02	-1.3014557281E-02	-1.9123789112E-02
2.9544235606E-02	1.5145061934E-02	-1.8713140868E-02	7.0237231779E-03	-5.7246459918E-03
-4.0773919154E-03	3.0596726252E-03	-2.4896624498E-03	0.	0.
0.				

5 K= 3 J= 5

SOLUTION

3.0442361044E-02	-5.9567951797E-02	2.2584744842E-02	5.7072387066E-02	-9.6364032140E-02
4.5832490984E-02	-1.2567337254E-02	1.0997085039E-02	-3.7320644398E-03	-1.5195819976E-02
2.0363574478E-02	-2.1470283068E-02	1.6721556199E-02	-1.3633041603E-02	1.7605936484E-03
2.6075900030E-03	-1.9567340878E-03	1.5921988981E-03	0.	0.
0.	-6.6995504560E-02	7.0015648257E-02	-4.2844178627E-02	-1.8066922295E-02
4.2297061125E-02	1.1446979383E-02	-6.7176112942E-03	8.0922218683E-03	4.8534760677E-04
3.2698144406E-03	-2.4536669374E-03	1.9965542679E-03	0.	0.
0.				

5 K= 3 J= 6

SOLUTION

3.3667152492E-02	-6.8747945118E-02	3.6116026922E-02	4.1589799235E-02	-8.3598223253E-02
4.0973189722E-02	4.4842554332E-02	-4.8430833590E-02	3.1833692744E-02	3.4356277797E-03
-1.9197269789E-02	-2.8767249362E-03	7.0545359600E-03	-2.2201044319E-05	3.3554067105E-03
-3.7680767286E-03	2.8275626812E-03	-2.3007940698E-03	0.	0.
0.	-5.8075672879E-02	6.4105611092E-02	-4.4013617935E-02	3.1908614800E-03
1.6819206978E-02	-2.2679025096E-02	1.8761733971E-02	-1.3988707914E-02	2.5717202801E-03
-1.8146101142E-03	1.3616824203E-03	-1.1080040271E-03	0.	0.
0.				

5 K= 4 J= 0

SOLUTION

2.8492463533E-02	3.7786966201E-02	-3.4726826112E-02	-8.7859849894E-02	-1.4126998329E-02
7.0434244601E-02	7.1284633390E-02	5.1515316782E-02	-1.7471389600E-02	-3.4287474634E-02
-2.7933858360E-02	2.5734472462E-02	1.2256627665E-02	-4.7590971718E-03	-1.1638206598E-02
8.1613282951E-03	2.6863731112E-03	1.9165358276E-03	7.8879031535E-04	6.1584139388E-04
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.				

5 K= 4 J= 1

SOLUTION

3.0178090858E-02	3.2988501607E-02	-2.7653903977E-02	-9.5952736993E-02	-7.4541958764E-03
6.7894244382E-02	6.6455366849E-02	5.0385040708E-02	4.8789327622E-03	-2.2687216017E-02
-1.1250770756E-02	7.5717519606E-03	5.8691616117E-03	3.4519128493E-03	1.7146528894E-03
-4.7069495149E-03	-8.7322236432E-04	-1.3406788260E-03	-7.4122043868E-04	-5.7870161341E-04
0.	5.3929977019E-02	3.7098388184E-02	2.1296732420E-03	-2.5129858167E-02
-7.1092213865E-03	3.1976688675E-02	2.0067030689E-02	4.4588079087E-03	-3.4759337532E-03
5.3472127274E-03	3.6176833617E-03	6.0910336770E-04	2.6978217671E-04	2.1063016180E-04
0.				

5 K= 4 J= 2

SOLUTION

2.8949205980E-02	3.6486760379E-02	-3.2810326707E-02	-9.0052721950E-02	-1.2318916509E-02
6.9745998808E-02	1.0814919386E-02	4.8470232958E-04	-3.7129005869E-03	-1.7567143890E-02
1.6557889977E-03	-2.6974626619E-02	-1.4883508851E-02	6.2239091530E-04	7.5749824838E-03
-2.2773473039E-03	-2.6963945120E-03	1.4284042306E-04	6.0424843786E-04	4.7176187763E-04
0.	7.5137020063E-02	4.8239708772E-02	-7.8619103207E-03	-4.3453423282E-02
-1.5411087622E-02	7.8375539612E-03	3.0296809284E-03	-2.9570498071E-03	-5.1412135460E-03
-4.9188083052E-03	-3.9391578019E-03	-3.4751889768E-04	-5.0702464135E-04	-3.9585521752E-04
0.				

5 K= 4 J= 3

SOLUTION

2.9573126758E-02	3.4710649065E-02	-3.0192344063E-02	-9.3048236048E-02	-9.8490348002E-03
6.8805839088E-02	-3.6594274590E-02	-2.4016028980E-02	6.6224629327E-03	2.1013204406E-02
1.0224188269E-02	-1.7835070265E-02	-1.2117269507E-02	-4.4699318597E-03	-1.6150442321E-04
6.0247719679E-03	4.2896437906E-03	6.1195089438E-04	-3.9439515768E-04	-3.0792069694E-04
0.	7.2850794797E-02	5.7377098826E-02	1.3838788684E-03	-2.2343077797E-02
-1.7482373247E-02	-2.6511415369E-02	-1.5707634056E-02	-1.7033851578E-03	4.9929986388E-03
-1.2335413707E-03	9.2564875838E-04	-7.5320246239E-04	6.8311245135E-04	5.3333429180E-04
0.				

5 K= 4 J= 4

SOLUTION

2.9375993219E-02	3.5271827858E-02	-3.1019519886E-02	-9.2101775671E-02	-1.0629416764E-02
6.9102891244E-02	-7.6318328340E-02	-5.2611372448E-02	9.4719969209E-04	3.6384892817E-02
1.3337722670E-02	2.4370708693E-02	1.5003302914E-02	2.7751766810E-03	-3.3090276509E-03
-3.1211392967E-03	-2.0632134699E-03	-3.7238040522E-04	1.3697200082E-04	1.0693973578E-04
0.	1.9558203604E-02	1.4157911215E-02	-1.3651808525E-02	-1.1621451519E-02
-1.4784483653E-02	-1.5534593763E-02	-6.6641742474E-03	4.4477904214E-03	8.6934366424E-03
7.2371077521E-03	2.1995071865E-03	1.7630764894E-03	-7.7680681806E-04	-6.0648537932E-04
0.				

5 K= 4 J= 5

SOLUTION

2.9375993219E-02	3.5271827858E-02	-3.1019519886E-02	-9.2101775671E-02	-1.0629416764E-02
6.9102891244E-02	-7.6318328340E-02	-5.2611372448E-02	9.4719969206E-04	3.6384892817E-02
1.3337722670E-02	2.4370708693E-02	1.5003302914E-02	2.7751766810E-03	-3.3090276509E-03
-3.1211392967E-03	-2.0632134699E-03	-3.7238040522E-04	1.3697200082E-04	1.0693973578E-04
0.	-1.9558203604E-02	-1.4157911215E-02	1.3651808525E-02	1.1621451519E-02
1.4784483653E-02	1.5534593763E-02	6.6641742474E-03	-4.4477904214E-03	-8.6934366424E-03
-7.2371077521E-03	-2.1995071865E-03	-1.7630764894E-03	7.7680681806E-04	6.0648537932E-04
0.				

5 K= 4 J= 6

SOLUTION

2.9573126758E-02	3.4710649065E-02	-3.0192344063E-02	-9.3048236048E-02	-9.8490348002E-03
6.8805839088E-02	-3.6594274590E-02	-2.4016028980E-02	6.6224629327E-03	2.1013204406E-02
1.0224188269E-02	-1.7835070265E-02	-1.2117269507E-02	-4.4699318597E-03	-1.6150442320E-04
6.0247719679E-03	4.2896437906E-03	6.1195089438E-04	-3.9439515768E-04	-3.0792069694E-04
0.	-7.2850794797E-02	-5.7377098826E-02	-1.3838788684E-03	2.2343077797E-02
1.7482373247E-02	2.6511415369E-02	1.5707634056E-02	1.7033851578E-03	-4.9929986388E-03
1.2335413707E-03	-9.2564875838E-04	7.5320246239E-04	-6.8311245135E-04	-5.3333429180E-04
0.				

5 K= 4 J= 7

SOLUTION

2.8949205980E-02	3.6486760379E-02	-3.2810326707E-02	-9.0052721950E-02	-1.2318916509E-02
6.9745998808E-02	1.0814919386E-02	4.8470232964E-04	-3.7129005869E-03	-1.7567143890E-02
1.6557889977E-03	-2.6974626619E-02	-1.4883508851E-02	6.2239091529E-04	7.5749824838E-03
-2.2773473039E-03	-2.6963945120E-03	1.4284042306E-04	6.0424843786E-04	4.7176187763E-04
0.	-7.5137020063E-02	-4.8239708772E-02	7.8619103207E-03	4.3453423282E-02
1.5411087622E-02	-7.8375539613E-03	-3.0296809284E-03	2.9570498071E-03	5.1412135460E-03
4.9188083052E-03	3.9391578018E-03	3.4751889768E-04	5.0702464135E-04	3.9585521752E-04
0.				

5 K= 4 J= 8

SOLUTION

3.0178090858E-02	3.2988501607E-02	-2.7653903977E-02	-9.5952736993E-02	-7.4541958764E-03
6.7894244382E-02	6.6455366849E-02	5.0385040708E-02	4.8789327622E-03	-2.2687216017E-02
-1.1250770756E-02	7.5717519606E-03	5.8691616117E-03	3.4519128493E-03	1.7146528894E-03
-4.7069495149E-03	-8.7322236431E-04	-1.3406788260E-03	-7.4122043868E-04	-5.7870161341E-04
0.	-5.3929977019E-02	-3.7098388184E-02	-2.1296732420E-03	2.5129858167E-02
7.1092213865E-03	-3.1976688675E-02	-2.0067030689E-02	-4.4588079087E-03	3.4759337533E-03
-5.3472127274E-03	-3.6176833617E-03	-6.0910336770E-04	-2.6978217671E-04	-2.1063016180E-04
0.				

5 K= 5 J= 0

SOLUTION

2.5638424443E-02	-1.8089729640E-02	-5.9760801658E-02	3.1078079893E-02	6.1403020352E-02
-4.0268993390E-02	8.3255068275E-02	-1.7343138543E-02	-2.8667003953E-02	1.0956503985E-02
3.1806172426E-02	3.1038736351E-02	1.1639968812E-03	-5.1857528761E-03	8.7731808486E-03
4.5368402611E-03	3.8002026471E-04	-2.9142912990E-03	9.2061250806E-04	-6.8964561143E-04
2.0249822225E-04	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.				

5 K= 5 J= 1

SOLUTION

2.5490801385E-02	-3.7056877871E-03	-6.4457218810E-02	4.7976184174E-02	4.3174897376E-02
-4.8478976337E-02	5.9851160796E-02	-2.1631544138E-02	-4.0398584712E-02	9.8693362490E-03
1.5405572149E-02	1.5283510513E-02	-7.3715516476E-03	-2.8836654686E-03	-4.3557023490E-04
8.6817408379E-04	-1.1900625428E-03	1.3390963749E-03	-4.7400898228E-04	5.5223131404E-04
-1.9429562142E-04	3.9890059871E-02	-8.9205194736E-03	-2.4668656940E-02	1.2592820805E-02
7.0238155423E-03	2.8349998831E-02	-8.1037751416E-03	-8.0438224544E-03	2.0921328636E-03
8.0613111690E-03	-2.3032611173E-03	-7.0438340888E-04	1.1346229929E-03	-1.7855494570E-04
5.7050341911E-05				

5 K= 5 J= 2

SOLUTION

2.3941083643E-02	-1.2126655998E-02	-6.7213167080E-02	4.0538769510E-02	5.3254457874E-02
-3.8394487950E-02	3.3250215881E-02	-3.0904297107E-03	-1.5284829018E-02	1.2631458097E-02
6.0951953998E-03	-2.5281692667E-02	4.9457222742E-03	9.4207967722E-04	-4.1410772765E-03
-7.1469608125E-03	1.7319100745E-03	1.0902853077E-03	-5.4708097392E-04	-2.2669177941E-04
1.7035234486E-04	6.7602347082E-02	-1.5380046367E-02	-4.0552212066E-02	2.0032876706E-02
1.3151459417E-02	2.1589901080E-02	-3.0514537790E-03	-7.1237057907E-03	3.2935630627E-03
-3.2874236234E-03	1.4006745132E-03	-4.0579952290E-04	-1.5586504604E-03	1.7716731193E-04
-1.0947880441E-04				

5 K= 5 J= 3

SOLUTION

2.6764276896E-02	-9.5017628651E-03	-5.8479864723E-02	3.9345210048E-02	5.0959116873E-02
-4.9086976229E-02	-1.3243385138E-02	4.5163735655E-03	1.1073747997E-03	3.3110803569E-03
-9.4477100649E-03	-2.6439441884E-02	5.2907851425E-03	1.0475132926E-02	-2.8530916294E-03
1.9630967436E-03	9.9015906096E-05	-1.1627538047E-03	1.4073472697E-03	-8.6052058309E-05
-1.3260813445E-04	7.7362874971E-02	-1.7725892158E-02	-3.7160113133E-02	1.5814523893E-02
2.2589040495E-02	-4.1530303107E-03	1.5061352219E-03	6.4043803352E-03	6.5753247444E-04
-6.0394367172E-03	1.0895216206E-03	1.4831069907E-03	1.0461132531E-03	5.5302299880E-05
1.5303794528E-04				

5 K= 5 J= 4

SOLUTION

2.4385589976E-02	-1.0357404678E-02	-6.6234024833E-02	4.1922926260E-02	5.1179751081E-02
-4.0896837805E-02	-4.9634673599E-02	1.1916956056E-02	2.7276527620E-02	-1.1959418743E-02
-1.2235550238E-02	-5.1409072046E-03	3.3169405538E-03	1.3726426874E-03	7.0229855775E-04
7.2674481590E-03	-2.2697964625E-03	-3.4458417347E-04	-1.4649279058E-03	2.0762560807E-04
8.4120801631E-05	5.5026807254E-02	-2.0744232158E-02	-3.3742615356E-02	5.3234604725E-03
1.7680561524E-02	-3.4832557137E-02	8.7250198115E-03	5.0258783485E-03	-4.0205838076E-03
4.9879978035E-03	-1.6969557840E-03	-2.7589359750E-05	-6.2443519630E-06	-4.0166906887E-04
-1.8419886196E-04				

5 K= 5 J= 5

SOLUTION

2.5462203579E-02	-9.4476806980E-03	-6.2876966899E-02	4.1361952057E-02	5.0419752860E-02
-4.4919260900E-02	-7.1850852077E-02	1.6960213499E-02	4.1633013287E-02	-1.9330707951E-02
-1.5720593459E-02	2.6059163068E-02	-6.7638947636E-03	-7.3133133838E-03	2.3408501587E-03
-5.2201783044E-03	1.4389228923E-03	5.3510194504E-04	6.1836433826E-04	-1.0229027867E-04
-2.8818501751E-05	2.8032681806E-02	-2.9709039929E-03	-4.5323703292E-04	8.1241323801E-04
1.5456149302E-02	-1.6081147001E-02	-3.2932059732E-03	2.4536427995E-03	-6.1736138072E-03
2.9828238600E-03	6.2179668892E-04	-2.4747363572E-03	-8.0349725563E-04	6.5380751174E-04
2.0043708233E-04				

5 K= 5 J= 6

SOLUTION

2.5462203579E-02	-9.4476806981E-03	-6.2876966898E-02	4.1361952057E-02	5.0419752860E-02
-4.4919260900E-02	-7.1850852077E-02	1.6960213499E-02	4.1633013287E-02	-1.9330707951E-02
-1.5720593459E-02	2.6059163067E-02	-6.7638947636E-03	-7.3133133838E-03	2.3408501587E-03
-5.2201783044E-03	1.4389228923E-03	5.3510194503E-04	6.1836433826E-04	-1.0229027867E-04
-2.8818501751E-05	-2.8032681806E-02	2.9709039929E-03	4.5323703293E-04	-8.1241323802E-04
-1.5456149302E-02	1.6081147001E-02	3.2932059732E-03	-2.4536427996E-03	6.1736138072E-03
-2.9828238600E-03	-6.2179668892E-04	2.4747363572E-03	8.0349725563E-04	-6.5380751174E-04
-2.0043708233E-04				

5 K= 5 J= 7

SOLUTION

2.4385589976E-02	-1.0357404678E-02	-6.6234024833E-02	4.1922926260E-02	5.1179751081E-02
-4.0896837805E-02	-4.9634673599E-02	1.1916956056E-02	2.7276527620E-02	-1.1959418743E-02
-1.2235550238E-02	-5.1409072046E-03	3.3169405538E-03	1.3726426874E-03	7.0229855774E-04
7.2674481590E-03	-2.2697964625E-03	-3.4458417347E-04	-1.4649279058E-03	2.0762560807E-04
8.4120801631E-05	-5.5026807254E-02	2.0744232158E-02	3.3742615356E-02	-5.3234604725E-03
-1.7680561524E-02	3.4832557137E-02	-8.7250198115E-03	-5.0258783485E-03	4.0205838076E-03
-4.9879978035E-03	1.6969557840E-03	2.7589359750E-05	6.2443519608E-06	4.0166906887E-04
1.8419886197E-04				

5 K= 5 J= 8

SOLUTION

2.6764276896E-02	-9.5017628651E-03	-5.8479864723E-02	3.9345210048E-02	5.0959116874E-02
-4.9086976229E-02	-1.3243385138E-02	4.5163735654E-03	1.1073747997E-03	3.3110803569E-03
-9.4477100649E-03	-2.6439441884E-02	5.2907851425E-03	1.0475132926E-02	-2.8530916294E-03
1.9630967436E-03	9.9015906097E-05	-1.1627538047E-03	1.4073472697E-03	-8.6052058309E-05
-1.3260813445E-04	-7.7362874971E-02	1.7725892158E-02	3.7160113133E-02	-1.5814523893E-02
-2.2589040495E-02	4.1530303107E-03	-1.5061352219E-03	-6.4043803352E-03	-6.5753247444E-04
6.0394367172E-03	-1.0895216206E-03	-1.4831069907E-03	-1.0461132531E-03	-5.5302299880E-05
-1.5303794528E-04				

5 K= 5 J= 9

SOLUTION

2.3941083643E-02	-1.2126655998E-02	-6.7213167080E-02	4.0538769510E-02	5.3254457874E-02
-3.8394487950E-02	3.3250215882E-02	-3.0904297107E-03	-1.5284829018E-02	1.2631458097E-02
6.0951953998E-03	-2.5281692667E-02	4.9457222742E-03	9.4207967722E-04	-4.1410772765E-03
-7.1469608125E-03	1.7319100745E-03	1.0902853077E-03	-5.4708097393E-04	-2.2669177941E-04
1.7035234486E-04	-6.7602347082E-02	1.5380046367E-02	4.0552212066E-02	-2.0032876706E-02
-1.3151459417E-02	-2.1589901080E-02	3.0514537790E-03	7.1237057907E-03	-3.2935630628E-03
3.2874236234E-03	-1.4006745132E-03	4.0579952290E-04	1.5586504604E-03	-1.7716731193E-04
1.0947880441E-04				

5 K= 5 J= 10

SOLUTION

2.5490801385E-02	-3.7056877871E-03	-6.4457218810E-02	4.7976184174E-02	4.3174897375E-02
-4.8478976337E-02	5.9851160796E-02	-2.1631544138E-02	-4.0398584712E-02	9.8693362490E-03
1.5405572149E-02	1.5283510513E-02	-7.3715516476E-03	-2.8836654686E-03	-4.3557023490E-04
8.6817408379E-04	-1.1900625428E-03	1.3390963749E-03	-4.7400898228E-04	5.5223131404E-04
-1.9429562142E-04	-3.9890059871E-02	8.9205194736E-03	2.4668656940E-02	-1.2592820805E-02
-7.0238155423E-03	-2.8349998831E-02	8.1037751416E-03	8.0438224544E-03	-2.0921328636E-03
-8.0613111690E-03	2.3032611173E-03	7.0438340888E-04	-1.1346229929E-03	1.7855494570E-04
-5.7050341912E-05				

N= 9 K= 0 J= 0

SOLUTION

5.8479532164E-03	1.5948963317E-02	3.0378977747E-02	3.9258986627E-02	6.0571007939E-02
6.9095816464E-02	1.0887825625E-01	1.1823883031E-01	2.6800801538E-01	2.8377319275E-01
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 1 J= 0

SOLUTION

7.9013707748E-03	-2.3293015465E-02	3.7402669737E-02	-4.9473798560E-02	5.8574791007E-02
-6.4096236617E-02	6.4708302049E-02	-5.9962932054E-02	4.3861385475E-02	-1.5622536347E-02
4.9612012901E-03	-8.6604819215E-03	1.1375851638E-02	-1.5526708636E-02	1.7499709725E-02
-2.3300277199E-02	2.4188441554E-02	-4.3301173563E-02	4.1896883471E-02	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 1 J= 1

SOLUTION

7.9013707748E-03	-2.3293015465E-02	3.7402669737E-02	-4.9473798560E-02	5.8574791007E-02
-6.4096236617E-02	6.4708302049E-02	-5.9962932054E-02	4.3861385475E-02	-1.5622536347E-02
-2.4806006454E-03	4.3302409608E-03	-5.6879258191E-03	7.7633543183E-03	-8.7498548627E-03
1.1650138599E-02	-1.2094220777E-02	2.1650586782E-02	-2.0948441735E-02	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
4.2965263513E-03	-7.5001973531E-03	9.8517765083E-03	-1.3446524116E-02	1.5155193181E-02
-2.0178631969E-02	2.0947804863E-02	-3.7499916320E-02	3.6283765425E-02	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 1 J= 2

SOLUTION

7.9013707748E-03	-2.3293015465E-02	3.7402669737E-02	-4.9473798560E-02	5.8574791007E-02
-6.4096236617E-02	6.4708302049E-02	-5.9962932055E-02	4.3861385475E-02	-1.5622536347E-02
-2.4806006447E-03	4.3302409607E-03	-5.6879258193E-03	7.7633543183E-03	-8.7498548627E-03
1.1650138599E-02	-1.2094220777E-02	2.1650586782E-02	-2.0948441735E-02	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
-4.2965263511E-03	7.5001973531E-03	-9.8517765084E-03	1.3446524116E-02	-1.5155193181E-02
2.0178631969E-02	-2.0947804863E-02	3.7499916320E-02	-3.6283765425E-02	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 2 J= 0

SOLUTION

1.0358921151E-02	3.0022196300E-02	4.3068860613E-02	5.1036906384E-02	4.5240428117E-02
3.5817230338E-02	6.2860621081E-03	-1.5587040647E-02	-9.4282405855E-02	-1.1196115851E-01
1.0444827737E-02	1.5586936116E-02	2.1075944766E-02	2.2437470766E-02	2.4864872455E-02
2.1395164944E-02	2.0395322344E-02	1.0580636067E-02	6.2563749083E-03	1.4366743763E-03
1.9259848382E-03	2.2953331912E-03	2.5785169876E-03	2.7840890411E-03	2.8046875273E-03
3.4459172278E-03	3.0882332244E-03	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 2 J= 1

SOLUTION

1.0358921151E-02	3.0022196300E-02	4.3068860612E-02	5.1036906384E-02	4.5240428117E-02
3.5817230338E-02	6.2860621081E-03	-1.5587040647E-02	-9.4282405855E-02	-1.1196115851E-01
2.9489988631E-03	5.3030171304E-03	5.8739358464E-03	7.8055689851E-03	6.7008514856E-03
7.9200632086E-03	4.9440327638E-03	5.7014718382E-03	-4.1968173539E-04	-1.1622939859E-03
-1.5581544650E-03	-1.8569635594E-03	-2.0860640632E-03	-2.2523753481E-03	-2.2690398735E-03
-2.7878055985E-03	-2.4984331611E-03	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
9.5501196207E-03	1.5493514161E-02	1.9165058982E-02	2.2539520489E-02	2.2295167885E-02
2.2149146184E-02	1.7527332808E-02	1.3409972324E-02	2.7115285854E-03	8.4445601078E-04
1.1320654840E-03	1.3491629989E-03	1.5156142581E-03	1.6364464794E-03	1.6485539658E-03
2.0254593271E-03	1.8152179449E-03	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 2 J= 2

SOLUTION

1.0358921151E-02	3.0022196300E-02	4.3068860612E-02	5.1036906385E-02	4.5240428117E-02
3.5817230338E-02	6.2860621080E-03	-1.5587040647E-02	-9.4282405855E-02	-1.1196115851E-01
-8.1714127314E-03	-1.3096485188E-02	-1.6411908230E-02	-1.9024304368E-02	-1.9133287713E-02
-1.8617655681E-02	-1.5141693936E-02	-1.0991789872E-02	-2.7085057187E-03	4.4395679766E-04
5.9516204590E-04	7.0929696384E-04	7.9680556944E-04	8.6033082754E-04	8.6669610984E-04
1.0648469846E-03	9.5431654892E-04	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
6.2298482149E-03	9.0037338178E-03	1.2595717216E-02	1.2905081448E-02	1.4934541822E-02
1.2150588340E-02	1.2429462844E-02	5.4289775968E-03	4.4419435177E-03	-1.3663585274E-03
-1.8317204306E-03	-2.1829915886E-03	-2.4523153834E-03	-2.6478260245E-03	-2.6674163490E-03
-3.2772620341E-03	-2.9370843319E-03	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 2 J= 3

SOLUTION

1.0358921151E-02	3.0022196300E-02	4.3068860612E-02	5.1036906384E-02	4.5240428117E-02
3.5817230338E-02	6.2860621082E-03	-1.5587040648E-02	-9.4282405855E-02	-1.1196115851E-01
-8.1714127316E-03	-1.3096485188E-02	-1.6411908230E-02	-1.9024304368E-02	-1.9133287713E-02
-1.8617655681E-02	-1.5141693936E-02	-1.0991789872E-02	-2.7085057188E-03	4.4395679772E-04
5.9516204590E-04	7.0929696383E-04	7.9680556944E-04	8.6033082754E-04	8.6669610984E-04
1.0648469846E-03	9.5431654892E-04	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
-6.2298482150E-03	-9.0037338178E-03	-1.2595717216E-02	-1.2905081448E-02	-1.4934541822E-02
-1.2150588340E-02	-1.2429462844E-02	-5.4289775968E-03	-4.4419435177E-03	1.3663585274E-03
1.8317204306E-03	2.1829915886E-03	2.4523153834E-03	2.6478260245E-03	2.6674163490E-03
3.2772620341E-03	2.9370843319E-03	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 2 J= 4

SOLUTION

1.0358921151E-02	3.0022196300E-02	4.3068860612E-02	5.1036906384E-02	4.5240428117E-02
3.5817230338E-02	6.2860621081E-03	-1.5587040647E-02	-9.4282405855E-02	-1.1196115851E-01
2.9489988631E-03	5.3030171303E-03	5.8739358464E-03	7.8055689852E-03	6.7008514856E-03
7.9200632085E-03	4.9440327638E-03	5.7014718382E-03	-4.1968173537E-04	-1.1622939860E-03
-1.5581544650E-03	-1.8569635594E-03	-2.0860640632E-03	-2.2523753481E-03	-2.2690398735E-03
-2.7878055985E-03	-2.4984331611E-03	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
-9.5501196207E-03	-1.5493514161E-02	-1.9165058982E-02	-2.2539520489E-02	-2.2295167885E-02
-2.2149146184E-02	-1.7527332808E-02	-1.3409972324E-02	-2.7115285854E-03	-8.4445601082E-04
-1.1320654840E-03	-1.3491629989E-03	-1.5156142581E-03	-1.6364464794E-03	-1.6485539658E-03
-2.0254593271E-03	-1.8152179449E-03	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 3 J= 0

SOLUTION

1.0786412677E-02	-2.8340569027E-02	3.5145764621E-02	-2.7672168856E-02	7.1885977381E-03
2.1061273200E-02	-4.7767601152E-02	6.4216808036E-02	-5.5993610028E-02	2.1375092790E-02
1.5280044298E-02	-2.1979259321E-02	2.5056885931E-02	-2.2627304025E-02	1.7269568156E-02
-6.7105012452E-03	-2.0914608260E-03	2.0562519561E-02	-2.3734165923E-02	3.0590320333E-03
-4.1704344261E-03	4.0144393022E-03	-4.3972211614E-03	3.2641951871E-03	-3.0313287056E-03
1.2531360334E-03	-8.2481051469E-04	3.6639293110E-04	-3.8901508710E-04	4.3255661155E-04
-3.8867892726E-04	3.7911484950E-04	-3.1967791471E-04	2.6862551025E-04	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 3 J= 1

SOLUTION

1.2201286563E-02	-3.2511576848E-02	4.1843344341E-02	-3.6531288065E-02	1.7677403354E-02
9.5837594943E-03	-3.6180486793E-02	5.3479432321E-02	-4.8139488171E-02	1.8577613803E-02
1.0173208298E-02	-1.4831976615E-02	1.7104555186E-02	-1.6130435001E-02	1.3046948594E-02
-7.2190721669E-03	1.8468327346E-03	7.1800193775E-03	-9.3404343185E-03	-5.7512404169E-04
1.0695407728E-03	-7.2462325380E-04	1.1679571696E-03	-5.2176180255E-04	8.8063774225E-04
-2.5624317588E-05	4.1047772893E-04	-3.3010862435E-04	3.5049048262E-04	-3.8972004061E-04
3.5018761307E-04	-3.4157067676E-04	2.8801984891E-04	-2.4202322186E-04	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
1.3212327813E-02	-1.9393899441E-02	2.2492942935E-02	-2.1652558681E-02	1.7967146247E-02
-1.1191817467E-02	4.5367918621E-03	5.0276278289E-03	-7.8656417327E-03	3.2015636778E-03
-3.7719790976E-03	4.2640431196E-03	-3.8935072913E-03	3.6071904263E-03	-2.5273483320E-03
1.7475437689E-03	-3.3288477216E-04	1.5897193493E-04	-1.6878732056E-04	1.8767928000E-04
-1.6864146628E-04	1.6449176846E-04	-1.3870304895E-04	1.1655224081E-04	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 3 J= 2

SOLUTION

1.1066645803E-02	-2.9166688280E-02	3.6472302425E-02	-2.9426826065E-02	9.2660343271E-03
1.8788010848E-02	-4.5472631046E-02	6.2090139090E-02	-5.4438004870E-02	2.0821017768E-02
-2.9377090269E-03	4.0836242604E-03	-4.5153680416E-03	3.5878445948E-03	-2.2117378927E-03
-6.7853138338E-04	2.7199356994E-03	-8.6115811050E-03	9.1864485796E-03	-2.9933166532E-03
3.4394124948E-03	-3.9958908128E-03	3.5359940143E-03	-3.4006477075E-03	2.2680220998E-03
-1.6980272510E-03	2.3319876830E-04	2.2844225600E-04	-2.4254693957E-04	2.6969463603E-04
-2.4233734735E-04	2.3637424240E-04	-1.9931591970E-04	1.6748526616E-04	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
1.5331342553E-02	-2.2186501850E-02	2.5424722658E-02	-2.3419502877E-02	1.8368851846E-02
-8.5824182327E-03	7.8907055060E-05	1.6255540247E-02	-1.9470625911E-02	-1.5164441041E-03
1.5558719221E-03	-2.0440471177E-03	1.5683462169E-03	-1.7828872781E-03	9.4592578004E-04
-9.9747028773E-04	-4.8783597331E-05	-2.8645752849E-04	3.0414424225E-04	-3.3818637686E-04
3.0388142191E-04	-2.9640392481E-04	2.4993425797E-04	-2.1001988091E-04	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 3 J= 3

SOLUTION

1.1696323920E-02	-3.1022961392E-02	3.9453005814E-02	-3.3369505026E-02	1.3933991971E-02
1.3680036710E-02	-4.0315880028E-02	5.7311557346E-02	-5.0942591808E-02	1.9576022494E-02
-1.4875521420E-02	2.1737982014E-02	-2.5117630110E-02	2.3856242418E-02	-1.9469994779E-02
1.1252854173E-02	-3.5210380210E-03	-8.8496980528E-03	1.2021068701E-02	2.0389246783E-03
-2.4237360545E-03	2.7132944155E-03	-2.5053406032E-03	2.2903119166E-03	-1.6329954893E-03
1.0970835519E-03	-2.3127123989E-04	-8.1530097222E-05	8.6564000504E-05	-9.6252901191E-05
8.6489197904E-05	-8.4360990387E-05	7.1135028146E-05	-5.9774799426E-05	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
6.3662897435E-03	-9.0765136337E-03	1.0267641460E-02	-8.9930470762E-03	6.5636330347E-03
-1.6741766265E-03	-2.1920190632E-03	1.1221325147E-02	-1.2522873723E-02	-2.3615994326E-03
3.3008589998E-03	-3.0906080217E-03	3.4918157520E-03	-2.4938211997E-03	2.4286483966E-03
-9.0766967040E-04	7.0945338082E-04	3.5720669535E-04	-3.7926166667E-04	4.2171151420E-04
-3.7893393507E-04	3.6960964870E-04	-3.1166292195E-04	2.6189050787E-04	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 3 J= 4

SOLUTION

1.1696323920E-02	-3.1022961392E-02	3.9453005814E-02	-3.3369505026E-02	1.3933991971E-02
1.3680036710E-02	-4.0315880028E-02	5.7311557346E-02	-5.0942591808E-02	1.9576022494E-02
-1.4875521420E-02	2.1737982014E-02	-2.5117630110E-02	2.3856242418E-02	-1.9469994779E-02
1.1252854173E-02	-3.5210380210E-03	-8.8496980528E-03	1.2021068701E-02	2.0389246783E-03
-2.4237360545E-03	2.7132944155E-03	-2.5053406032E-03	2.2903119165E-03	-1.6329954893E-03
1.0970835519E-03	-2.3127123989E-04	-8.1530097225E-05	8.6564000504E-05	-9.6252901190E-05
8.6489197903E-05	-8.4360990387E-05	7.1135028145E-05	-5.9774799426E-05	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
-6.3662897435E-03	9.0765136337E-03	-1.0267641460E-02	8.9930470762E-03	-6.5636330347E-03
1.6741766265E-03	2.1920190632E-03	-1.1221325147E-02	1.2522873723E-02	2.3615994326E-03
-3.3008589998E-03	3.0906080217E-03	-3.4918157520E-03	2.4938211997E-03	-2.4286483966E-03
9.0766967040E-04	-7.0945338082E-04	-3.5720669535E-04	3.7926166667E-04	-4.2171151420E-04
3.7893393507E-04	-3.6960964870E-04	3.1166292195E-04	-2.6189050787E-04	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 3 J= 5

SOLUTION

1.1066645803E-02	-2.9166688280E-02	3.6472302425E-02	-2.9426826065E-02	9.2660343271E-03
1.8788010848E-02	-4.5472631046E-02	6.2090139091E-02	-5.4438004870E-02	2.0821017768E-02
-2.9377090270E-03	4.0836242604E-03	-4.5153680416E-03	3.5878445948E-03	-2.2117378927E-03
-6.7853138337E-04	2.7199356994E-03	-8.6115811050E-03	9.1864485795E-03	-2.9933166533E-03
3.4394124948E-03	-3.9958908128E-03	3.5359940144E-03	-3.4006477075E-03	2.2680220998E-03
-1.6980272510E-03	2.3319876830E-04	2.2844225601E-04	-2.4254693958E-04	2.6969463603E-04
-2.4233734735E-04	2.3637424240E-04	-1.9931591970E-04	1.6748526616E-04	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
-1.5331342552E-02	2.2186501850E-02	-2.5424722658E-02	2.3419502877E-02	-1.8368851845E-02
8.5824182327E-03	-1.8907055059E-05	-1.6255540247E-02	1.9470625911E-02	1.5164441041E-03
-1.5558719221E-03	2.0440471177E-03	-1.5683462168E-03	1.7828872781E-03	-9.4592578004E-04
9.9747028773E-04	4.8783597331E-05	2.8645752849E-04	-3.0414424225E-04	3.3818637686E-04
-3.0388142191E-04	2.9640392481E-04	-2.4993425797E-04	2.1001988091E-04	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 3 J= 6

SOLUTION

1.2201286563E-02	-3.2511576848E-02	4.1843344341E-02	-3.6531288065E-02	1.7677403354E-02
9.5837594943E-03	-3.6180486793E-02	5.3479432321E-02	-4.8139488171E-02	1.8577613803E-02
1.0173208298E-02	-1.4831976615E-02	1.7104555186E-02	-1.6130435001E-02	1.3046948594E-02
-7.2190721669E-03	1.8468327346E-03	7.1800193775E-03	-9.3404343185E-03	-5.7512404168E-04
1.0695407728E-03	-7.2462325380E-04	1.1679571696E-03	-5.2176180255E-04	8.8063774225E-04
-2.5624317587E-05	4.1047772893E-04	-3.3010862434E-04	3.5049048262E-04	-3.8972004061E-04
3.5018761307E-04	-3.4157067676E-04	2.8801984891E-04	-2.4202322186E-04	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
-1.3212327813E-02	1.9393899441E-02	-2.2492942935E-02	2.1652558681E-02	-1.7967146247E-02
1.1191817467E-02	-4.5367918621E-03	-5.0276278289E-03	7.8656417327E-03	-3.2015636778E-03
3.7719790976E-03	-4.2640431196E-03	3.8935072913E-03	-3.6071904263E-03	2.5273483320E-03
-1.7475437689E-03	3.3288477216E-04	-1.5897193494E-04	1.6878732056E-04	-1.8767928000E-04
1.6864146628E-04	-1.6449176846E-04	1.3870304895E-04	-1.1655224081E-04	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 4 J= 0

SOLUTION

1.1264230115E-02	2.7068836300E-02	2.4510631526E-02	4.3045552713E-03	-2.6116283935E-02
-4.9864164330E-02	-5.1374188923E-02	-3.1516845514E-02	3.1805224742E-02	5.9918004748E-02
1.9303463788E-02	2.5718809492E-02	2.2653156510E-02	1.4639830313E-02	6.4331118078E-04
-9.0291366792E-03	-1.7378925618E-02	-1.2401248111E-02	-6.8550903987E-03	4.8868738688E-03
5.2847453882E-03	4.6587687598E-03	3.2084481471E-03	1.3402470048E-03	-3.8225653258E-04
-2.2433169485E-03	-2.5711237799E-03	8.5559594132E-04	7.4225216333E-04	8.0508720197E-04
5.1348667375E-04	4.6375044286E-04	1.5670681099E-04	1.0634067136E-04	7.1448554012E-05
7.8553658510E-05	5.9769970218E-05	5.6450514471E-05	3.4045795025E-05	2.7127752425E-05
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 4 J= 1

SOLUTION

1.1528735653E-02	2.6289081527E-02	2.5762719744E-02	2.6483750902E-03	-2.4155439795E-02
-5.2009843859E-02	-4.9208019950E-02	-3.3524158932E-02	3.3273524316E-02	5.9395026205E-02
1.7312617921E-02	2.3139744529E-02	2.2477065180E-02	1.6100805602E-02	6.6215943309E-03
-2.4324436066E-03	-8.0835507681E-03	-7.9361844559E-03	-2.9377032156E-03	1.1509252842E-03
1.3229836665E-03	1.2920082928E-03	1.0997549319E-03	8.1860504500E-04	5.2383011539E-04
3.3559841693E-04	2.0340563431E-04	-4.5564103782E-04	-3.4156390326E-04	-4.3541460302E-04
-2.2720670406E-04	-2.6068505732E-04	-5.4060323143E-05	-7.3583824825E-05	-6.7139678971E-05
-7.3816293238E-05	-5.6165399959E-05	-5.3046131888E-05	-3.1992582353E-05	-2.5491748773E-05
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
1.3993686283E-02	1.8293788189E-02	1.7812109403E-02	1.1831693920E-02	4.4023111755E-03
-3.8144323318E-03	-7.5292476703E-03	-8.1828726886E-03	-1.9924276237E-03	5.5782925027E-03
6.2308925726E-03	5.8112664435E-03	4.5338994296E-03	2.8036380288E-03	1.1182809476E-03
-3.7276882828E-04	-8.8621964673E-04	6.6446962226E-04	7.2403064709E-04	6.0691363332E-04
5.2584373570E-04	3.2246529098E-04	2.0245677446E-04	3.6008122374E-05	2.4436844684E-05
2.6866933542E-05	2.0442533781E-05	1.9307213050E-05	1.1644347694E-05	9.2782377726E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 4 J= 2

SOLUTION

1.1309315949E-02	2.6935924549E-02	2.4724054057E-02	4.0222539441E-03	-2.5782051640E-02
-5.0229902421E-02	-5.1004958338E-02	-3.1858998650E-02	3.2055501205E-02	5.9828861346E-02
2.7435297694E-03	2.8032326021E-03	2.7699942710E-03	4.8183174977E-06	-1.0695425224E-03
-4.3865027707E-03	-3.5246847700E-03	-5.0404084812E-03	2.7398630353E-04	-4.8158214835E-03
-5.2658745064E-03	-4.7351492203E-03	-3.4163798349E-03	-1.6928485653E-03	-7.7431484303E-05
1.5715663017E-03	1.9352883829E-03	-3.4762705402E-04	-4.5624698187E-04	-3.0789532285E-04
-3.4179068151E-04	-1.4892060517E-04	-1.4830254828E-04	5.6079636938E-06	5.4732767771E-05
6.0175593589E-05	4.5786453551E-05	4.3243602922E-05	2.6080592090E-05	2.0781064000E-05
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
1.9786119509E-02	2.5546876159E-02	2.3954477094E-02	1.4553488502E-02	2.8132726609E-03
-9.2588273607E-03	-1.4752058016E-02	-1.4252056224E-02	-4.0105883947E-03	1.4860167154E-03
1.5589547629E-03	1.2971963750E-03	7.6461466119E-04	9.9124630856E-05	-4.9266436368E-04
-1.2119306351E-03	-1.2778906040E-03	-6.4542384262E-04	-7.4425236808E-04	-5.8442854366E-04
-5.4604798248E-04	-3.0275820258E-04	-2.1907422148E-04	-2.2044473408E-05	-4.5926245249E-05
-5.0493318386E-05	-3.8419396288E-05	-3.6285691262E-05	-2.1884215204E-05	-1.7437383138E-05
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 4 J= 3

SOLUTION

1.1457184565E-02	2.6500012092E-02	2.5424018803E-02	3.0963864834E-03	-2.4685865485E-02
-5.1429418561E-02	-4.9793987824E-02	-3.2981162891E-02	3.2876336289E-02	5.9536496529E-02
-9.7569420592E-03	-1.2675745450E-02	-1.1567821286E-02	-6.9906465999E-03	-6.9276477355E-04
5.0086877836E-03	8.1765084272E-03	7.1188943240E-03	2.5390551360E-03	-3.0499533245E-03
-3.4554597725E-03	-3.2983981133E-03	-2.6927886368E-03	-1.8454737854E-03	-9.9291801606E-04
-3.3309377288E-04	-1.8188004751E-05	7.6061003807E-04	8.4310277012E-04	6.9294862897E-04
6.1425013244E-04	3.6546643311E-04	2.3958203291E-04	3.6700581283E-05	-3.5724277007E-05
-3.9276829255E-05	-2.9884985109E-05	-2.8225257235E-05	-1.7022897512E-05	-1.3563876213E-05
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
1.9188005960E-02	2.5927473279E-02	2.4606489962E-02	1.7932654544E-02	6.4504874887E-03
-2.8266612894E-03	-1.0196533302E-02	-8.3354691212E-03	-4.3773927048E-03	-4.6289119949E-03
-5.1086078655E-03	-4.6684962371E-03	-3.4906863879E-03	-1.9295479588E-03	-4.4350465949E-04
9.9113756828E-04	1.3738053939E-03	-5.4840136806E-05	5.8226124975E-05	-6.4743235308E-05
5.8175809999E-05	-5.6744299486E-05	4.7848031685E-05	-4.0206724752E-05	6.1876262839E-05
6.8029463830E-05	5.1762312592E-05	4.8887579588E-05	2.9484523383E-05	2.3493322748E-05
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 4 J= 4

SOLUTION

1.1385519613E-02	2.6711278325E-02	2.5084778865E-02	3.5451108254E-03	-2.5217135275E-02
-5.0848069595E-02	-5.0380888185E-02	-3.2437302747E-02	3.2478516192E-02	5.9678191983E-02
-1.9950937525E-02	-2.6126636427E-02	-2.5005816420E-02	-1.6434892475E-02	-5.1809426253E-03
6.3248269332E-03	1.2121189920E-02	1.2058322668E-02	3.5522069754E-03	4.2714125893E-03
4.7559779184E-03	4.4121546609E-03	3.4051894662E-03	2.0495938032E-03	7.3764765126E-04
-4.5241247151E-04	-8.3494412257E-04	-3.8513991691E-04	-4.1641796665E-04	-3.5218230409E-04
-3.0199608376E-04	-1.8773599206E-04	-1.1557256697E-04	-2.1895055831E-05	1.2406911201E-05
1.3640699649E-05	1.0378946408E-05	9.8025289662E-06	5.9119902633E-06	4.7106847729E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
5.6102038729E-03	7.5711952023E-03	5.7245225050E-03	3.2921044514E-03	-2.2318184751E-03
-4.5885550470E-03	-8.1112733970E-03	-4.4786927745E-03	-3.5570707028E-03	-3.0417585840E-03
-3.2636296788E-03	-2.8356890491E-03	-1.8838356376E-03	-6.6874699113E-04	4.3988300828E-04
1.6805429976E-03	1.8664901007E-03	7.4848958638E-04	6.3482304813E-04	7.0610602459E-04
4.3671322375E-04	4.0940260158E-04	1.2914933689E-04	9.7608398519E-05	-7.0363089933E-05
-7.7360251928E-05	-5.8861930068E-05	-5.5592904312E-05	-3.3528562898E-05	-2.6715620910E-05
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 4 J= 5

SOLUTION

1.1385519613E-02	2.6711278325E-02	2.5084778865E-02	3.5451108254E-03	-2.5217135275E-02
-5.0848069595E-02	-5.0380888185E-02	-3.2437302747E-02	3.2478516192E-02	5.9678191983E-02
-1.9950937525E-02	-2.6126636427E-02	-2.5005816420E-02	-1.6434892475E-02	-5.1809426253E-03
6.3248269332E-03	1.2121189920E-02	1.2058322668E-02	3.5522069754E-03	4.2714125893E-03
4.7559779184E-03	4.4121546609E-03	3.4051894662E-03	2.0495938032E-03	7.3764765126E-04
-4.5241247151E-04	-8.3494412256E-04	-3.8513991691E-04	-4.1641796665E-04	-3.5218230408E-04
-3.0199608376E-04	-1.8773599206E-04	-1.1557256697E-04	-2.1895055831E-05	1.2406911201E-05
1.3640699649E-05	1.0378946408E-05	9.8025289662E-06	5.9119902632E-06	4.7106847728E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
-5.6102038729E-03	-7.5711952023E-03	-5.7245225050E-03	-3.2921044514E-03	2.2318184751E-03
4.5885550470E-03	8.1112733970E-03	4.4786927745E-03	3.5570707028E-03	3.0417585840E-03
3.2636296788E-03	2.8356890491E-03	1.8838356376E-03	6.6874699113E-04	-4.3988300828E-04
-1.6805429976E-03	-1.8664901007E-03	-7.4848958638E-04	-6.3482304813E-04	-7.0610602459E-04
-4.3671322375E-04	-4.0940260158E-04	-1.2914933689E-04	-9.7608398519E-05	7.0363089934E-05
7.7360251928E-05	5.8861930068E-05	5.5592904312E-05	3.3528562898E-05	2.6715620910E-05
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 4 J= 6

SOLUTION

1.1457184565E-02	2.6500012092E-02	2.5424018803E-02	3.0963864834E-03	-2.4685865485E-02
-5.1429418560E-02	-4.9793987824E-02	-3.2981162891E-02	3.2876336289E-02	5.9536496529E-02
-9.7569420592E-03	-1.2675745450E-02	-1.1567821286E-02	-6.9906465999E-03	-6.9276477355E-04
5.0086877836E-03	8.1765084272E-03	7.1188943240E-03	2.5390551360E-03	-3.0499533245E-03
-3.4554597725E-03	-3.2983981133E-03	-2.6927886368E-03	-1.8454737854E-03	-9.9291601606E-04
-3.3309377288E-04	-1.8188004749E-05	7.6061003807E-04	8.4310277012E-04	6.9294862897E-04
6.1425013244E-04	3.6546643311E-04	2.3958203291E-04	3.6700581283E-05	-3.5724277006E-05
-3.9276829255E-05	-2.9884985109E-05	-2.8225257235E-05	-1.7022897512E-05	-1.3563876213E-05
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
-1.9188005960E-02	-2.5927473279E-02	-2.4606489962E-02	-1.7932654544E-02	-6.4504874887E-03
2.8266612894E-03	1.0196533302E-02	8.3354691212E-03	4.3773927048E-03	4.6289119949E-03
5.1086078655E-03	4.6684962370E-03	3.4906863879E-03	1.9295479588E-03	4.4350465949E-04
-9.9113756828E-04	-1.3738053939E-03	5.4840136807E-05	-5.8226124974E-05	6.4743235309E-05
-5.8175809999E-05	5.6744299486E-05	-4.7848031685E-05	4.0206724752E-05	-6.1876262839E-05
-6.8029463830E-05	-5.1762312592E-05	-4.8887579588E-05	-2.9484523383E-05	-2.3493322748E-05
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 4 J= 7

SOLUTION

1.1309315949E-02	2.6935924549E-02	2.4724054057E-02	4.0222539441E-03	-2.5782051640E-02
-5.0229902421E-02	-5.1004958338E-02	-3.1858998650E-02	3.2055501205E-02	5.9828861346E-02
2.7435297693E-03	2.8032326022E-03	2.7699942711E-03	4.8183173976E-06	-1.0695425224E-03
-4.3865027706E-03	-3.5246847700E-03	-5.0404084813E-03	2.7398630350E-04	-4.8158214834E-03
-5.2658745064E-03	-4.7351492203E-03	-3.4163798349E-03	-1.6928485653E-03	-7.7431484301E-05
1.5715663017E-03	1.9352883829E-03	-3.4762705401E-04	-4.5624698187E-04	-3.0789532285E-04
-3.4179068151E-04	-1.4892060517E-04	-1.4830254828E-04	5.6079636937E-06	5.4732767771E-05
6.0175593589E-05	4.5786453551E-05	4.3243602922E-05	2.6080592090E-05	2.0781064000E-05
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
-1.9786119509E-02	-2.5546876159E-02	-2.3954477094E-02	-1.4553488502E-02	-2.8132726609E-03
9.2658273607E-03	1.4752058016E-02	1.4252056224E-02	4.0105883947E-03	-1.4860167154E-03
-1.5589547629E-03	-1.2971963750E-03	-7.6461466120E-04	-9.9124630857E-05	4.9266436368E-04
1.2119306351E-03	1.2778906040E-03	6.4542384262E-04	7.4425236808E-04	5.8442854366E-04
5.4604798248E-04	3.0275820258E-04	2.1907422148E-04	2.2044473408E-05	4.5926245250E-05
5.0493318386E-05	3.8419396288E-05	3.6285691262E-05	2.1884215204E-05	1.7437383138E-05
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 4 J= 8

SOLUTION

1.1528735653E-02	2.6289081527E-02	2.5762719745E-02	2.6483750901E-03	-2.4155439795E-02
-5.2009843858E-02	-4.9208019950E-02	-3.3524158932E-02	3.3273524316E-02	5.9395026206E-02
1.7312617921E-02	2.3139744529E-02	2.2477065180E-02	1.6100805602E-02	6.6215943309E-03
-2.4324436066E-03	-8.0835507681E-03	-7.9361844559E-03	-2.9377032156E-03	1.1509252842E-03
1.3229836665E-03	1.2920082928E-03	1.0997549319E-03	8.1860504500E-04	5.2383011539E-04
3.3559841693E-04	2.0340563431E-04	-4.5564103781E-04	-3.4156390326E-04	-4.3541460302E-04
-2.2720670406E-04	-2.6068505732E-04	-5.4060323143E-05	-7.3583824825E-05	-6.7139678972E-05
-7.3816293238E-05	-5.6165399959E-05	-5.3046131888E-05	-3.1992582353E-05	-2.5491748773E-05
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
-1.3993686283E-02	-1.8293788189E-02	-1.7812109403E-02	-1.1831693920E-02	-4.4023111755E-03
3.8144323318E-03	7.5292476703E-03	8.1828726886E-03	1.9924276237E-03	-5.5782925027E-03
-6.2308925726E-03	-5.8112664435E-03	-4.5338994296E-03	-2.8036380288E-03	-1.1182809476E-03
3.7276882828E-04	8.8621964673E-04	-6.6446962226E-04	-7.2403064709E-04	-6.0691363332E-04
-5.2584373570E-04	-3.2246529098E-04	-2.0245677446E-04	-3.6008122374E-05	-2.4436844684E-05
-2.6866933543E-05	-2.0442533781E-05	-1.9307213050E-05	-1.1644347694E-05	-9.2782377726E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 5 J= 0

SOLUTION

1.1112975357E-02	-2.4555369544E-02	1.0750237045E-02	1.4714574677E-02	-4.1497542542E-02
3.6572568279E-02	-7.0122773466E-03	-3.3832511732E-02	5.1917165640E-02	-1.8169819832E-02
2.5226821902E-02	-2.7857476085E-02	2.0185045854E-02	-3.4393130686E-03	-8.7874939449E-03
1.4264556182E-02	-8.2223992090E-03	-7.4175613262E-03	1.4462656157E-02	6.8932069252E-03
-5.8912661962E-03	4.2326549455E-03	-7.7302661281E-04	-8.6626848085E-04	2.6942445767E-03
-1.5016109524E-03	1.0655168816E-03	1.1070345119E-03	-9.4811117357E-04	5.7787565634E-04
-2.4260902300E-04	-9.2240471200E-05	2.5456117600E-04	-2.9756030381E-04	1.4565043528E-04
-1.5712507996E-04	8.6274888074E-05	-7.6249074884E-05	2.1355677779E-05	-1.4604228310E-05
1.5420866366E-05	-1.0034127706E-05	9.2117843128E-06	-4.1554478017E-06	3.1728841932E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 5 J= 1

SOLUTION

1.0991557786E-02	-2.0420962975E-02	9.8033800662E-03	2.2702152185E-02	-4.4365245904E-02
4.5031209400E-02	-1.2904836887E-02	-2.8980829855E-02	4.1777919639E-02	-2.3634343456E-02
2.0134817277E-02	-2.3760978218E-02	1.4676482225E-02	-3.1152659770E-03	-1.0440297940E-02
1.2474277546E-02	-1.0210992373E-02	-3.4400713525E-03	8.3730078336E-03	3.7732047861E-03
-3.9335085557E-03	2.9261168932E-03	-1.9228273982E-03	5.3157732919E-04	-4.9992215115E-05
-4.3211555441E-04	-2.2764599589E-05	-6.6283818480E-05	3.8031790299E-05	2.5503833635E-05
-6.2287901206E-05	1.0755966791E-04	-1.1585536072E-04	1.0925829788E-04	-9.0049372292E-05
1.0875659556E-04	-5.2038095412E-05	5.4144773691E-05	-1.1444551180E-05	1.1587965863E-05
-1.4796212925E-05	9.6276750303E-06	-8.8386423226E-06	3.9871229679E-06	-3.0443600895E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
1.3047454362E-02	-1.4489487796E-02	9.5964089946E-03	-7.6000731034E-04	-6.6730820094E-03
9.5290549022E-03	-6.9119601981E-03	-2.3600605828E-04	3.9426324121E-03	6.9485633317E-03
-6.7940653677E-03	4.6864128841E-03	-2.2883799417E-03	-2.2861068220E-04	1.2229973932E-03
-1.4635342154E-03	3.2962369350E-04	1.3743971933E-03	-1.2342949280E-03	9.0093988140E-04
-5.3571813267E-04	1.9700373284E-04	8.8647650008E-06	-9.0250026771E-05	1.2823226273E-04
-9.8784604997E-05	8.0391374475E-05	-4.3279604757E-05	2.4791500892E-05	-4.1432443924E-06
4.3445601100E-06	-2.8269404543E-06	2.5952595475E-06	-1.1707249340E-06	8.9390477631E-07
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 5 J= 2

SOLUTION

1.0478234916E-02	-2.2378225620E-02	7.7154245587E-03	1.9274466363E-02	-4.6362432110E-02
4.2327082674E-02	-1.2607310127E-02	-2.8697106673E-02	4.7626833308E-02	-1.7376967289E-02
1.0353517551E-02	-1.0945171924E-02	8.0614723870E-03	-3.7050746661E-04	-4.2393818654E-03
7.3659751448E-03	-4.3979526683E-03	-7.5607256553E-04	3.9566859980E-03	-5.6495995872E-03
5.2799020735E-03	-4.2752639653E-03	1.9877080804E-02	-6.8499664652E-04	-7.7640565377E-04
4.2541661723E-04	-5.0443436693E-04	-1.2154206410E-03	1.0723956028E-03	-7.3536668087E-04
3.9533066135E-04	-7.0045141475E-05	-1.1055749272E-04	1.7316542649E-04	-3.7941679943E-05
3.4359991920E-06	-2.6678041687E-05	-2.7487433653E-06	-1.1241579062E-05	-4.4572486440E-06
1.2972858310E-05	-8.4412453816E-06	7.7494460968E-06	-3.4957851437E-06	2.6692000368E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
2.1768191259E-02	-2.4905681967E-02	1.5795672242E-02	-2.0853744228E-03	-1.1576844695E-02
1.5130221368E-02	-1.1761649501E-02	-1.3420360673E-03	7.1339364198E-03	5.2053059100E-03
-4.8813062996E-03	3.1473926475E-03	-1.0978345716E-03	-7.9921247974E-04	1.5671456673E-03
-1.4563639418E-03	4.1742729187E-04	-5.0283852182E-04	4.6985449993E-04	-3.8823938234E-04
2.7091638074E-04	-1.7159392219E-04	9.4886495755E-05	-5.6165558876E-05	-1.7095259325E-04
1.2607753872E-04	-1.0780333021E-04	5.4310772364E-05	-3.3901412307E-05	4.2859130316E-06
-8.3371497979E-06	5.4248590054E-06	-4.9802666011E-06	2.2466046964E-06	-1.7153907039E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 5 J= 3

SOLUTION

1.1459596767E-02	-2.2387836952E-02	1.2076782270E-02	1.8647967895E-02	-4.0589665232E-02
4.0072561404E-02	-8.3103307368E-03	-3.3143759936E-02	4.5847568406E-02	-2.3672883886E-02
-4.0366819319E-03	4.2946511645E-03	-3.8583280359E-03	1.1544833732E-03	-1.6532102405E-04
-8.6898525009E-04	-6.0126735995E-04	3.6010794141E-03	-4.7403039053E-03	-6.5720525762E-03
6.3083237661E-03	-3.9309461653E-03	1.5335906016E-03	1.1055012755E-03	-1.8507237613E-03
1.9823147150E-03	-3.9586043884E-04	4.1118612177E-04	-3.4216055746E-04	1.8257261385E-04
-4.9129047140E-05	-8.8701419652E-05	1.4823286869E-04	-1.5931062478E-04	1.4871248730E-04
-1.0339469754E-04	9.4482781766E-05	-4.3457547549E-05	3.0442202991E-05	-2.3444300240E-06
-1.0098519866E-05	6.5709562341E-06	-6.0324358360E-06	2.7212395973E-06	-2.0777972715E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
2.4561467850E-02	-2.7323815593E-02	1.9082080719E-02	-2.8804859867E-03	-9.9752285301E-03
1.5073541034E-02	-9.7126983334E-03	-5.1692312260E-03	1.1987218517E-02	-1.3942042152E-03
1.4613693615E-03	-4.1565548048E-04	8.5951507629E-05	1.0052761651E-03	-7.0491693420E-04
1.0509177043E-03	4.2827483650E-05	-1.0894028872E-03	9.4992929540E-04	-6.2294455630E-04
3.0810635758E-04	-1.3653974767E-06	-1.5965522834E-04	2.1025128652E-04	1.0143274047E-04
-6.0003867307E-05	6.5623413829E-05	-2.3297752748E-05	2.2356841655E-05	7.1865501796E-07
1.1654313192E-05	-7.5832877428E-06	6.9618020734E-06	-3.1404779074E-06	2.3979058785E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 5 J= 4

SOLUTION

1.0650509070E-02	-2.2065379320E-02	8.4500518611E-03	1.9766434740E-02	-4.5512923223E-02
4.2553777384E-02	-1.2260953121E-02	-2.9150357247E-02	4.6526152229E-02	-1.8957312373E-02
-1.5817692958E-02	1.8182923681E-02	-1.1706997462E-02	1.9550763331E-03	7.8190157872E-03
-1.0210598004E-02	7.7561711508E-03	2.2357299630E-03	-6.3655435130E-03	-1.3457647876E-03
1.4469754319E-03	-1.0693082186E-03	7.6735937429E-04	-2.3010246249E-04	9.9148976127E-05
1.4612925750E-04	4.6272800480E-05	1.2140094537E-03	-1.0977701348E-03	8.1990531049E-04
-5.0400457366E-04	2.1493150756E-04	-3.2516457641E-05	-4.3049299533E-05	-1.6381287830E-04
1.2430525749E-04	-1.0290936656E-04	5.4149153979E-05	-3.1956501305E-05	4.8766212366E-06
6.4060594019E-06	-4.1683272915E-06	3.8267135001E-06	-1.7262354026E-06	1.3180637284E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
1.8231951947E-02	-2.1610399030E-02	1.3515250013E-02	-3.2705178454E-03	-8.8677198544E-03
1.0503266683E-02	-8.4605527960E-03	-4.3852686385E-03	8.7681236049E-03	-8.1296148045E-03
7.8176494839E-03	-5.8825740001E-03	2.8884422364E-03	-4.7070324767E-04	-1.1488612610E-03
1.1019343756E-03	-5.1889624807E-04	7.4709725580E-04	-6.7035113864E-04	4.8784479996E-04
-2.8879155094E-04	1.0387957254E-04	7.9820411535E-06	-5.1933226615E-05	3.0045581202E-05
-5.6348913945E-05	1.5113739125E-05	-3.0164015533E-05	7.8029843138E-07	-8.2867731501E-06
-1.4027313443E-05	9.1273636068E-06	-8.3793337452E-06	3.7799282754E-06	-2.8861569797E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 5 J= 5

SOLUTION

1.0995932263E-02	-2.2008781299E-02	9.9792678155E-03	1.9660708087E-02	-4.3512255597E-02
4.1878926531E-02	-1.0826284659E-02	-3.0653082346E-02	4.5749545454E-02	-2.1263976248E-02
-2.3247370889E-02	2.6157313339E-02	-1.7265152041E-02	2.0958702716E-03	1.1419732015E-02
-1.5892947527E-02	1.1565240855E-02	2.0681152040E-03	-8.4551744917E-03	6.3476087022E-03
-6.1560596177E-03	4.2330739831E-03	-1.9793173518E-03	-2.8884525523E-04	1.2308503658E-03
-1.3709395591E-03	3.4402816406E-04	-8.9700837198E-04	8.0355888601E-04	-5.8155290527E-04
3.4139537215E-04	-1.1762437875E-04	-1.6584145617E-05	6.8716351845E-05	7.0266225591E-05
-5.4540614714E-05	4.4005277855E-05	-2.3963099313E-05	1.3522589666E-05	-2.3607942765E-06
-2.1946181029E-06	1.4280052617E-06	-1.3109735947E-06	5.9138188185E-07	-4.5154850082E-07
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
7.6177615446E-03	-7.8599549818E-03	6.7827024333E-03	-1.1329947590E-03	-9.8639412225E-04
3.4533550833E-03	-6.2137590577E-04	-3.8995254493E-03	6.2546602728E-03	-3.4345466396E-03
2.6928426505E-03	-1.9147863104E-03	-1.1428775592E-04	7.4991469554E-04	-1.8483303860E-03
8.6249975136E-04	-7.3881836328E-04	8.0941546818E-04	-6.8762824860E-04	4.0458749378E-04
-1.5447027748E-04	-9.7881411655E-05	2.1613866192E-04	-2.4484170664E-04	-1.3108489798E-04
1.4446895711E-04	-7.7304392154E-05	7.0467403555E-05	-1.8757077619E-05	1.3817318775E-05
1.5263904181E-05	-9.9319947540E-06	9.1180216308E-06	-4.1131513347E-06	3.1405888070E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 5 J= 6

SOLUTION

1.0995932263E-02	-2.2008781299E-02	9.9792678155E-03	1.9660708087E-02	-4.3512255597E-02
4.1878926531E-02	-1.0826284659E-02	-3.0653082346E-02	4.5749545454E-02	-2.1263976248E-02
-2.3247370889E-02	2.6157313339E-02	-1.7265152041E-02	2.0958702716E-03	1.1419732015E-02
-1.5892947527E-02	1.1565240855E-02	2.0681152040E-03	-8.4551744917E-03	6.3476087022E-03
-6.1560596177E-03	4.2330739831E-03	-1.9793173518E-03	-2.8884525523E-04	1.2308503658E-03
-1.3709395591E-03	3.4402816406E-04	-8.9700837198E-04	8.0355888601E-04	-5.8155290527E-04
3.4139537215E-04	-1.1762437875E-04	-1.6584145617E-05	6.8716351845E-05	7.0266225591E-05
-5.4540614714E-05	4.4005277855E-05	-2.3963099313E-05	1.3522589666E-05	-2.3607942765E-06
-2.1946181029E-06	1.4280052617E-06	-1.3109735947E-06	5.9138188184E-07	-4.5154850081E-07
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
-7.6177615446E-03	7.8599549818E-03	-6.7827024333E-03	1.1329947590E-03	9.8639412226E-04
-3.4533550834E-03	6.2137590577E-04	3.8995254493E-03	-6.2546602728E-03	3.4345466396E-03
-2.6928426505E-03	1.9147863104E-03	1.1428775592E-04	-7.4991469554E-04	1.8483303860E-03
-8.6249975136E-04	7.3881836328E-04	-8.0941546818E-04	6.8762824860E-04	-4.0458749378E-04
1.5447027748E-04	9.7881411655E-05	-2.1613866192E-04	2.4484170664E-04	1.3108489798E-04
-1.4446895711E-04	7.7304392154E-05	-7.0467403555E-05	1.8757077619E-05	-1.3817318775E-05
-1.5263904181E-05	9.9319947540E-06	-9.1180216308E-06	4.1131513347E-06	-3.1405888070E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 5 J= 7

SOLUTION

1.0650509070E-02	-2.2065379320E-02	8.4500518612E-03	1.9766434740E-02	-4.5512923223E-02
4.2553777384E-02	-1.2260953121E-02	-2.9150357247E-02	4.6526152229E-02	-1.8957312373E-02
-1.5817692958E-02	1.8182923681E-02	-1.1706997462E-02	1.9550763331E-03	7.8190157872E-03
-1.0210598004E-02	7.7561711508E-03	2.2357299629E-03	-6.3655435130E-03	-1.3457647876E-03
1.4469754319E-03	-1.0693082186E-03	7.6735937429E-04	-2.3010246249E-04	9.9148976127E-05
1.4612925750E-04	4.6272800480E-05	1.2140094537E-03	-1.0977701348E-03	8.1990531050E-04
-5.0400457366E-04	2.1493150756E-04	-3.2516457641E-05	-4.3049299533E-05	-1.6381287830E-04
1.2430525749E-04	-1.0290936656E-04	5.4149153979E-05	-3.1956501305E-05	4.8766212366E-06
6.4060594019E-06	-4.1683272914E-06	3.8267135001E-06	-1.7262354026E-06	1.3180637284E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
-1.8231951947E-02	2.1610399030E-02	-1.3515250013E-02	3.2705178455E-03	8.8677198544E-03
-1.0503266683E-02	8.4605527960E-03	4.3852686385E-03	-8.7681236049E-03	8.1296148045E-03
-7.8176494839E-03	5.8825740001E-03	-2.8884422364E-03	4.7070324767E-04	1.1488612610E-03
-1.1019343755E-03	5.1889624807E-04	-7.4709725580E-04	6.7035113864E-04	-4.8784479996E-04
2.8879155094E-04	-1.0387957254E-04	-7.9820411535E-06	5.1933226615E-05	-3.0045581202E-05
5.6348913945E-05	-1.5113739126E-05	3.0164015533E-05	-7.8029843143E-07	8.2867731501E-06
1.4027313443E-05	-9.1273636068E-06	8.3793337452E-06	-3.7799282754E-06	2.8861569797E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 5 J= 8

SOLUTION

1.1459596767E-02	-2.2387836952E-02	1.2076782270E-02	1.8647967895E-02	-4.0589665232E-02
4.0072561404E-02	-8.3103307369E-03	-3.3143759936E-02	4.5847568406E-02	-2.3672883886E-02
-4.0366819318E-03	4.2946511645E-03	-3.8583280359E-03	1.1544833732E-03	-1.6532102407E-04
-8.6898525008E-04	-6.0126735994E-04	3.6010794141E-03	-4.7403039053E-03	-6.5720525762E-03
6.3083237661E-03	-3.9309461653E-03	1.5335906016E-03	1.1055012755E-03	-1.8507237613E-03
1.9823147150E-03	-3.9586043884E-04	4.1118612177E-04	-3.4216055746E-04	1.8257261384E-04
-4.9129047140E-05	-8.8701419652E-05	1.4823286869E-04	-1.5931062478E-04	1.4871248730E-04
-1.0339469754E-04	9.4482781766E-05	-4.3457547549E-05	3.0442202991E-05	-2.3444300239E-06
-1.0098519866E-05	6.5709562340E-06	-6.0324358360E-06	2.7212395973E-06	-2.0777972715E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
-2.4561467850E-02	2.7323815593E-02	-1.9082080719E-02	2.8804859867E-03	9.9752285301E-03
-1.5073541034E-02	9.7126983334E-03	5.1692312260E-03	-1.1987218517E-02	1.3942042152E-03
-1.4613693615E-03	4.1565548047E-04	-8.5951507627E-05	-1.0052761651E-03	7.0491693420E-04
-1.0509177043E-03	-4.2827483650E-05	1.0894028872E-03	-9.4992929540E-04	6.2294455630E-04
-3.0810635758E-04	1.3653974766E-06	1.5965522834E-04	-2.1025128652E-04	-1.0143274047E-04
6.0003867307E-05	-6.5623413829E-05	2.3297752748E-05	-2.2356841655E-05	-7.1865501796E-07
-1.1654313192E-05	7.5832877428E-06	-6.9618020734E-06	3.1404779074E-06	-2.3979058785E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 5 J= 9

SOLUTION

1.0478234916E-02	-2.2378225620E-02	7.7154245587E-03	1.9274466363E-02	-4.6362432110E-02
4.2327082674E-02	-1.2607310127E-02	-2.8697106673E-02	4.7626833308E-02	-1.7376967289E-02
1.0353517551E-02	-1.0945171924E-02	8.0614723870E-03	-3.7050746662E-04	-4.2393818654E-03
7.3659751448E-03	-4.3979526683E-03	-7.5607256552E-04	3.9566859980E-03	-5.6495995871E-03
5.2799020735E-03	-4.2752639653E-03	1.9877080804E-03	-6.8499664652E-04	-7.7640565377E-04
4.2541661723E-04	-5.0443436693E-04	-1.2154206410E-03	1.0723956028E-03	-7.3536668087E-04
3.9533066135E-04	-7.0045141475E-05	-1.1055749271E-04	1.7316542649E-04	-3.7941679943E-05
3.4359991921E-06	-2.6678041687E-05	-2.7487433653E-06	-1.1241579062E-05	-4.4572486440E-06
1.2972858310E-05	-8.4412453815E-06	7.7494460968E-06	-3.4957851437E-06	2.6692000368E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
-2.1768191259E-02	2.4905681967E-02	-1.5795672242E-02	2.0853744228E-03	1.1576844695E-02
-1.5130221368E-02	1.1761649501E-02	1.3420360673E-03	-7.1339364198E-03	-5.2053059100E-03
4.8813062996E-03	-3.1473926475E-03	1.0978345716E-03	7.9921247974E-04	-1.5671456673E-03
1.4563639418E-03	-4.1742729187E-04	5.0283852182E-04	-4.6985449993E-04	3.8823938234E-04
-2.7091638074E-04	1.7159392219E-04	-9.4886495755E-05	5.6165558876E-05	1.7095259325E-04
-1.2607753872E-04	1.0780333021E-04	-5.4310772364E-05	3.3901412307E-05	-4.2859130316E-06
8.3371497980E-06	-5.4248590054E-06	4.9802666011E-06	-2.2466046964E-06	1.7153907039E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 5 J= 10

SOLUTION

1.0991557786E-02	-2.0420962975E-02	9.8033800663E-03	2.2702152185E-02	-4.4365245904E-02
4.5031209400E-02	-1.2904836887E-02	-2.8980829855E-02	4.1777919639E-02	-2.3634343456E-02
2.0134817277E-02	-2.3760978218E-02	1.4676482225E-02	-3.1152659770E-03	-1.0440297940E-02
1.2474277546E-02	-1.0210992373E-02	-3.4400713524E-03	8.3730078336E-03	3.7732047861E-03
-3.9335085557E-03	2.9261168932E-03	-1.9228273982E-03	5.3157732919E-04	-4.9992215114E-05
-4.3211555441E-04	-2.2764599590E-05	-6.6283818478E-05	3.8031790298E-05	2.5503833635E-05
-6.2287901206E-05	1.0755966791E-04	-1.1585536072E-04	1.0925829788E-04	-9.0049372291E-05
1.0875659556E-04	-5.2038095412E-05	5.4144773691E-05	-1.1444551180E-05	1.1587965863E-05
-1.4796212925E-05	9.6276750303E-06	-8.8386423226E-06	3.9871229679E-06	-3.0443600895E-06
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
-1.3047454362E-02	1.4489487796E-02	-9.5964089946E-03	7.6000731034E-04	6.6730820094E-03
-9.5290549022E-03	6.9119601981E-03	2.3600605828E-04	-3.9426324121E-03	-6.9485633317E-03
6.7940653677E-03	-4.6864128841E-03	2.2883799417E-03	2.2861068220E-04	-1.2229973932E-03
1.4635342154E-03	-3.2962369350E-04	-1.3743971933E-03	1.2342949280E-03	-9.0093988140E-04
5.3571813267E-04	-1.9700373284E-04	-8.8647650010E-06	9.0250026771E-05	-1.2823226273E-04
9.8784604997E-05	-8.0391374475E-05	4.3279604757E-05	-2.4791500892E-05	4.1432443924E-06
-4.3445601100E-06	2.8269404543E-06	-2.5952595475E-06	1.1707249340E-06	-8.9390477632E-07
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 6 J= 0

SOLUTION

1.0185350928E-02	1.5187677508E-02	-4.6307077469E-03	-3.4716256251E-02	-3.6068102114E-02
-5.7250309519E-03	3.6903767479E-02	4.7801859971E-02	3.3083647277E-03	-3.2246923551E-02
2.8813058669E-02	2.4803055321E-02	1.1685444906E-02	-9.1593184841E-03	-1.1871255498E-02
-7.4127322519E-03	8.0193648248E-03	1.0529302464E-02	6.1702629292E-03	9.4053428272E-03
8.0029090889E-03	3.2688926719E-03	4.6929615749E-04	-1.7492270766E-03	-6.5057157717E-04
8.9184299807E-04	1.8932441025E-03	1.4442419113E-03	1.0926359511E-03	2.2651263934E-04
-4.6803433217E-05	-4.4627731036E-04	-1.9327299015E-04	-1.6252153623E-04	2.0379007272E-04
1.0948452447E-04	4.7307818947E-05	-2.0442551631E-05	-3.0363683223E-05	-3.7600713506E-05
3.3282128736E-05	1.5823768475E-05	1.3793350110E-05	3.2421659831E-06	2.2212788959E-06
1.8569571254E-06	1.6672108501E-06	5.8485749587E-07	4.3222269040E-07	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 6 J= 1

SOLUTION

1.0953570412E-02	1.9276485089E-02	-1.6202149088E-03	-2.7367212023E-02	-3.3683382678E-02
6.1681390793E-04	3.4954404599E-02	4.8584115206E-02	-8.3513938436E-03	-4.3363185762E-02
2.2191572754E-02	1.2299441126E-02	4.0499929567E-03	-9.6547512036E-03	-1.7130521476E-02
-8.8613382301E-03	2.5499454673E-03	7.6491783643E-03	4.4247757476E-03	5.4407226468E-03
3.5487811552E-03	1.8942174465E-03	-9.0686774705E-04	-1.1674688895E-03	-1.4069528941E-03
-8.8766551162E-05	2.7611252536E-04	5.2925655872E-04	3.6444483919E-04	3.7087057081E-04
1.4261875452E-04	1.5796848833E-04	5.0918106715E-07	4.8343610172E-05	-5.3179642346E-05
-1.7840520972E-05	-8.0984974096E-07	2.2328070878E-05	1.9861411611E-05	2.0579752738E-05
-2.6035263176E-05	-1.1113390411E-05	-1.0995442956E-05	-2.1241196841E-06	-1.8937591138E-06
-1.8029973262E-06	-1.6187647329E-06	-5.6786259998E-07	-4.1966308455E-07	0.
0.	0.	0.	0.	0.
1.2240855215E-02	1.1783129590E-02	3.2357680662E-03	-4.0458826703E-03	-7.8861187614E-03
-3.3752997070E-03	1.9063891620E-03	5.4027114104E-03	1.7078360829E-03	7.4997509818E-03
5.7330036051E-03	2.2497013016E-03	-6.8003616793E-04	-2.0768988480E-03	-1.5828334689E-03
-2.3362349065E-04	5.6599701747E-04	1.8894584510E-03	1.2891550994E-03	6.7741157618E-04
6.2713537058E-05	-1.4725033842E-04	-2.1284058538E-04	-4.4449053060E-05	2.5763547504E-04
1.7612977521E-04	1.0035612115E-04	3.3891536353E-05	3.5776328896E-06	-9.6849809880E-06
1.7513001929E-05	1.3458357064E-05	6.4244419855E-06	3.3779601589E-06	5.3533641063E-07
4.4439892801E-07	3.9898967210E-07	1.3996556014E-07	1.0343766027E-07	0.
0.	0.	0.	0.	0.

N= 9 K= 6 J= 2

SOLUTION

1.0347575223E-02	1.7351758175E-02	-4.1231401132E-03	-3.0675206901E-02	-3.6242183682E-02
-1.8118205089E-03	3.4805134720E-02	4.9320662402E-02	-2.4137318141E-03	-3.6559047501E-02
1.5599319988E-02	1.2607360790E-02	4.9846503318E-03	-7.1600949185E-03	-8.9339443470E-03
-5.7253412436E-03	2.3648903991E-03	6.1123291840E-03	1.9171269304E-03	-3.6123883555E-03
-2.3609904022E-03	-1.5125084425E-03	3.5035284101E-04	3.5635459927E-04	6.1310701884E-04
-3.5702092026E-04	-5.0807151447E-04	-1.9601475449E-03	-1.5057974154E-03	-7.4972112351E-04
-2.5573808524E-04	1.2095624305E-04	1.0685120352E-04	7.6135249174E-05	-1.9621702372E-04
-1.2997180309E-04	-7.1949017485E-05	-1.9207885653E-05	1.9146516910E-06	1.1560787725E-05
7.8744059254E-06	-6.0604934017E-07	3.9700141867E-06	-6.5007550605E-07	1.0625040212E-06
1.6442538760E-06	1.4762418933E-06	5.1786559387E-07	3.8271418564E-07	0.
0.	0.	0.	0.	0.
2.1820413519E-02	1.8985057321E-02	5.8284684671E-03	-9.5986659740E-03	-1.4227243947E-02
-7.9244633480E-03	2.7655684164E-03	8.7829006034E-03	2.7522027931E-03	8.6867792218E-03
6.4428944861E-03	2.7903688796E-03	-8.2500130219E-04	-2.1321891855E-03	-1.7932017797E-03
-8.2717037913E-05	7.3774281006E-04	3.0350386156E-04	1.8026933970E-04	2.0117036422E-05
-7.4940875068E-05	-1.1822621585E-04	-7.8411445297E-05	-3.0031849425E-05	-2.0165419205E-04
-1.4573267709E-04	-8.7014866377E-05	-3.8997750682E-05	-1.1560727900E-05	-3.2120706052E-07
-2.5679726284E-05	-2.0497267286E-05	-9.2963794647E-06	-5.2017493799E-06	-6.9079758639E-07
-8.6297100565E-07	-7.7479151473E-07	-2.7179683067E-07	-2.0086389971E-07	0.
0.	0.	0.	0.	0.

N= 9 K= 6 J= 3

SOLUTION

1.0502213792E-02	1.6619312560E-02	-3.3638769299E-03	-3.2172768332E-02	-3.4951709682E-02
-3.6136022004E-03	3.6430275553E-02	4.7859283513E-02	-8.6211463762E-04	-3.6447013636E-02
3.2892126449E-03	5.1995600027E-03	1.1866904554E-03	1.8908561977E-03	-1.4338782256E-03
1.8268829289E-03	1.0851016539E-03	3.3008433006E-03	-7.0424428647E-05	-9.0345681260E-03
-7.3363874489E-03	-2.9861676094E-03	8.1848037924E-05	1.9849662461E-03	1.1520920742E-03
-4.0903947440E-04	-1.3573398623E-03	-5.0597750318E-04	-1.7390418291E-04	-1.0038761194E-04
1.9954581688E-04	1.0841708510E-04	1.8359030563E-04	-7.3137609737E-06	2.0234335330E-04
1.2101737579E-04	6.0206166664E-05	-8.0109140286E-07	-1.6451993055E-05	-2.4980176361E-05
1.2257962981E-05	1.3314966445E-05	3.8640137193E-06	3.6333099761E-06	-1.0610416255E-07
-1.3899523672E-06	-1.2479252408E-06	-4.3777212181E-07	-3.2352332937E-07	0.
0.	0.	0.	0.	0.
2.6646856930E-02	2.6018382187E-02	7.9726710058E-03	-7.5172133912E-03	-1.5465285714E-02
-6.3354868568E-03	5.4281139848E-03	1.1439522716E-02	4.6247755387E-03	2.3467622775E-03
2.2064990537E-03	9.5270942481E-04	4.7894204947E-04	-1.6034781299E-04	2.0864575363E-04
5.6316202031E-04	8.0482502230E-04	-1.5643048962E-03	-9.4642500485E-04	-4.4546945175E-04
1.3989915225E-04	2.3473030264E-04	2.8422946712E-04	4.3069965527E-05	-8.7023957995E-05
-4.2434057307E-05	-1.5558687507E-05	1.5569578122E-05	1.7771245546E-05	2.0390646588E-05
1.9886116373E-05	1.7905797471E-05	6.8688053035E-06	4.6904919563E-06	2.8399795362E-07
1.2313903452E-06	1.1055652908E-06	3.8783225735E-07	2.8661665941E-07	0.
0.	0.	0.	0.	0.

N= 9 K= 6 J= 4

SOLUTION

1.0969544073E-02	1.8908108841E-02	-1.5129434933E-03	-2.8082100906E-02	-3.3397570410E-02
-1.4859592642E-04	3.5501940150E-02	4.8128522797E-02	-7.4574589645E-03	-4.2909446160E-02
-9.7547381573E-03	-1.0215225129E-02	-3.4135248422E-03	1.5021099887E-03	4.6624527533E-03
1.3864450389E-03	-2.9234413059E-03	-4.0335687085E-03	-2.4412169944E-03	-6.8487627753E-03
-4.9085902607E-03	-2.0541710972E-03	9.7852055811E-04	1.9457006741E-03	1.7586230549E-03
3.9819681883E-04	-2.6763064799E-04	1.4731835462E-03	9.3844588198E-04	4.0801239414E-04
-9.4960507398E-05	-2.3932781506E-04	-2.4368847366E-04	-5.7367414051E-05	6.5095671665E-05
5.7758993252E-05	3.9608767581E-05	2.9559294669E-05	1.5653635889E-05	1.0856825866E-05
-2.4543337417E-05	-2.0420870305E-05	-8.7500660610E-06	-5.2421807137E-06	-5.5769018675E-07
1.0548718791E-06	9.4708370932E-07	3.3223692527E-07	2.4553047315E-07	0.
0.	0.	0.	0.	0.
2.5189019854E-02	2.0995805441E-02	7.4023874614E-03	-1.1729760689E-02	-1.5248587753E-02
-9.9150818728E-03	4.0506179778E-03	8.6523270186E-03	4.3910681343E-03	-5.9877568853E-03
-4.9821364962E-03	-1.7706073531E-03	1.2492973427E-04	1.6397625494E-03	9.0774604810E-04
-6.1262255862E-07	-7.2815876359E-04	-1.0014712643E-03	-8.7656416746E-04	-4.0585041309E-04
-2.4728869013E-04	4.9371580542E-05	-1.5681896838E-05	6.0432600055E-05	2.4245711937E-04
1.5283211597E-04	8.0552626460E-05	1.1430753131E-05	-1.1009124037E-05	-2.2081213751E-05
-2.6005360999E-06	-7.2774098414E-06	-9.6496063106E-08	-2.2214410671E-06	5.7215242826E-07
-1.5282457538E-06	-1.3720876307E-06	-4.8132828295E-07	-3.5571230067E-07	0.
0.	0.	0.	0.	0.

N= 9 K= 6 J= 5

SOLUTION

1.0131711680E-02	1.6535442021E-02	-5.0018369329E-03	-3.2103695009E-02	-3.7085564233E-02
-2.9355953940E-03	3.4921488778E-02	4.9447005120E-02	2.8932356854E-05	-3.3937888387E-02
-1.9941822261E-02	-1.7419947627E-02	-5.5220857061E-03	8.5598066249E-03	1.2611799949E-02
7.1533979097E-03	-2.9070152725E-03	-7.7027788472E-03	-2.9535469980E-03	1.2266008279E-03
8.6251690564E-04	5.1854200300E-04	-4.7652667820E-05	-1.0379889642E-04	-1.4377535959E-04
1.6361307045E-04	2.2511081355E-04	1.1473080481E-03	7.8914502469E-04	4.5056025566E-04
7.0478304744E-05	-4.6935227068E-05	-1.1291454136E-04	-1.5361645242E-05	-2.7469909327E-04
-1.9077422648E-04	-1.1020559525E-04	-4.0854416215E-05	-7.1291026651E-06	7.3368129788E-06
2.3207803613E-05	1.8085878757E-05	8.4727120244E-06	4.5582268248E-06	6.7840976193E-07
-6.5848607169E-07	-5.9120111519E-07	-2.0739332626E-07	-1.5326827831E-07	0.
0.	0.	0.	0.	0.
1.6672963054E-02	1.6272820331E-02	3.2067926256E-03	-6.8793247230E-03	-1.2472750239E-02
-6.5202901524E-03	2.4467756500E-03	5.2525189403E-03	4.0318286255E-03	-9.5385579548E-03
-6.8213350206E-03	-3.4203698865E-03	8.3802887343E-04	1.7942888386E-03	1.7689539961E-03
-3.4416101448E-04	-1.0662131192E-03	1.7465953375E-03	1.2890120838E-03	7.2319424351E-04
2.1518748321E-04	-4.0746006360E-05	-1.0845537582E-04	-3.4639070769E-05	-8.3298712763E-05
-6.4163563247E-05	-4.0206212247E-05	-2.2388311886E-05	-9.1866221403E-06	-4.1114424127E-06
-1.7841861714E-05	-5.8083694578E-06	-7.8287471236E-06	-8.6675133585E-07	-1.5209187246E-06
1.7362850742E-06	1.5588692248E-06	5.4685125830E-07	4.0413523598E-07	0.
0.	0.	0.	0.	0.

N= 9 K= 6 J= 6

SOLUTION

1.0775131793E-02	1.7962573365E-02	-2.2835952971E-03	-2.9771178599E-02	-3.4047549972E-02
-1.5769629880E-03	3.5879549769E-02	4.8023404979E-02	-4.7303419522E-03	-4.0231031098E-02
-2.5790074303E-02	-2.3872716823E-02	-7.1284456485E-03	9.4417325528E-03	1.6159719096E-02
7.9263197220E-03	-4.1791633543E-03	-1.0590654525E-02	-3.9618457216E-03	8.1257243686E-03
6.1932155065E-03	2.5056413637E-03	-6.9084910092E-04	-2.1411401952E-03	-1.6478081057E-03
-1.5290444249E-04	6.8519663457E-04	-1.4057440605E-03	-9.5865212311E-04	-4.9259080483E-04
-3.8542566902E-05	1.2205988083E-04	1.6228881988E-04	3.6824729036E-05	1.5476169801E-04
1.0506791927E-04	5.9495618760E-05	1.9197303539E-05	1.3332381396E-06	-6.5536461940E-06
-9.4026362942E-06	-7.1724193832E-06	-3.4579059680E-06	-1.7962438906E-06	-2.9399976801E-07
2.2383144727E-07	2.0096006116E-07	7.0496780975E-08	5.2098688232E-08	0.
0.	0.	0.	0.	0.
8.4954842429E-03	6.4305184793E-03	5.8738048707E-03	-1.2686702011E-03	4.9906009812E-04
-6.3842888232E-04	4.3944942828E-03	3.0018177185E-03	2.4140834592E-03	-4.3463728189E-03
-4.0754067134E-03	-1.5210395378E-03	-6.3926430392E-04	7.3508055461E-04	-7.3374817142E-05
-6.4190164679E-04	-1.1753052299E-03	8.4921479080E-04	6.5559482329E-04	4.4990219153E-05
-7.4483994789E-05	-3.6116972064E-04	-1.3426518759E-04	-1.2919845660E-04	-1.6231973084E-04
-8.4171167279E-05	-3.4419395367E-05	2.1087361890E-05	2.7560158185E-05	3.2993626465E-05
3.1410667127E-05	1.4605912446E-05	1.3071038506E-05	2.9529717453E-06	2.1368750371E-06
-1.8434178172E-06	-1.6550550059E-06	-5.8059322624E-07	-4.2907130035E-07	0.
0.	0.	0.	0.	0.

N= 9 K= 6 J= 7

SOLUTION

1.0775131793E-02	1.7962573365E-02	-2.2835952971E-03	-2.9771178599E-02	-3.4047549972E-02
-1.5769629880E-03	3.5879549769E-02	4.8023404979E-02	-4.7303419521E-03	-4.0231031098E-02
-2.5790074303E-02	-2.3872716823E-02	-7.1284456485E-03	9.4417325528E-03	1.6159719096E-02
7.9263197220E-03	-4.1791633543E-03	-1.0590654525E-02	-3.9618457216E-03	8.1257243686E-03
6.1932155065E-03	2.5056413637E-03	-6.9084910092E-04	-2.1411401952E-03	-1.6478081057E-03
-1.5290444249E-04	6.8519663457E-04	-1.4057440605E-03	-9.5865212311E-04	-4.9259080483E-04
-3.8542566902E-05	1.2205988083E-04	1.6228881988E-04	3.6824729036E-05	1.5476169801E-04
1.0506791927E-04	5.9495618760E-05	1.9197303539E-05	1.3332381396E-06	-6.5536461939E-06
-9.4026362942E-06	-7.1724193832E-06	-3.4579059680E-06	-1.7962438906E-06	-2.9399976800E-07
2.2383144727E-07	2.0096006116E-07	7.0496780974E-08	5.2098688232E-08	0.
0.	0.	0.	0.	0.
-8.4954842429E-03	-6.4305184793E-03	-5.8738048707E-03	1.2686702011E-03	-4.9906009811E-04
6.3842888232E-04	-4.3944942829E-03	-3.0018177185E-03	-2.4140834592E-03	4.3463728189E-03
4.0754067134E-03	1.5210395378E-03	6.3926430392E-04	-7.3508055461E-04	7.3374817140E-05
6.4190164679E-04	1.1753052299E-03	-8.4921479081E-04	-6.5559482330E-04	-4.4990219154E-05
7.4483994789E-05	3.6116972064E-04	1.3426518759E-04	1.2919845660E-04	1.6231973084E-04
8.4171167279E-05	3.4419395367E-05	-2.1087361890E-05	-2.7560158185E-05	-3.2993626465E-05
-3.1410667127E-05	-1.4605912446E-05	-1.3071038506E-05	-2.9529717453E-06	-2.1368750371E-06
1.8434178172E-06	1.6550550059E-06	5.8059322624E-07	4.2907130035E-07	0.
0.	0.	0.	0.	0.

N= 9 K= 6 J= 8

SOLUTION

1.0131711680E-02	1.6535442021E-02	-5.0018369328E-03	-3.2103695009E-02	-3.7085564233E-02
-2.9355953940E-03	3.4921488778E-02	4.9447005120E-02	2.8932356873E-05	-3.3937888387E-02
-1.9941822261E-02	-1.7419947627E-02	-5.5220857061E-03	8.5598066249E-03	1.2611799949E-02
7.1533979097E-03	-2.9070152725E-03	-7.7027788472E-03	-2.9535469980E-03	1.2266008279E-03
8.6251690564E-04	5.1854200300E-04	-4.7652667819E-05	-1.0379889642E-04	-1.4377535959E-04
1.6361307045E-04	2.2511081355E-04	1.1473080481E-03	7.8914502469E-04	4.5056025566E-04
7.0478304745E-05	-4.6935227068E-05	-1.1291454136E-04	-1.5361645242E-05	-2.7469909327E-04
-1.9077422648E-04	-1.1020559525E-04	-4.0854416215E-05	-7.1291026651E-06	7.3368129788E-06
2.3207803613E-05	1.8085878757E-05	8.4727120244E-06	4.5582268248E-06	6.7840976192E-07
-6.5848607169E-07	-5.9120111518E-07	-2.0739332626E-07	-1.5326827831E-07	0.
0.	0.	0.	0.	0.
-1.6672963054E-02	-1.6272820331E-02	-3.2067926256E-03	6.8793247230E-03	1.2472750239E-02
6.5202901524E-03	-2.4467756500E-03	-5.2525189403E-03	-4.0318286255E-03	9.5385579548E-03
6.8213350206E-03	3.4203698865E-03	-8.3802887343E-04	-1.7942888386E-03	-1.7689539961E-03
3.4416101448E-04	1.0662131192E-03	-1.7465953375E-03	-1.2890120838E-03	-7.2319424351E-04
-2.1518748321E-04	4.0746006360E-05	1.0845537582E-04	3.4639070769E-05	8.3298712763E-05
6.4163563246E-05	4.0206212246E-05	2.2388311886E-05	9.1866221402E-06	4.1114424127E-06
1.7841861714E-05	5.8083694578E-06	7.8287471236E-06	8.6675133585E-07	1.5209187246E-06
-1.7362850742E-06	-1.5588692248E-06	-5.4685125830E-07	-4.0413523598E-07	0.
0.	0.	0.	0.	0.

N= 9 K= 6 J= 9

SOLUTION

1.0969544073E-02	1.8908108841E-02	-1.5129434933E-03	-2.8082100906E-02	-3.3397570410E-02
-1.4859592644E-04	3.5501940150E-02	4.8128522797E-02	-7.4574589645E-03	-4.2909446160E-02
-9.7547381573E-03	-1.0215225129E-02	-3.4135248422E-03	1.5021099887E-03	4.6624527533E-03
1.3864450389E-03	-2.9234413059E-03	-4.0335687085E-03	-2.4412169944E-03	-6.8487627753E-03
-4.9085902607E-03	-2.0541710972E-03	9.7852055812E-04	1.9457006741E-03	1.7586230549E-03
3.9819681883E-04	-2.6763064799E-04	1.4731835462E-03	9.3844588198E-04	4.0801239414E-04
-9.4960507398E-05	-2.3932781506E-04	-2.4368847366E-04	-5.7367414051E-05	6.5095671665E-05
5.7758993252E-05	3.9608767581E-05	2.9559294670E-05	1.5653635889E-05	1.0856825866E-05
-2.4543337417E-05	-2.0420870305E-05	-8.7500660610E-06	-5.2421807137E-06	-5.5769018675E-07
1.0548718791E-06	9.4708370932E-07	3.3223692527E-07	2.4553047315E-07	0.
0.	0.	0.	0.	0.
-2.5189019854E-02	-2.0995805441E-02	-7.4023874614E-03	1.1729760689E-02	1.5248587753E-02
9.9150818728E-03	-4.0506179778E-03	-8.6523270186E-03	-4.3910681343E-03	5.9877568853E-03
4.9821364962E-03	1.7706073531E-03	-1.2492973427E-04	-1.6397825494E-03	-9.0774604810E-04
6.1262255899E-07	7.2815876359E-04	1.0014712643E-03	8.7656416746E-04	4.0585041309E-04
2.4728869013E-04	-4.9371580543E-05	1.5681896837E-05	-6.0432600055E-05	-2.4245711937E-04
-1.5283211597E-04	-8.0552626460E-05	-1.1430753131E-05	1.1009124037E-05	2.2081213751E-05
2.6005360998E-06	7.2774098414E-06	9.6496063092E-08	2.2214410671E-06	-5.7215242826E-07
1.5282457538E-06	1.3720876307E-06	4.8132828295E-07	3.5571230067E-07	0.
0.	0.	0.	0.	0.

N= 9 K= 6 J= 10

SOLUTION

1.0502213792E-02	1.6619312560E-02	-3.3638769299E-03	-3.2172768332E-02	-3.4951709682E-02
-3.6136022004E-03	3.6430275553E-02	4.7859283513E-02	-8.6211463766E-04	-3.6447013636E-02
3.2892126449E-03	5.1995600027E-03	1.1866904554E-03	1.8908561977E-03	-1.4338782256E-03
1.8268829289E-03	1.0851016539E-03	3.3008433006E-03	-7.0424428641E-05	-9.0345681260E-03
-7.3363874489E-03	-2.9861676094E-03	8.1848037923E-05	1.9849662461E-03	1.1520920742E-03
-4.0903947440E-04	-1.3573398623E-03	-5.0597750318E-04	-1.7390418291E-04	-1.0038761194E-04
1.9954581688E-04	1.0841708510E-04	1.8359030563E-04	-7.3137609738E-06	2.0234335330E-04
1.2101737579E-04	6.0206166664E-05	-8.0109140285E-07	-1.6451993055E-05	-2.4980176361E-05
1.2257962981E-05	1.3314966445E-05	3.8640137193E-06	3.6333099781E-06	-1.0610416255E-07
-1.3899523672E-06	-1.2479252408E-06	-4.3777212181E-07	-3.2352332937E-07	0.
0.	0.	0.	0.	0.
-2.6646856930E-02	-2.6018382187E-02	-7.9726710058E-03	7.5172133912E-03	1.5465285714E-02
6.3354868568E-03	-5.4281139848E-03	-1.1439522716E-02	-4.6247755387E-03	-2.3467622775E-03
-2.2064990537E-03	-9.5270942481E-04	-4.7894204947E-04	1.8034781299E-04	-2.0864575363E-04
-5.6316202031E-04	-8.0482502230E-04	1.5643048962E-03	9.4642500485E-04	4.4546945175E-04
-1.3989915225E-04	-2.3473030264E-04	-2.8422946712E-04	-4.3069965527E-05	8.7023957995E-05
4.2434057307E-05	1.5558687507E-05	-1.5569578122E-05	-1.7771245546E-05	-2.0390646588E-05
-1.9886116373E-05	-1.7905797471E-05	-6.8688053035E-06	-4.6904919563E-06	-2.8399795362E-07
-1.2313903452E-06	-1.1055652908E-06	-3.8783225736E-07	-2.8661665941E-07	0.
0.	0.	0.	0.	0.

N= 9 K= 6 J= 11

SOLUTION

1.0347575223E-02	1.7351758175E-02	-4.1231401131E-03	-3.0675206901E-02	-3.6242183682E-02
-1.8118205089E-03	3.4805134720E-02	4.9320662402E-02	-2.4137318142E-03	-3.6559047501E-02
1.5599319988E-02	1.2607360790E-02	4.9846503318E-03	-7.1600949185E-03	-8.9339443470E-03
-5.7253412436E-03	2.3648903991E-03	6.1123291839E-03	1.9171269304E-03	-3.6123883555E-03
-2.3609904021E-03	-1.5125084425E-03	3.5035284102E-04	3.5635459927E-04	6.1310701884E-04
-3.5702092026E-04	-5.0807151447E-04	-1.9601475449E-03	-1.5057974154E-03	-7.4972112351E-04
-2.5573808524E-04	1.2095624305E-04	1.0685120352E-04	7.6135249174E-05	-1.9621702372E-04
-1.2997180309E-04	-7.1949017485E-05	-1.9207885653E-05	1.9146516910E-06	1.1560787725E-05
7.8744059254E-06	-6.0604934020E-07	3.9700141867E-06	-6.5007550606E-07	1.0625040212E-06
1.6442538760E-06	1.4762418933E-06	5.1786559387E-07	3.8271418564E-07	0.
0.	0.	0.	0.	0.
-2.1820413519E-02	-1.8985057321E-02	-5.8284684671E-03	9.5986659740E-03	1.4227243947E-02
7.9244633480E-03	-2.7655684164E-03	-8.7829006034E-03	-2.7522027931E-03	-8.6867792218E-03
-6.4428944861E-03	-2.7903688796E-03	8.2500130219E-04	2.1321891855E-03	1.7932017797E-03
8.2717037913E-05	-7.3774281006E-04	-3.0350386156E-04	-1.8026933971E-04	-2.0117036423E-05
7.4940875068E-05	1.1822621585E-04	7.8411445297E-05	3.0031849425E-05	2.0165419205E-04
1.4573267709E-04	8.7014866377E-05	3.8997750682E-05	1.1560727900E-05	3.2120706053E-07
2.5679726284E-05	2.0497267286E-05	9.2963794647E-06	5.2017493799E-06	6.9079758640E-07
8.6297100566E-07	7.7479151474E-07	2.7179683068E-07	2.0086389971E-07	0.
0.	0.	0.	0.	0.

N= 9 K= 6 J= 12

SOLUTION

1.0953570412E-02	1.9276485089E-02	-1.6202149089E-03	-2.7367212023E-02	-3.3683382678E-02
6.1681390795E-04	3.4954404599E-02	4.8584115206E-02	-8.3513938436E-03	-4.3363185762E-02
2.2191572754E-02	2.1299441126E-02	4.0499929567E-03	-9.6547512036E-03	-1.7130521476E-02
-8.8613382300E-03	2.5499454673E-03	7.6491783642E-03	4.4247757476E-03	5.4407226468E-03
3.5487811552E-03	1.8942174465E-03	-9.0686774705E-04	-1.1674688895E-03	-1.4069528941E-03
-8.8766551162E-05	2.7611252536E-04	5.2925655872E-04	3.6444483919E-04	3.7087057081E-04
1.4261875452E-04	1.5796848833E-04	5.0918106690E-07	4.8343610172E-05	-5.3179642346E-05
-1.7840520972E-05	-8.0984974085E-07	2.2328070878E-05	1.9861411611E-05	2.0579752738E-05
-2.6035263176E-05	-1.1113390411E-05	-1.0995442956E-05	-2.1241196841E-06	-1.8937591138E-06
-1.8029973262E-06	-1.6187647329E-06	-5.6786259998E-07	-4.1966308455E-07	0.
0.	0.	0.	0.	0.
-1.2240855215E-02	-1.1783129590E-02	-3.2357680662E-03	4.0458826703E-03	7.8861187614E-03
3.3752997070E-03	-1.9063891620E-03	-5.4027114104E-03	-1.7078360829E-03	-7.4997509818E-03
-5.7330036051E-03	-2.2497013016E-03	6.8003616793E-04	2.0768988480E-03	1.5828334689E-03
2.3362349065E-04	-5.6599701747E-04	-1.8894584510E-03	-1.2891550994E-03	-6.7741157618E-04
-6.2713537058E-05	1.4725033842E-04	2.1284058538E-04	4.4449053060E-05	-2.5763547504E-04
-1.7612977521E-04	-1.0035612115E-04	-3.3891536353E-05	-3.5776328896E-06	9.6849809880E-06
-1.7513001929E-05	-1.3458357064E-05	-6.4244419855E-06	-3.3779601589E-06	-5.3533841063E-07
-4.4439892801E-07	-3.9898967211E-07	-1.3996556014E-07	-1.0343766027E-07	0.
0.	0.	0.	0.	0.

N= 9 K= 7 J= 0

SOLUTION

9.8688531052E-03	-8.1085101956E-03	-1.3719150195E-02	3.7529565435E-02	-1.0650436909E-02
-2.6120459974E-02	3.9549868500E-02	-1.6092261028E-03	-4.0927236483E-02	1.4186732820E-02
2.5487592563E-02	-1.7118370708E-02	-7.2977909686E-03	1.7315602146E-02	-1.3283842136E-02
-4.7491545678E-03	9.5323470428E-03	-4.1261072365E-04	-8.8390101492E-03	1.0795364004E-02
-7.8767786938E-03	7.7006714652E-04	4.9384360248E-04	-1.4621989802E-03	-1.5122367759E-03
1.1905737803E-03	-1.0762762538E-03	2.5843716961E-03	-1.2058513157E-03	5.4766294978E-04
1.8056275717E-04	2.5731276115E-05	-9.7812705502E-05	2.5836294575E-04	2.9041836068E-04
-6.3073845843E-05	1.5321266764E-05	7.8322798031E-05	-2.5743842106E-05	2.5922058318E-05
2.3105863476E-05	-1.0700267444E-05	-4.1622542318E-06	3.7575488805E-06	-5.2571546842E-06
3.2330184865E-06	-2.8028223490E-06	5.5960607065E-07	-3.8455244264E-07	3.4097445126E-07
-9.6056503356E-08	6.9369791617E-08	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 7 J= 1

SOLUTION

1.0410508590E-02	-1.5239931926E-02	-1.1888076276E-02	2.6275173647E-02	-9.5770226823E-03
-3.3118108492E-02	4.0360671846E-02	2.1508073374E-04	-3.2848293896E-02	2.5409998455E-02
2.6842314298E-02	-1.7880324850E-02	-1.6900054593E-04	1.3576593524E-02	-5.8212726054E-03
-5.1440124965E-03	1.2476543579E-02	-1.7494173906E-04	-7.1810433638E-03	6.9407097899E-03
-2.5878065120E-03	-3.0933061798E-05	2.9224813435E-03	-1.6096062000E-03	5.8578248009E-04
5.6585773985E-04	-2.4227113211E-04	4.7840169750E-04	-3.9728067042E-04	-1.6351270463E-04
8.1559022832E-05	-2.3025845404E-04	4.9639048792E-05	-3.9851148483E-05	1.2001973686E-05
-6.3501526045E-05	2.0754147994E-05	-4.5075837666E-05	5.2066902218E-06	-1.2332852022E-05
-7.3049351914E-06	2.5860257378E-06	4.6187036061E-06	-3.0234784726E-06	3.5026139089E-06
-2.4821174077E-06	2.3873443624E-06	-4.1070026818E-07	3.4217097440E-07	-3.3352334142E-07
9.3957438292E-08	-6.7853895234E-08	0.	0.	0.
1.1793173612E-02	-8.6646494805E-03	-3.7143779283E-04	4.9745298291E-03	-2.8657560990E-03
-3.4876207068E-03	5.5367595721E-03	-1.3900715933E-03	-2.4164133936E-03	8.0724039259E-03
-4.2929767930E-03	5.6855408505E-04	1.9184789286E-03	-1.1262375754E-03	-8.3571431365E-05
1.0612065111E-03	-3.1091334030E-04	2.1042629193E-03	-1.0290858787E-03	1.3538771452E-04
3.2498578447E-04	-2.7561322154E-04	7.4496677476E-05	6.7788390689E-05	3.2991713553E-04
-1.7812922620E-04	3.1608310141E-05	1.3521286048E-05	-3.0342052371E-05	5.9995354699E-06
3.6580879911E-05	-2.0048955531E-05	6.2939785324E-06	-1.2111368502E-06	-1.1433814474E-06
2.5281510801E-06	-1.0837796781E-06	5.2666640120E-07	-7.9901324868E-08	7.0892574688E-08
-1.9971270027E-08	1.4422790667E-08	0.	0.	0.

N= 9 K= 7 J= 2

SOLUTION

9.7719465506E-03	-1.1664657190E-02	-1.3855201021E-02	3.0903214020E-02	-9.6217820521E-03
-3.2572473461E-02	4.3267054495E-02	-4.3609535236E-03	-3.2220720679E-02	2.0353572860E-02
1.8139928211E-02	-1.1334481766E-02	-2.7296397229E-03	1.1773762901E-02	-6.3723191481E-03
-3.1321852293E-03	8.6127163783E-03	-1.2945680311E-03	-4.0513908181E-03	-1.3664775841E-03
6.0767124217E-05	-2.4958510429E-04	-6.6250890671E-04	2.0955601585E-04	-5.8162370180E-05
9.3754017528E-05	2.2608058666E-04	-1.7487451980E-03	1.0803825466E-03	-9.7370273866E-05
-1.0601885908E-04	2.1359540533E-04	3.6770181628E-05	-1.0593883149E-04	-3.8547343225E-04
2.0283299049E-04	-7.1491544441E-05	-4.3813702052E-06	1.5121559595E-05	-8.1929319648E-06
-2.3021372313E-05	1.2812476926E-05	-4.7696423854E-06	1.2116165304E-06	2.6891524799E-07
5.2206524440E-07	-1.2943724490E-06	2.2696753043E-08	-2.2985731287E-07	3.1149566112E-07
-8.7751982318E-08	6.3372458029E-08	0.	0.	0.
2.0023403765E-02	-1.2587742656E-02	-3.1961709077E-03	1.2930036963E-02	-7.0728797990E-03
-3.9200514023E-03	9.9088228031E-03	-2.4574990674E-03	-3.5538618910E-03	1.0171881707E-02
-5.8130043950E-03	8.3131521047E-06	2.5980588764E-03	-2.0349554052E-03	-4.9112556140E-06
1.2292749934E-03	-3.8879993172E-04	1.2972488002E-03	-6.9020064555E-04	8.6988789418E-05
1.5467560023E-04	-1.5898611699E-04	1.7339127671E-05	5.7701361289E-05	-9.0410511916E-05
6.2180500112E-05	-1.9103898349E-05	9.4902977543E-06	3.4743788372E-06	1.2949693351E-06
-3.9941998725E-05	2.2235985405E-05	-8.3017711447E-06	2.1168546910E-06	4.5182232852E-07
-4.1461257950E-06	1.7037711216E-06	-8.6964142462E-07	1.1636695598E-07	-1.3868680368E-07
3.9069699720E-08	-2.8215236173E-08	0.	0.	0.

N= 9 K= 7 J= 3

SOLUTION

1.0986984461E-02	-1.2530736268E-02	-9.4843136421E-03	3.0869413851E-02	-7.1023470338E-03
-2.9783625016E-02	4.0287291913E-02	-5.7150742498E-04	-3.9945511450E-02	1.7274350611E-02
8.1639538453E-03	-6.3795827435E-03	-1.7420849318E-03	3.8532478863E-03	-3.6001317468E-03
-2.9068701752E-03	3.3923854145E-03	-1.5335913736E-03	-1.7832287970E-03	-7.7342300094E-03
4.9566715601E-03	6.8292055632E-04	-1.8998057738E-03	2.2322182767E-03	1.7508758407E-04
-5.9297260654E-04	5.5359277719E-04	-1.9280652612E-03	8.6182328764E-04	-2.5828058638E-04
-2.6787202140E-04	1.3248793103E-04	-3.0542388199E-05	-1.0834533622E-04	1.7633537447E-04
-7.3594531796E-05	6.0433144526E-05	2.5777323336E-06	1.0694226889E-05	7.9893874072E-06
3.4192153361E-05	-1.7913950894E-05	2.4602343380E-06	7.7013573291E-07	-2.9761211092E-06
1.8812224505E-06	-7.4095680056E-08	4.5076979211E-07	8.6498178746E-08	-2.7585412572E-07
7.7711343635E-08	-5.6121340314E-08	0.	0.	0.
2.7423382343E-02	-1.8789558352E-02	-1.0584010490E-03	1.3593607023E-02	-6.7104648630E-03
-6.4380240430E-03	1.3090561579E-02	-2.1109556074E-03	-5.9977711389E-03	6.9275985623E-03
-3.7239616390E-03	1.0981358750E-03	1.0850493831E-03	-4.5386098567E-04	-4.6007168136E-04
9.0061567945E-04	-4.4906104096E-04	-1.1814517855E-03	6.1023647768E-04	4.4380580093E-05
-2.4051086916E-04	2.6782686682E-04	-9.4852941018E-05	1.3631456690E-05	-2.6050908298E-04
1.2575514880E-04	3.9971314030E-06	-3.2833140937E-05	3.9309767774E-05	-8.0049141119E-06
8.6552154370E-06	-5.6318195721E-06	5.1702657876E-06	-2.3323135748E-06	1.7808335535E-06
4.2889789737E-06	-1.5755148650E-06	9.1463371403E-07	-8.3116653959E-08	2.0041975386E-07
-5.6460596059E-08	4.0774540467E-08	0.	0.	0.

N= 9 K= 7 J= 4

SOLUTION

9.2986926124E-03	-1.1756920939E-02	-1.6106826437E-02	3.1357109653E-02	-1.3074969364E-02
-3.0645380013E-02	3.9985674297E-02	-8.7244256796E-04	-3.2207089546E-02	2.4022152304E-02
-1.7855631637E-03	1.0713976157E-03	2.4392286206E-03	-2.7376194680E-03	3.2173703933E-03
-3.7922271941E-04	5.2012682559E-04	-1.2471773508E-03	2.3982510615E-03	-1.1239976785E-02
5.9565143311E-03	-1.5111733235E-03	-2.1430091600E-03	9.1157882775E-04	4.2395480388E-04
-1.6069142093E-03	4.9581167071E-04	8.6119714916E-04	-4.1263308076E-04	2.3983666508E-04
1.2172720368E-05	6.5953977267E-05	-7.0360498538E-05	1.1737658022E-04	2.3547831540E-04
-1.2305941480E-04	-1.4618502309E-05	2.8297816892E-05	-4.2676586508E-05	5.1623766826E-06
-1.0839482891E-05	4.8859032000E-06	2.5073117893E-06	-2.0710268969E-06	2.7753713364E-06
-3.7818729220E-06	1.2203995437E-06	-8.2006446132E-07	3.9641735805E-08	2.2815644133E-07
-6.4274346335E-08	4.6417450728E-08	0.	0.	0.
2.6793629946E-02	-1.8249837641E-02	-4.5931947504E-03	1.5801223665E-02	-1.0541996246E-02
-5.6932537776E-03	1.1279203470E-02	-1.2436849807E-03	-7.6963948317E-03	-3.1439101595E-03
1.2394737353E-03	-1.2708188836E-03	-4.2794207987E-04	-5.6154293380E-04	1.2060673385E-04
-7.6888945570E-04	-3.2313002476E-05	-2.2904020226E-03	1.0996488227E-03	-3.3935812511E-04
-2.3692282967E-04	1.1546216638E-04	1.8380305850E-05	-1.6415585345E-04	6.0986733991E-05
-4.3548417809E-05	-3.6529434756E-05	1.3805874418E-05	-3.0893476929E-05	-1.2516817024E-06
2.6364182598E-05	-1.3401102996E-05	1.9094840422E-07	1.5419479234E-06	-3.2454940422E-06
-2.9504672470E-06	7.0461632212E-07	-6.5967689049E-07	-1.8396383437E-08	-2.5339339908E-07
7.1383893422E-08	-5.1551801685E-08	0.	0.	0.

N= 9 K= 7 J= 5

SOLUTION

1.0526384347E-02	-1.3164552599E-02	-1.1268722494E-02	2.9515497150E-02	-8.5691478228E-03
-3.1293037498E-02	4.0786148828E-02	-9.7572417689E-04	-3.6135881384E-02	2.0579035649E-02
-1.4709900967E-02	1.0475144526E-02	1.3216752276E-04	-6.5554083399E-03	3.3920660425E-03
3.4733095554E-03	-6.4688069852E-03	2.1736780433E-04	4.2211244105E-03	-4.7870640744E-03
2.7611052765E-03	3.7990542260E-04	-1.5368511946E-03	1.2716205528E-03	-2.2429740674E-04
-5.9878082609E-04	6.4985842767E-05	2.1637286470E-03	-1.1153493820E-03	9.5288763037E-05
3.2020144946E-04	-3.1857237608E-04	7.4341045141E-05	6.2351858271E-05	-1.2745932803E-04
5.1051885210E-05	7.1879266584E-06	-2.5137486165E-05	2.1329864560E-05	-6.2217241337E-06
-2.7193043493E-05	1.5526921132E-05	-7.2616252755E-06	2.3357532308E-06	-5.8941717203E-07
4.4165667560E-06	-1.7402105689E-06	9.3237023827E-07	-1.0907143650E-07	-1.7048722563E-07
4.8028251678E-08	-3.4684895809E-08	0.	0.	0.
2.3970688003E-02	-1.5064933198E-02	-2.7276720218E-03	1.4977022594E-02	-7.7159683296E-03
-3.7514660985E-03	1.0972948858E-02	-4.0920623376E-04	-6.4245379592E-03	-8.6001450913E-03
5.4591754706E-03	2.7990149427E-04	-1.9122081862E-03	1.9555250315E-03	1.9599752080E-04
-9.7532508591E-04	4.2478273009E-04	7.0032083686E-05	1.3124577188E-04	5.7142882539E-05
1.0271808559E-04	1.9956626914E-05	5.1397965997E-05	-1.3542681380E-05	3.5599239202E-04
-1.7105416740E-04	7.4741453790E-05	1.0890781962E-05	-7.5381277023E-06	1.1153877181E-05
-3.2756530865E-05	1.7560508656E-05	-4.0094714424E-06	1.8059275119E-07	1.9302514163E-06
6.8332191200E-07	6.1349919729E-07	2.1521549252E-07	1.5904903305E-07	2.9529253684E-07
-8.3187372105E-08	6.0076001796E-08	0.	0.	0.

N= 9 K= 7 J= 6

SOLUTION

1.0249114091E-02	-1.1673026226E-02	-1.2124865653E-02	3.1425575293E-02	-8.5933020748E-03
-3.1124393400E-02	4.2059522763E-02	-2.9528943963E-03	-3.5765810063E-02	1.8500079666E-02
-2.1929437315E-02	1.3802948418E-02	3.2963427637E-03	-1.4071997559E-02	7.6721192896E-03
3.9986391438E-03	-1.0504592825E-02	1.8747474718E-03	4.6485107450E-03	3.0004834040E-03
-1.8804534028E-03	-1.9211998783E-04	7.4988969975E-04	-7.7881137695E-04	-3.0104391044E-05
3.0128505473E-04	-1.5601417367E-04	6.7606757360E-04	-3.0156712310E-04	3.1894498699E-05
1.3495802154E-04	-1.0376999286E-04	4.4384561976E-05	8.6283103259E-06	-2.7620015342E-04
1.5498506857E-04	-3.0161120514E-05	-5.9131468732E-06	2.3784656216E-05	-3.7339492521E-06
4.3450650490E-05	-2.3938316864E-05	7.9908755224E-06	-1.7247436489E-06	-1.0711607458E-06
-3.4977316938E-06	1.4755068546E-06	-7.3057282743E-07	1.0577804258E-07	1.0536690009E-07
-2.9683091957E-08	2.1436444506E-08	0.	0.	0.
1.7289880494E-02	-1.1683530909E-02	-1.4758512336E-04	8.6124213161E-03	-3.9739697465E-03
-3.1532849061E-03	7.5328267042E-03	6.7270920470E-04	-5.5121202370E-03	-1.0070733516E-02
4.7219137838E-03	-2.5671960072E-04	-3.0950950253E-03	2.0290513166E-03	-1.1330066514E-04
-8.0821422460E-04	6.4186856545E-04	2.0134254184E-03	-1.2077887742E-03	6.2320077383E-05
1.8446303082E-04	-2.9933655215E-04	3.1967264613E-06	8.8026271192E-05	-2.4806419870E-04
1.5752202246E-04	-5.0682215678E-05	1.6770686677E-05	9.3914843590E-06	6.7131103669E-07
8.1693567553E-06	-5.3156785756E-06	4.8800340148E-06	-2.2013896473E-06	1.6808668399E-06
1.6136878695E-06	-1.9048018579E-06	2.3865185519E-07	-2.9275047673E-07	-3.2428597376E-07
9.1355163449E-08	-6.5974592351E-08	0.	0.	0.

N= 9 K= 7 J= 7

SOLUTION

1.0071992322E-02	-1.2676133439E-02	-1.3080255879E-02	3.0186164667E-02	-1.0329556629E-02
-3.0960579279E-02	4.0328705737E-02	-7.5119653440E-04	-3.4765810110E-02	2.1976669145E-02
-2.7465091189E-02	1.8804084155E-02	2.4218817778E-03	-1.4496380018E-02	8.1540888430E-03
6.4649192051E-03	-1.2794545909E-02	2.3644685804E-03	6.1672818366E-03	9.7888732570E-03
-5.3284090303E-03	5.3595192521E-04	2.3228821907E-03	-1.5054566060E-03	-1.1614231213E-04
1.2424839397E-03	-4.0404744463E-04	-1.7947704561E-03	8.8755007993E-04	-1.2168783682E-04
-2.6528171230E-04	2.2769787129E-04	-5.5325598048E-05	-6.3402905492E-05	2.2010806980E-04
-1.1717754871E-04	2.0235314704E-05	1.0470892669E-05	-2.0588489921E-05	4.3686641237E-06
-2.0836901700E-05	1.1391074484E-05	-3.4647304790E-06	6.2296908397E-07	7.1837587589E-07
1.3253583293E-06	-5.7316088813E-07	2.7569773818E-07	-4.2883960833E-08	-3.5641535405E-08
1.0040638683E-08	-7.2511177150E-09	0.	0.	0.
3.5930688218E-03	-2.6276212912E-03	-4.6895074584E-03	4.5672616229E-03	-5.9896879624E-03
-5.0304359598E-04	-2.1511519759E-04	3.8993265806E-04	-2.9342723855E-03	-4.5067269905E-03
4.1929984385E-03	-5.2650978758E-04	7.5934580101E-04	3.5727700336E-04	1.2125681706E-03
-5.6421662704E-04	6.2266537716E-04	1.6230279229E-03	-7.0342354803E-04	4.3027990377E-04
9.5488864899E-05	9.3146431870E-05	-8.4872829168E-05	1.9156006186E-04	-2.0386079647E-04
2.6454984586E-05	-5.1426098163E-06	-6.8998506093E-05	1.9747424363E-05	-2.2118803366E-05
1.8847953761E-05	-8.5104050137E-06	-4.2989341517E-06	3.5673397436E-06	-4.7919780791E-06
-3.0404877161E-06	2.6964336749E-06	-5.2141544281E-07	3.7371369734E-07	3.3910655754E-07
-9.5530295780E-08	6.8989776640E-08	0.	0.	0.

N= 9 K= 7 J= 8

SOLUTION

1.0071992322E-02	-1.2676133439E-02	-1.3080255880E-02	3.0186164667E-02	-1.0329556629E-02
-3.0960579279E-02	4.0328705737E-02	-7.5119653444E-04	-3.4765810110E-02	2.1976669145E-02
-2.7465091189E-02	1.8804084155E-02	2.4218817777E-03	-1.4496380018E-02	8.1540888430E-03
6.4649192051E-03	-1.2794545909E-02	2.3644685803E-03	6.1672818366E-03	9.7888732570E-03
-5.3284090303E-03	5.3595192521E-04	2.3228821907E-03	-1.5054566060E-03	-1.1614231213E-04
1.2424839397E-03	-4.0404744463E-04	-1.7947704561E-03	8.8755007992E-04	-1.2168783682E-04
-2.6528171230E-04	2.2769787129E-04	-5.5325598048E-05	-6.3402905492E-05	2.2010806980E-04
-1.1717754871E-04	2.0235314704E-05	1.0470892669E-05	-2.0588489921E-05	4.3686641237E-06
-2.0836901700E-05	1.1391074484E-05	-3.4647304790E-06	6.2296908397E-07	7.1837587588E-07
1.3253583293E-06	-5.7316088812E-07	2.7569773818E-07	-4.2883960832E-08	-3.5641535404E-08
1.0040638683E-08	-7.2511177148E-09	0.	0.	0.
-3.5930688218E-03	2.6276212912E-03	4.6895074584E-03	-4.5672616229E-03	5.9896879624E-03
5.0304359598E-04	2.1511519758E-04	-3.8993265806E-04	2.9342723855E-03	4.5067269905E-03
-4.1929984385E-03	5.2650978758E-04	-7.5934580101E-04	-3.5727700336E-04	-1.2125681706E-03
5.6421662704E-04	-6.2266537716E-04	-1.6230279229E-03	7.0342354803E-04	-4.3027990377E-04
-9.5488864900E-05	-9.3146431870E-05	8.4872829168E-05	-1.9156006186E-04	2.0386079647E-04
-2.6454984586E-05	5.1426098164E-06	6.8998506093E-05	-1.9747424363E-05	2.2118803366E-05
-1.8847953761E-05	8.5104050137E-06	4.2989341516E-06	-3.5673397436E-06	4.7919780791E-06
3.0404877161E-06	-2.6964336749E-06	5.2141544281E-07	-3.7371369734E-07	-3.3910655754E-07
9.5530295780E-08	-6.8989776640E-08	0.	0.	0.

N= 9 K= 7 J= 9

SOLUTION

1.0249114091E-02	-1.1673026226E-02	-1.2124865653E-02	3.1425575293E-02	-8.5933020747E-03
-3.1124393400E-02	4.2059522763E-02	-2.9528943963E-03	-3.5765810062E-02	1.8500079665E-02
-2.1929437315E-02	1.3802948418E-02	3.2963427637E-03	-1.4071997559E-02	7.6721192896E-03
3.9986391438E-03	-1.0504592825E-02	1.8747474718E-03	4.6485107450E-03	3.0004834040E-03
-1.8804534028E-03	-1.9211998783E-04	7.4988969975E-04	-7.7881137695E-04	-3.0104391044E-05
3.0128505473E-04	-1.5601417367E-04	6.7606757360E-04	-3.0156712310E-04	3.1894498699E-05
1.3495802154E-04	-1.0376999286E-04	4.4384561976E-05	8.6283103259E-06	-2.7620015342E-04
1.5498506857E-04	-3.0161120514E-05	-5.9131468732E-06	2.3784656216E-05	-3.7339492521E-06
4.3450650491E-05	-2.3938316864E-05	7.9908755224E-06	-1.7247436489E-06	-1.0711607458E-06
-3.4977316938E-06	1.4755068546E-06	-7.3057282743E-07	1.0577804258E-07	1.0536690009E-07
-2.9683091957E-08	2.1436444506E-08	0.	0.	0.
-1.7289880494E-02	1.1683530909E-02	1.4758512336E-04	-8.6124213161E-03	3.9739697465E-03
3.1532849061E-03	-7.5328267042E-03	-6.7270920470E-04	5.5121202370E-03	1.0070733516E-02
-4.7219137838E-03	2.5671960072E-04	3.0950950253E-03	-2.0290513166E-03	1.1330066514E-04
8.0821422460E-04	-6.4186856545E-04	-2.0134254184E-03	1.2077887742E-03	-6.2320077383E-05
-1.8446303082E-04	2.9933655215E-04	-3.1967264613E-06	-8.8026271192E-05	2.4806419870E-04
-1.5752202246E-04	5.0682215678E-05	-1.6770686677E-05	-9.3914843590E-06	-6.7131103670E-07
-8.1693567552E-06	5.3156785755E-06	-4.8800340148E-06	2.2013896473E-06	-1.6808668399E-06
-1.6136878695E-06	1.9048018579E-06	-2.3865185519E-07	2.9275047673E-07	3.2428597377E-07
-9.1355163449E-08	6.5974592351E-08	0.	0.	0.

N= 9 K= 7 J= 10

SOLUTION

1.0526384347E-02	-1.3164552599E-02	-1.1268722494E-02	2.9515497150E-02	-8.5691478227E-03
-3.1293037498E-02	4.0786148828E-02	-9.7572417684E-04	-3.6135881384E-02	2.0579035649E-02
-1.4709900967E-02	1.0475144526E-02	1.3216752276E-04	-6.5554083399E-03	3.3920660425E-03
3.4733095554E-03	-6.4688069851E-03	2.1736780432E-04	4.2211244104E-03	-4.7870640744E-03
2.7611052765E-03	3.7990542259E-04	-1.5368511946E-03	1.2716205528E-03	-2.2429740673E-04
-5.9878082609E-04	6.4985842767E-05	2.1637286470E-03	-1.1153493820E-03	9.5288763037E-05
3.2020144946E-04	-3.1857237608E-04	7.4341045141E-05	6.2351858271E-05	-1.2745932803E-04
5.1051885210E-05	7.1879266585E-06	-2.5137486165E-05	2.1329864560E-05	-6.2217241337E-06
-2.7193043493E-05	1.5526921132E-05	-7.2616252755E-06	2.3357532308E-06	-5.8941717203E-07
4.4165667560E-06	-1.7402105689E-06	9.3237023827E-07	-1.0907143650E-07	-1.7048722563E-07
4.8028251678E-08	-3.4684895808E-08	0.	0.	0.
-2.3970688003E-02	1.5064933198E-02	2.7276720218E-03	-1.4977022594E-02	7.7159683296E-03
3.7514660985E-03	-1.0972948858E-02	4.0920623376E-04	6.4245379592E-03	8.6001450913E-03
-5.4591754706E-03	-2.7990149427E-04	1.9122081862E-03	-1.9555250315E-03	-1.9599752080E-04
9.7532508591E-04	-4.2478273009E-04	-7.0032083683E-05	-1.3124577188E-04	-5.7142882539E-05
-1.0271808559E-04	-1.9956626914E-05	-5.1397965997E-05	1.3542681380E-05	-3.5599239202E-04
1.7105416740E-04	-7.4741453790E-05	-1.0890781962E-05	7.5381277024E-06	-1.1153877181E-05
3.2756530865E-05	-1.7560508656E-05	4.0094714424E-06	-1.8059275118E-07	-1.9302514163E-06
-6.8332191199E-07	-6.1349919729E-07	-2.1521549252E-07	-1.5904903305E-07	-2.9529253684E-07
8.3187372105E-08	-6.0076001796E-08	0.	0.	0.

N= 9 K= 7 J= 11

SOLUTION

9.2986926124E-03	-1.1756920939E-02	-1.6106826437E-02	3.1357109653E-02	-1.3074969364E-02
-3.0645380013E-02	3.9985674297E-02	-8.7244256796E-04	-3.2207089546E-02	2.4022152304E-02
-1.7855631637E-03	1.0713976157E-03	2.4392286207E-03	-2.7376194680E-03	3.2173703933E-03
-3.7922271940E-04	5.2012682560E-04	-1.2471773508E-03	2.3982510615E-03	-1.1239976785E-02
5.9565143311E-03	-1.5111733235E-03	-2.1430091600E-03	9.1157882775E-04	4.2395480388E-04
-1.6069142093E-03	4.9581167071E-04	8.6119714916E-04	-4.1263308076E-04	2.3983666508E-04
1.2172720368E-05	6.5953977267E-05	-7.0360498538E-05	1.1737658022E-04	2.3547831540E-04
-1.2305941480E-04	-1.4618502309E-05	2.8297816892E-05	-4.2676586508E-05	5.1623766826E-06
-1.0839482891E-05	4.8859031999E-06	2.5073117893E-06	-2.0710268969E-06	2.7753713364E-06
-3.7818729220E-06	1.2203995437E-06	-8.2006446132E-07	3.9641735805E-08	2.2815644133E-07
-6.4274346335E-08	4.6417450728E-08	0.	0.	0.
-2.6793629946E-02	1.8249837641E-02	4.5931947504E-03	-1.5801223665E-02	1.0541996246E-02
5.6932537776E-03	-1.1279203470E-02	1.2436849807E-03	7.6963948317E-03	3.1439101595E-03
-1.2394737353E-03	1.2708188836E-03	4.2794207987E-04	5.6154293381E-04	-1.2060673385E-04
7.6888945570E-04	3.2313002476E-05	2.2904020226E-03	-1.0996488227E-03	3.3935812511E-04
2.3692282967E-04	-1.1546216638E-04	-1.8380305850E-05	1.6415585345E-04	-6.0986733991E-05
4.3548417809E-05	3.6529434756E-05	-1.3805874418E-05	3.0893476929E-05	1.2516817024E-06
-2.6364182598E-05	1.3401102996E-05	-1.9094840422E-07	-1.5419479234E-06	3.2454940422E-06
2.9504672470E-06	-7.0461632212E-07	6.5967689049E-07	1.8396383437E-08	2.5339339908E-07
-7.1383893422E-08	5.1551801685E-08	0.	0.	0.

N= 9 K= 7 J= 12

SOLUTION

1.0986984461E-02	-1.2530736268E-02	-9.4843136421E-03	3.0869413851E-02	-7.1023470338E-03
-2.9783625016E-02	4.0287291913E-02	-5.7150742500E-04	-3.9945511450E-02	1.7274350611E-02
8.1639538453E-03	-6.3795827435E-03	-1.7420849318E-03	3.8532478863E-03	-3.6001317468E-03
-2.9068701752E-03	3.3923854146E-03	-1.5335913736E-03	-1.7832287970E-03	-7.7342300094E-03
4.9566715601E-03	6.8292055631E-04	-1.8998057738E-03	2.2322182767E-03	1.7508758408E-04
-5.9297260654E-04	5.5359277719E-04	-1.9280652612E-03	8.6182328764E-04	-2.5828058639E-04
-2.6787202140E-04	1.3248793103E-04	-3.0542388200E-05	-1.0834533622E-04	1.7633537447E-04
-7.3594531795E-05	6.0433144526E-05	2.5777323336E-06	1.0694226889E-05	7.9893874072E-06
3.4192153361E-05	-1.7913950894E-05	2.4602343381E-06	7.7013573290E-07	-2.9761211092E-06
1.8812224506E-06	-7.4095680058E-08	4.5076979211E-07	8.6498178745E-08	-2.7585412572E-07
7.7711343635E-08	-5.6121340314E-08	0.	0.	0.
-2.7423382344E-02	1.6789558352E-02	1.0584010490E-03	-1.3593607023E-02	6.7104648630E-03
6.4380240430E-03	-1.3090561579E-02	2.1109556074E-03	5.9977711389E-03	-6.9275985623E-03
3.7239616390E-03	-1.0981358750E-03	-1.0850493831E-03	4.5386098567E-04	4.6007168136E-04
-9.0061567945E-04	4.4906104096E-04	1.1814517855E-03	-6.1023647768E-04	-4.4380580093E-05
2.4051086916E-04	-2.6782686682E-04	9.4852941018E-05	-1.3631456690E-05	2.6050908298E-04
-1.2575514880E-04	-3.9971314029E-06	3.2833140937E-05	-3.9309767774E-05	8.0049141119E-06
-8.6552154370E-06	5.6318195720E-06	-5.1702657876E-06	2.3323135748E-06	-1.7808335535E-06
-4.2889789737E-06	1.5755148650E-06	-9.1463371403E-07	8.3116653959E-08	-2.0041975386E-07
5.6460596059E-08	-4.0774540467E-08	0.	0.	0.

N= 9 K= 7 J= 13

SOLUTION

9.7719465506E-03	-1.1664657190E-02	-1.3855201021E-02	3.0903214020E-02	-9.6217820521E-03
-3.2572473461E-02	4.3267054495E-02	-4.3609535237E-03	-3.2220720679E-02	2.0353572860E-02
1.8139928211E-02	-1.1334481766E-02	-2.7296397228E-03	1.1773762901E-02	-6.3723191482E-03
-3.1321852293E-03	8.6127163783E-03	-1.2945680311E-03	-4.0513908181E-03	-1.3664775841E-03
6.0767124202E-05	-2.4958510428E-04	-6.6250890671E-04	2.0955601585E-04	-5.8162370179E-05
9.3754017530E-05	2.2608058666E-04	-1.7487451980E-03	1.0803825466E-03	-9.7370273865E-05
-1.0601885908E-04	2.1359540533E-04	3.6770181628E-05	-1.0593883149E-04	-3.8547343225E-04
2.0283299049E-04	-7.1491544441E-05	-4.3813702052E-06	1.5121559595E-05	-8.1929319648E-06
-2.3021372313E-05	1.2812476926E-05	-4.7696423854E-06	1.2116165304E-06	2.6891524799E-07
5.2206524440E-07	-1.2943724490E-06	2.2696753041E-08	-2.2985731287E-07	3.1149566112E-07
-8.7751982318E-08	6.3372458029E-08	0.	0.	0.
-2.0023403765E-02	1.2587742656E-02	3.1961709077E-03	-1.2930036963E-02	7.0728797990E-03
3.9200514023E-03	-9.9088228031E-03	2.4574990674E-03	3.5538618910E-03	-1.0171881707E-02
5.8130043950E-03	-8.3131521053E-06	-2.5980588764E-03	2.0349554052E-03	4.9112556138E-06
-1.2292749934E-03	3.8879993172E-04	-1.2972488002E-03	6.9020064555E-04	-8.6988789418E-05
-1.5467560023E-04	1.5898611699E-04	-1.7339127671E-05	-5.7701361289E-05	9.0410511915E-05
-6.2180500112E-05	1.9103898348E-05	-9.4902977543E-06	-3.4743788372E-06	-1.2949693351E-06
3.9941998725E-05	-2.2235985405E-05	8.3017711447E-06	-2.1168546910E-06	-4.5182232852E-07
4.1461257950E-06	-1.7037711217E-06	8.6964142462E-07	-1.1636695598E-07	1.3868680368E-07
-3.9069699721E-08	2.8215236173E-08	0.	0.	0.

N= 9 K= 7 J= 14

SOLUTION

1.0410508590E-02	-1.5239931926E-02	-1.1888076276E-02	2.6275173647E-02	-9.5770226822E-03
-3.3118108492E-02	4.0360671845E-02	2.1508073369E-04	-3.2848293895E-02	2.5409998455E-02
2.6842314298E-02	-1.7880324850E-02	-1.6900054592E-04	1.3576593524E-02	-5.8212726054E-03
-5.1440124964E-03	1.2476543579E-02	-1.7494173907E-04	-7.1810433638E-03	6.9407097899E-03
-2.5878065120E-03	-3.0933061800E-05	2.9224813435E-03	-1.6096062000E-03	5.8578248009E-04
5.6585773985E-04	-2.4227113211E-04	4.7840169751E-04	-3.9728067042E-04	-1.6351270464E-04
8.1559022832E-05	-2.3025845404E-04	4.9639048791E-05	-3.9851148483E-05	1.2001973686E-05
-6.3501526045E-05	2.0754147994E-05	-4.5075837666E-05	5.2066902218E-06	-1.2332852022E-05
-7.3049351913E-06	2.5860257377E-06	4.6187036061E-06	-3.0234784726E-06	3.5026139089E-06
-2.4821174077E-06	2.3873443624E-06	-4.1070026817E-07	3.4217097440E-07	-3.3352334142E-07
9.3957438292E-08	-6.7853895234E-08	0.	0.	0.
-1.1793173612E-02	8.6646494805E-03	3.7143779283E-04	-4.9745298291E-03	2.8657560990E-03
3.4876207068E-03	-5.5367595721E-03	1.3900715933E-03	2.4164133936E-03	-8.0724039259E-03
4.2929767930E-03	-5.6855408505E-04	-1.9184789286E-03	1.1262375754E-03	8.3571431365E-05
-1.0612065111E-03	3.1091334030E-04	-2.1042629193E-03	1.0290858787E-03	-1.3538771452E-04
-3.2498578447E-04	2.7561322154E-04	-7.4496677476E-05	-6.7788390689E-05	-3.2991713553E-04
1.7812922620E-04	-3.1608310141E-05	-1.3521286048E-05	3.0342052371E-05	-5.9995354700E-06
-3.6580879911E-05	2.0048955531E-05	-6.2939785324E-06	1.2111368502E-06	1.1433814474E-06
-2.5281510801E-06	1.0837796781E-06	-5.2666640121E-07	7.9901324869E-08	-7.0892574688E-08
1.9971270027E-08	-1.4422790667E-08	0.	0.	0.

N= 9 K= 8 J= 0

SOLUTION

9.6579274276E-03	1.1179415273E-02	-1.8151574376E-02	-1.5042115337E-02	1.5788660259E-02
3.9275482797E-02	3.0671055687E-03	-4.2456678857E-02	-2.0378150082E-02	1.7059927326E-02
2.3894324579E-02	1.1000455957E-02	-1.7238925720E-02	-1.3075033903E-02	-2.3371562898E-03
1.2271246892E-02	5.9197103035E-04	-7.3124546093E-03	-5.3416722768E-03	1.0552021252E-02
1.6537073124E-03	-2.4551245964E-03	-4.5090411062E-03	-2.6328059319E-04	2.1318917439E-04
8.1434972445E-05	-1.3304720587E-03	3.1980464528E-03	8.8463045728E-04	4.0292899473E-04
-2.5564774865E-04	3.2967104789E-04	1.3725991352E-04	1.8667458306E-04	3.9209164808E-04
2.2274073286E-04	-7.5762832016E-06	3.0446470805E-05	8.4689432551E-06	3.7563971757E-05
2.0446384851E-05	1.0179123822E-05	-1.4198408733E-05	-3.3484820301E-06	-4.4280581446E-06
2.8956173545E-06	-7.6505410574E-07	-4.4897324594E-07	-8.1866254007E-07	6.5451359847E-07
1.1226105517E-07	7.7739892774E-08	1.8733056858E-08	1.3344069450E-08	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 8 J= 1

SOLUTION

9.4483658091E-03	4.0943008893E-03	-1.9374806654E-02	-2.6357458110E-02	1.3735712657E-02
3.2199055739E-02	2.9728881189E-03	-3.9823608160E-02	-9.0516897712E-03	3.2157239481E-02
2.7954229384E-02	1.0863174351E-02	-6.5284675797E-03	-1.1760189098E-02	5.7149138366E-03
1.1878460521E-02	4.0239784484E-03	-5.7219134987E-03	-5.1664817772E-03	8.5882381083E-03
4.3014624160E-03	-1.0847503003E-03	-5.0095298959E-04	7.6643675729E-05	1.7849405261E-03
2.1658873522E-04	-4.3227347637E-04	5.8856830623E-04	2.6557553782E-04	-5.5281961203E-04
-2.3776843895E-04	-2.4161438164E-04	3.2539567072E-05	-1.7943276499E-05	4.9118804816E-05
-6.5050994540E-05	-1.0653565091E-06	-4.7169868588E-05	-8.1710931076E-06	-1.3617316470E-05
8.5337389338E-06	8.9243935786E-08	1.0365414335E-05	1.0408138443E-06	2.6291421380E-06
-1.2273785154E-06	9.2577773804E-07	4.3359396524E-07	6.1383507994E-07	-5.8112125098E-07
-8.8504170567E-08	-7.1109215095E-08	-1.8414090967E-08	-1.3116861309E-08	0.
1.0364931729E-02	3.3269276058E-03	-3.3221819188E-03	-5.7206224575E-03	1.5423262437E-03
3.5083324034E-03	1.3077119526E-03	-3.2246408581E-03	-1.5013937439E-03	7.8905864610E-03
2.8650803912E-03	-7.8242676407E-04	-1.4006171772E-03	4.0746282059E-04	1.1553813227E-03
4.9510772250E-04	-3.7552820631E-04	2.1962355351E-03	7.9370323624E-04	-2.4091549063E-04
-2.3202156325E-04	-4.9970515831E-05	1.6549376539E-04	4.5720862561E-05	3.6787559140E-04
1.0298998850E-04	-3.6942763386E-05	-4.4191242397E-05	-1.6547623736E-05	8.1289969204E-06
4.7899817230E-05	1.0910463788E-05	4.3348736966E-08	-4.4787130141E-06	-8.5586108255E-07
4.4696745245E-06	1.3277942009E-06	3.2167438477E-07	-1.5079920848E-07	2.1273088187E-07
9.6234796799E-08	1.4105318924E-08	3.4421901649E-09	2.4519663271E-09	0.

N= 9 K= 8 J= 2

SOLUTION

9.1459568410E-03	7.1720017222E-03	-2.0142931652E-02	-2.2156297849E-02	1.4359823766E-02
3.3238726027E-02	5.0880049569E-03	-4.3293381037E-02	-1.0160258527E-02	2.6748355754E-02
1.9683052361E-02	7.9420734710E-03	-8.8201588864E-03	-9.3711967282E-03	2.5281697871E-03
1.0037934910E-02	3.4973456210E-03	-4.7313259959E-03	-2.9834514523E-03	5.8428119713E-04
-1.6416077162E-04	-5.9788851078E-04	-5.6203024452E-04	-1.2616813544E-04	1.3190377383E-04
2.1453534494E-04	1.3102517783E-04	-1.2539082211E-03	-4.8017673315E-04	3.1784225618E-04
2.4672887898E-04	6.8140530722E-05	-3.2808155347E-05	-6.6790002378E-05	-4.2271843746E-04
-8.7872082852E-05	-4.4652458278E-06	4.4378550726E-05	-3.7637291328E-08	-1.3169557668E-05
-5.0802811764E-05	-1.7240746084E-05	-2.9644998506E-06	1.9705516176E-06	6.3295971655E-07
-2.3398528528E-06	-1.1799442072E-06	-3.6450294986E-07	-1.3613985499E-07	3.8209086727E-07
2.4586670177E-08	5.3032779632E-08	1.7468055292E-08	1.2442974189E-08	0.
1.8013909704E-02	7.8235508237E-03	-8.0902672403E-03	-8.2661711542E-03	2.0021573619E-03
8.7042527207E-03	2.9530474945E-03	-5.3185551460E-03	-2.1642633494E-03	1.0560570308E-02
3.5205577601E-03	-2.3883103209E-03	-2.5340494906E-03	-1.3990934339E-04	1.6566706819E-03
5.8671043414E-04	-4.6636251460E-04	1.9959793035E-03	5.3457119129E-04	-2.0085402431E-04
-3.1146825702E-04	-5.1257716269E-05	1.1607609576E-04	4.0185887277E-05	7.7154448907E-05
2.3274252663E-05	2.7194178359E-07	-4.4029949733E-06	4.6590832108E-07	3.7143819162E-06
-3.0638709221E-05	-7.5294908095E-06	-1.9447603974E-06	2.1979363539E-06	1.0610568853E-07
-5.7000995523E-06	-1.8813113116E-06	-4.8626562561E-07	1.0891460614E-07	-3.5267875995E-07
-1.6619216245E-07	-2.2142738441E-08	-6.7671606723E-09	-4.8204338817E-09	0.

N= 9 K= 8 J= 3

SOLUTION

9.9602477241E-03	6.6526959033E-03	-1.7156721780E-02	-2.2196405759E-02	1.6303389608E-02
3.4817457258E-02	3.5438962241E-03	-4.1266203240E-02	-1.5056999805E-02	2.4398643867E-02
1.2112641970E-02	6.7637457691E-03	-5.4577343570E-03	-4.3036297936E-03	4.7582843472E-04
5.6093064221E-03	9.1856651137E-04	-4.3004652172E-03	-1.4654219694E-03	-6.1587750985E-03
-2.3589260250E-03	1.8155210255E-03	1.3798989966E-03	5.0338739645E-04	-9.7946806302E-04
4.4988802196E-05	5.1842008145E-04	-2.5802548934E-03	-5.5833270261E-04	1.4404405299E-04
4.4920492292E-04	6.3870560470E-06	-1.1006768179E-04	-7.5251551858E-05	-6.6955641889E-05
-5.0103397648E-05	3.2067779762E-05	3.3388504636E-06	1.1833021374E-05	-2.3439511034E-06
3.8694597805E-05	1.9216173400E-05	-7.9650794224E-07	-2.0504410461E-08	-1.7576474789E-06
4.6680146141E-06	1.0534543212E-06	2.0115442877E-07	-3.0532707632E-07	-1.1455618636E-07
5.9642789028E-08	-2.8419302181E-08	-1.5927165946E-08	-1.1345356506E-08	0.
2.5194414812E-02	1.1153018363E-02	-8.9235492068E-03	-1.0542028327E-02	3.6180349552E-03
1.1412674002E-02	3.7566338305E-03	-7.0811112908E-03	-3.3076367574E-03	9.3387021897E-03
3.5931565297E-03	-9.9386579261E-04	-1.5249615683E-03	3.3901226762E-04	1.3649978673E-03
3.9133646379E-04	-5.7689163930E-04	-3.9494504279E-04	4.6882918033E-05	1.3304073652E-04
1.6644020075E-04	8.5268699764E-05	-1.5298581332E-05	2.2212700888E-05	-3.5545520979E-04
-8.2998012868E-05	3.7456399012E-05	5.2613997771E-05	1.8447452305E-05	-4.2346399170E-06
-2.4197515616E-05	-2.5812299536E-06	3.7462091987E-06	4.2481937973E-06	1.1479269718E-06
2.9166701446E-06	1.4031373999E-06	4.2698307808E-07	1.3967538782E-07	3.6917231938E-07
1.9137960502E-07	1.9924835569E-08	9.8616836393E-09	7.0247473419E-09	0.

N= 9 K= 8 J= 4

SOLUTION

9.4185923125E-03	8.1512698749E-03	-1.9261906114E-02	-1.9951822178E-02	1.4386160420E-02
3.6083196521E-02	3.0316085146E-03	-4.1367201767E-02	-1.4725581767E-02	2.4235664183E-02
2.5246298628E-03	-2.1717803809E-03	-8.6507217562E-04	-4.8365732943E-03	6.6757098644E-04
-1.2568930707E-03	6.5155850505E-04	-1.7515181558E-03	-8.1973659530E-07	-1.0914886315E-02
-3.0880936775E-03	1.8282248141E-03	3.0620452138E-03	-1.0920996145E-04	-1.0509162508E-03
-3.6915161512E-04	9.0684585377E-04	-6.5482196431E-04	-5.8513677442E-04	7.1803181385E-05
-1.6146905454E-04	1.1409969957E-05	-1.4619993913E-04	9.2508441719E-06	3.5665924921E-04
1.4850717541E-04	-2.0088503752E-05	-8.4437235972E-06	-3.8435897268E-06	2.0754150160E-05
1.6838375986E-05	-5.4789198459E-06	-9.0387952613E-07	-5.1997487288E-06	2.3156607394E-07
-3.4987914102E-06	-2.8047526107E-07	5.5151956537E-08	4.5469636818E-07	-1.4539252461E-07
-1.3780990120E-07	3.8173773731E-09	1.3843896065E-08	9.8613863153E-09	0.
2.7045337835E-02	8.5661015682E-03	-1.1444347341E-02	-1.5778727189E-02	2.8248329680E-03
1.0589616284E-02	3.2571950059E-03	-7.6040609049E-03	-4.7723488248E-03	1.7598479509E-03
-1.0658703747E-04	-6.7700611605E-04	-1.2486017229E-03	-2.4997468908E-04	-2.7425718079E-04
-2.0181350737E-04	-4.7206708717E-04	-2.4285079787E-03	-1.1117009801E-03	1.7584642673E-04
8.1759443848E-05	-5.2057439592E-06	-2.3204180430E-04	-5.8572813682E-05	-1.5140671917E-04
-8.7273048532E-05	-4.9931616631E-06	-1.6346211554E-05	-7.1183987889E-06	-1.6412415419E-05
3.6485808471E-05	1.0487517274E-06	-2.4602279112E-06	-6.6695497295E-06	-6.8779264770E-07
1.6512571006E-06	-2.8880602291E-07	-1.9638273465E-07	-4.0143066983E-07	-2.4912921695E-07
-1.6654536855E-07	-6.4596772935E-09	-1.2620378798E-08	-8.9898414567E-09	0.

N= 9 K= 8 J= 5

SOLUTION

9.0836249638E-03	5.4051990375E-03	-2.0708853900E-02	-2.4510304393E-02	1.2803711501E-02
3.2908705977E-02	3.1939059628E-03	-4.0613930932E-02	-8.8050879995E-03	3.1243029782E-02
-6.9557307926E-03	-9.1780826907E-04	3.9828770912E-03	5.8644889545E-03	8.3940976244E-05
-2.1551235369E-03	-7.5062958984E-05	1.6538816552E-03	2.2313960711E-03	-9.8755854145E-03
-3.9927983827E-03	1.1023937437E-03	1.3792729310E-03	-4.2273774993E-04	-1.7297128857E-03
-6.3598815611E-04	3.5211491408E-04	1.9077032363E-03	8.6445653628E-04	-8.4876522683E-05
-6.8168181868E-05	4.6224069612E-05	1.5970678714E-04	6.9775825589E-05	1.5333545680E-04
1.0688202764E-05	-2.8598784532E-05	-4.2580674576E-05	-1.6287431267E-05	-5.7233549652E-06
-3.9297409688E-05	-3.9844476839E-06	3.5390217774E-06	6.3567672152E-06	1.2012087138E-06
-6.3652979089E-07	-8.8195233560E-07	-3.2605179717E-07	-2.8588142230E-07	3.2536445417E-07
1.8495444079E-07	1.4518169639E-08	-1.1289188908E-08	-8.0415984406E-09	0.
2.6268948036E-02	1.3256303441E-02	-1.1163391781E-02	-9.9288465583E-03	2.1439440798E-03
1.3140018520E-02	2.7169125493E-03	-6.9162136634E-03	-4.4404412484E-03	-6.1659165512E-03
-1.6365503788E-03	5.5749279726E-04	1.6569161309E-03	-4.2494977859E-04	-5.7962099271E-04
-4.5093329931E-04	3.6770534030E-04	-1.7645585526E-03	-2.1340102140E-04	1.0123026473E-04
4.3256289459E-04	-3.1081625672E-06	-1.4416310720E-05	-7.4616044030E-05	3.2320891715E-04
1.3291114347E-04	-3.4047987707E-05	-1.6364893388E-05	-1.1097743958E-05	1.5160631012E-05
1.1942204514E-05	1.3248654292E-05	-4.3278827871E-07	2.6211668693E-06	-1.1915350764E-06
-4.5616095767E-06	-7.4505849743E-07	-8.1544566431E-08	4.2452121909E-07	2.1252349638E-08
1.0117357544E-07	-1.5695625602E-08	1.4949302093E-08	1.0648797303E-08	0.

N= 9 K= 8 J= 6

SOLUTION

9.6889999073E-03	7.1544299904E-03	-1.8125526546E-02	-2.1678412293E-02	1.5750478513E-02
3.4561228132E-02	4.1247681515E-03	-4.2132913221E-02	-1.3848334245E-02	2.4505281612E-02
-1.7103353680E-02	-7.2399220287E-03	5.8504936229E-03	7.4362117145E-03	-2.3679666466E-03
-7.4990090038E-03	-2.1751019937E-03	4.4590693246E-03	2.7681417319E-03	-2.5519649726E-03
-6.8366794793E-04	1.0087106644E-03	8.5081624928E-04	1.7631187224E-04	-5.0614817929E-04
-2.6992109351E-04	-2.9358121172E-05	2.2928207168E-03	6.1193079726E-04	-2.7663104488E-04
-3.6685222573E-04	-9.0373813505E-05	1.4352635166E-04	3.2096043697E-05	-3.2237877964E-04
-8.6137204950E-05	2.5850844367E-05	3.7769583387E-05	1.1840159131E-05	-7.6798361082E-06
-2.7387013342E-06	-2.0653037046E-06	-3.0961065106E-06	-1.0219414207E-06	-6.1783467945E-07
4.7297311420E-06	1.7598286783E-06	4.8388850752E-07	-2.1905014955E-09	-3.7816740673E-07
-1.8506007107E-07	-2.2462042123E-08	8.3500419628E-09	5.9479635758E-09	0.
2.1698520402E-02	8.2833367036E-03	-8.8368541790E-03	-1.0406458951E-02	3.1269632025E-03
1.0864668164E-02	3.5963930084E-03	-4.3933705982E-03	-4.0162066919E-03	-1.0129919260E-02
-3.4569444761E-03	2.4506558288E-03	2.4561585342E-03	3.4228890641E-04	-1.4956067051E-03
-3.0814713013E-04	6.5056870211E-04	1.0749276168E-03	1.8328134218E-04	2.9913374688E-05
-1.4714949845E-04	1.1226623282E-05	7.3995899300E-05	6.9435967069E-06	2.4976331823E-04
4.5251138954E-05	1.8862386352E-05	-2.1887657981E-05	6.9928118734E-06	9.8669894923E-06
-5.3316769046E-05	-2.0863271188E-05	-3.2374690739E-07	1.7336793767E-06	1.5995092489E-06
3.8515170899E-06	1.1911173524E-06	2.9617967256E-07	-1.0911299586E-07	2.5232139042E-07
-1.6573480817E-08	4.1150657815E-08	-1.6769144835E-08	-1.1945121129E-08	0.

N= 9 K= 8 J= 7

SOLUTION

9.7263059087E-03	7.4485293224E-03	-1.7969480614E-02	-2.1179819934E-02	1.5904304796E-02
3.4932439839E-02	4.0690077162E-03	-4.2171748988E-02	-1.4521389944E-02	2.3761851898E-02
-2.2909608873E-02	-1.0144203269E-02	9.9910840259E-03	1.0140882335E-02	-2.5434292029E-03
-1.1223711477E-02	-3.4915098736E-03	6.3010765014E-03	3.1816170266E-03	4.4600964415E-03
1.4060815193E-03	-1.3835394976E-03	-1.2642610822E-03	-2.8234235657E-04	6.8780565839E-04
1.6115087533E-04	-2.4726008874E-04	1.9846415127E-04	1.6580907601E-04	-4.1486109707E-05
2.8288389030E-05	-9.1169919255E-06	3.5108755468E-05	1.2128601388E-06	-2.1775512929E-04
-5.9103955179E-05	2.6207579035E-05	2.9312711737E-05	1.2019310112E-05	-3.5367779093E-06
4.8135318668E-05	1.1098308483E-05	7.9194541810E-07	-4.2699166004E-06	-6.8113498917E-07
-5.6148642221E-06	-1.7336286122E-06	-4.3063947314E-07	1.6031944817E-07	2.9571608376E-07
1.3591676878E-07	1.9207703955E-08	-5.1265443531E-09	-3.6517779453E-09	0.
1.6059821762E-02	6.2916687593E-03	-3.4254901796E-03	-6.6432850362E-03	3.0098888875E-03
6.5573198791E-03	1.6076917715E-03	-2.9390439050E-03	-3.6444424831E-03	-1.0286787941E-02
-4.3522005670E-03	1.4281553925E-03	1.4595941460E-03	-1.4206670036E-05	-1.5831019861E-03
-9.6085666337E-05	8.2538200848E-04	2.1120099293E-03	7.2835390985E-04	-5.2734474482E-04
-4.1454424170E-04	-1.5347541886E-04	8.8833214100E-05	6.9332200437E-05	-3.3851682743E-04
-4.4155137214E-05	2.7485393434E-06	5.3013651727E-05	5.5317651728E-06	-4.0612244417E-06
3.3173161780E-05	9.4091285782E-06	6.6184796225E-06	-8.2443838705E-07	9.2731968702E-07
-5.0317962719E-07	-1.0700432746E-06	-4.0855488324E-07	-3.9139167539E-07	-4.9442654463E-07
-6.0562830536E-08	-6.3254033308E-08	1.8017934461E-08	1.2834668181E-08	0.

N= 9 K= 6 J= 8

SOLUTION

9.2705464254E-03	6.4107464017E-03	-1.9923697380E-02	-2.2816389640E-02	1.3623133446E-02
3.4122142466E-02	3.1596178520E-03	-4.0903794767E-02	-1.1299176446E-02	2.8356871641E-02
-2.7253022521E-02	-1.0595507622E-02	1.0466441119E-02	1.3367522861E-02	-3.3904500267E-03
-1.1526588211E-02	-3.6457597747E-03	7.7474226909E-03	4.1058562443E-03	1.0592585428E-02
3.7532492132E-03	-1.4611096408E-03	-2.0902685213E-03	3.1575555557E-04	1.5550008333E-03
5.9707962082E-04	-5.3427831152E-04	-2.0975945582E-03	-7.2644096584E-04	2.2065930138E-04
2.3785958448E-04	4.4108036785E-05	-1.5043564183E-04	-4.5688034394E-05	2.7464865342E-04
7.7701890567E-05	-2.6120170941E-05	-3.1828664955E-05	-1.1587210853E-05	6.5346581860E-06
-2.9586301032E-05	-6.7238704108E-06	1.6381666563E-07	2.8182194984E-06	5.7576957757E-07
2.4718623580E-06	7.1946673143E-07	1.7189198508E-07	-8.9980771151E-08	-1.1119083574E-07
-4.9857053526E-08	-7.4554175881E-09	1.7284684241E-09	1.2312353967E-09	0.
1.4684682303E-03	1.6825170570E-03	-8.2163737029E-03	-2.7556143126E-03	-4.8859926352E-03
1.8701828307E-03	-2.2397656941E-03	-1.7175739141E-03	-1.4072091127E-03	-3.5229490658E-03
5.8130990141E-04	1.1522552042E-03	2.7178621546E-03	1.9349584858E-04	5.5585246039E-04
3.6643805289E-05	7.0186462822E-04	1.9656721187E-03	5.0992140468E-04	4.6001587793E-04
-9.3300893482E-05	3.0619143289E-04	8.0624938638E-05	1.3375509765E-04	-2.6067669523E-04
-1.7627451053E-04	4.6428780602E-06	-3.5879443543E-05	-8.5988096738E-06	-3.0605523891E-05
1.2333522313E-05	7.3507778471E-06	-1.3163445562E-05	-2.6948183183E-06	-3.9379235336E-06
-2.4534681833E-06	8.0927002383E-07	4.4555148602E-07	7.6509284391E-07	6.3582216995E-07
1.0620240959E-07	7.6052751851E-08	-1.8653144940E-08	-1.3287146002E-08	0.

N= 9 K= 8 J= 9

SOLUTION

9.2705464254E-03	6.4107464017E-03	-1.9923697380E-02	-2.2816389640E-02	1.3623133446E-02
3.4122142467E-02	3.1596178521E-03	-4.0903794767E-02	-1.1299176446E-02	2.8356871641E-02
-2.7253022521E-02	-1.0595507622E-02	1.0466441119E-02	1.3367522861E-02	-3.3904500267E-03
-1.1526588211E-02	-3.6457597747E-03	7.7474226909E-03	4.1058562443E-03	1.0592585427E-02
3.7532492132E-03	-1.4611096408E-03	-2.0902685213E-03	3.1575555557E-04	1.5550008333E-03
5.9707962082E-04	-5.3427831152E-04	-2.0975945582E-03	-7.2644096584E-04	2.2065930138E-04
2.3785958448E-04	4.4108036785E-05	-1.5043564183E-04	-4.5688034394E-05	2.7464865342E-04
7.7701890566E-05	-2.6120170941E-05	-3.1828664955E-05	-1.1587210853E-05	6.5346581860E-06
-2.9586301032E-05	-6.7238704108E-06	1.6381666560E-07	2.8182194984E-06	5.7576957756E-07
2.4718623580E-06	7.1946673144E-07	1.7189198508E-07	-8.9980771149E-08	-1.1119083574E-07
-4.9857053525E-08	-7.4554175879E-09	1.7284684240E-09	1.2312353967E-09	0.
-1.4684682303E-03	-1.6825170570E-03	8.2163737029E-03	2.7556143126E-03	4.8859926352E-03
-1.8701828307E-03	2.2397656941E-03	1.7175739141E-03	1.4072091127E-03	3.5229490659E-03
-5.8130990140E-04	-1.1522552042E-03	-2.7178621546E-03	-1.9349584858E-04	-5.5585246039E-04
-3.6643805288E-05	-7.0186462822E-04	-1.9656721187E-03	-5.0992140468E-04	-4.6001587793E-04
9.3300893482E-05	-3.0619143289E-04	-8.0624938638E-05	-1.3375509765E-04	2.6067669523E-04
1.7627451053E-04	-4.6428780602E-06	3.5879443543E-05	8.5988096738E-06	3.0605523891E-05
-1.2333522313E-05	-7.3507778471E-06	1.3163445562E-05	2.6948183183E-06	3.9379235336E-06
2.4534681833E-06	-8.0927002382E-07	-4.4555148602E-07	-7.6509284391E-07	-6.3582216995E-07
-1.0620240959E-07	-7.6052751851E-08	1.8653144940E-08	1.3287146002E-08	0.

N= 9 K= 8 J= 10

SOLUTION

9.7263059087E-03	7.4485293224E-03	-1.7969480614E-02	-2.1179819934E-02	1.5904304796E-02
3.4932439839E-02	4.0690077162E-03	-4.2171748988E-02	-1.4521389944E-02	2.3761851898E-02
-2.2909608873E-02	-1.0144203269E-02	9.9910840259E-03	1.0140882335E-02	-2.5434292029E-03
-1.1223711477E-02	-3.4915098736E-03	6.3010765015E-03	3.1816170266E-03	4.4600964415E-03
1.4060815193E-03	-1.3835394976E-03	-1.2642610822E-03	-2.8234235658E-04	6.8780565838E-04
1.6115087533E-04	-2.4726008874E-04	1.9846415128E-04	1.6580907601E-04	-4.1486109707E-05
2.8288389030E-05	-9.1169919260E-06	3.5108755468E-05	1.2128601392E-06	-2.1775512929E-04
-5.9103955179E-05	2.6207579035E-05	2.9312711737E-05	1.2019310112E-05	-3.5367779092E-06
4.8135318668E-05	1.1098308483E-05	7.9194541811E-07	-4.2699166004E-06	-6.8113498917E-07
-5.6148642221E-06	-1.7336286122E-06	-4.3063947314E-07	1.6031944817E-07	2.9571608376E-07
1.3591676878E-07	1.9207703954E-08	-5.1265443530E-09	-3.6517779453E-09	0.
-1.6059821762E-02	-6.2916687593E-03	3.4254901796E-03	6.6432850362E-03	-3.0098888875E-03
-6.5573198791E-03	-1.6076917715E-03	2.9390439050E-03	3.6444424831E-03	1.0286787941E-02
4.3522005670E-03	-1.4281553925E-03	-1.4595941460E-03	1.4206670035E-05	1.5831019861E-03
9.6085666337E-05	-8.2538200848E-04	-2.1120099293E-03	-7.2835390985E-04	5.2734474482E-04
4.1454424170E-04	1.5347541886E-04	-8.8833214100E-05	-6.9332200437E-05	3.3851682743E-04
4.4155137214E-05	-2.7485393434E-06	-5.3013651727E-05	-5.5317651728E-06	4.0612244417E-06
-3.3173161780E-05	-9.4091285782E-06	-6.6184796225E-06	8.2443838704E-07	-9.2731968702E-07
5.0317962717E-07	1.0700432746E-06	4.0855488323E-07	3.9139167539E-07	4.9442654463E-07
6.0562830537E-08	6.3254033308E-08	-1.8017934461E-08	-1.2834668181E-08	0.

N= 9 K= 8 J= 11

SOLUTION

9.6889999073E-03	7.1544299904E-03	-1.8125526546E-02	-2.1678412293E-02	1.5750478513E-02
3.4561228132E-02	4.1247681515E-03	-4.2132913221E-02	-1.3848334245E-02	2.4505281612E-02
-1.7103353680E-02	-7.2399220287E-03	5.8504936229E-03	7.4362117145E-03	-2.3679666466E-03
-7.4990090038E-03	-2.1751019937E-03	4.4590693246E-03	2.7681417319E-03	-2.5519649726E-03
-6.8366794793E-04	1.0087106644E-03	8.5081624928E-04	1.7631187224E-04	-5.0614817929E-04
-2.6992109351E-04	-2.9358121172E-05	2.2928207168E-03	6.1193079726E-04	-2.7663104488E-04
-3.6685222573E-04	-9.0373813505E-05	1.4352635166E-04	3.2096043697E-05	-3.2237877964E-04
-8.6137204950E-05	2.5850844367E-05	3.7769583387E-05	1.1840159131E-05	-7.6798361082E-06
-2.7387013343E-06	-2.0653037046E-06	-3.0961065106E-06	-1.0219414207E-06	-6.1783467944E-07
4.7297311420E-06	1.7598286783E-06	4.8388850752E-07	-2.1905014958E-09	-3.7816740673E-07
-1.8506007107E-07	-2.2462042123E-08	8.3500419627E-09	5.9479635758E-09	0.
-2.1698520402E-02	-8.2833367036E-03	8.8368541790E-03	1.0406458951E-02	-3.1269632025E-03
-1.0864668164E-02	-3.5963930084E-03	4.3933705982E-03	4.0162066919E-03	1.0129919260E-02
3.4569444761E-03	-2.4506558288E-03	-2.4561585342E-03	-3.4228890641E-04	1.4956067051E-03
3.0814713013E-04	-6.5056870211E-04	-1.0749276168E-03	-1.8328134218E-04	-2.9913374689E-05
1.4714949845E-04	-1.1226623282E-05	-7.3995899299E-05	-6.9435967069E-06	-2.4976331823E-04
-4.5251138954E-05	-1.8862386352E-05	2.1887657981E-05	-6.9928118734E-06	-9.8669894923E-06
5.3316769046E-05	2.0863271188E-05	3.2374690739E-07	-1.7336793767E-06	-1.5995092489E-06
-3.8515170899E-06	-1.1911173524E-06	-2.9617967256E-07	1.0911299586E-07	-2.5232139042E-07
1.6573480817E-08	-4.1150657815E-08	1.6769144835E-08	1.1945121129E-08	0.

N= 9 K= 8 J= 12

SOLUTION

9.0836249638E-03	5.4051990375E-03	-2.0708853901E-02	-2.4510304393E-02	1.2803711501E-02
3.2908705977E-02	3.1939059628E-03	-4.0613930932E-02	-8.8050879995E-03	3.1243029782E-02
-6.9557307926E-03	-9.1780826912E-04	3.9828770912E-03	5.8644889546E-03	8.3940976252E-05
-2.1551235369E-03	-7.5062958989E-05	1.6538816552E-03	2.2313960711E-03	-9.8755854145E-03
-3.9927983827E-03	1.1023937437E-03	1.3792729310E-03	-4.2273774993E-04	-1.7297128857E-03
-6.3598815611E-04	3.5211491408E-04	1.9077032363E-03	8.6445653628E-04	-8.4876522682E-05
-6.8168181868E-05	4.6224069612E-05	1.5970678714E-04	6.9775825589E-05	1.5333545680E-04
1.0688202764E-05	-2.8598784532E-05	-4.2580674576E-05	-1.6287431267E-05	-5.7233549652E-06
-3.9297409688E-05	-3.9844476839E-06	3.5390217774E-06	6.3567672152E-06	1.2012087138E-06
-6.3652979090E-07	-8.8195233560E-07	-3.2605179717E-07	-2.8588142230E-07	3.2536445417E-07
1.8495444079E-07	1.4518169639E-08	-1.1289188908E-08	-8.0415984406E-09	0.
-2.6268948036E-02	-1.3256303441E-02	1.1163391781E-02	9.9288465583E-03	-2.1439440798E-03
-1.3140018520E-02	-2.7169125493E-03	6.9162136634E-03	4.4404412484E-03	6.1659165512E-03
1.6365503788E-03	-5.5749279726E-04	-1.6569161309E-03	4.2494977859E-04	5.7962099271E-04
4.5093329931E-04	-3.6770534030E-04	1.7645585526E-03	2.1340102140E-04	-1.0123026473E-04
-4.3256289459E-04	3.1081625673E-06	1.4416310721E-05	7.4616044030E-05	-3.2320891715E-04
-1.3291114347E-04	3.4047987707E-05	1.6364893387E-05	1.1097743957E-05	-1.5160631012E-05
-1.1942204514E-05	-1.3248654292E-05	4.3278827872E-07	-2.6211668693E-06	1.1915350764E-06
4.5616095767E-06	7.4505849743E-07	8.1544566430E-08	-4.2452121909E-07	-2.1252349637E-08
-1.0117357544E-07	1.5695625602E-08	-1.4949302093E-08	-1.0648797303E-08	0.

N= 9 K= 8 J= 13

SOLUTION

9.4185923126E-03	8.1512698750E-03	-1.9261906114E-02	-1.9951822178E-02	1.4386160421E-02
3.6083196521E-02	3.0316085146E-03	-4.1367201767E-02	-1.4725581767E-02	2.4235684183E-02
2.5246298629E-03	-2.1717803808E-03	-8.6507217562E-04	-4.8365732943E-03	6.6757098644E-04
-1.2568930707E-03	6.5155850505E-04	-1.7515181558E-03	-8.1973659305E-07	-1.0914886315E-02
-3.0880936775E-03	1.8282248141E-03	3.0620452138E-03	-1.0920996145E-04	-1.0509162508E-03
-3.6915161512E-04	9.0684585377E-04	-6.5482196431E-04	-5.8513677441E-04	7.1803181385E-05
-1.6146905454E-04	1.1409969957E-05	-1.4619993913E-04	9.2508441720E-06	3.5665924921E-04
1.4850717541E-04	-2.0088503752E-05	-8.4437235972E-06	-3.8435897268E-06	2.0754150160E-05
1.6838375986E-05	-5.4789198458E-06	-9.0387952613E-07	-5.1997487288E-06	2.3156607394E-07
-3.4987914102E-06	-2.8047526107E-07	5.5151956536E-08	4.5469636818E-07	-1.4539252461E-07
-1.3780990120E-07	3.8173773731E-09	1.3843896065E-08	9.8613863152E-09	0.
-2.7045337835E-02	-8.5661015682E-03	1.1444347341E-02	1.5778727189E-02	-2.8248329680E-03
-1.0589616284E-02	-3.2571950059E-03	7.6040609049E-03	4.7723488248E-03	-1.7598479509E-03
1.0658703747E-04	6.7700611605E-04	1.2486017229E-03	2.4997468908E-04	2.7425718079E-04
2.0181350737E-04	4.7206708717E-04	2.4285079787E-03	1.1117009801E-03	-1.7584642673E-04
-8.1759443848E-05	5.2057439592E-06	2.3204180430E-04	5.8572813682E-05	1.5140671917E-04
8.7273048532E-05	4.9931616631E-06	1.6346211554E-05	7.1183987889E-06	1.6412415419E-05
-3.6485808471E-05	-1.0487517274E-06	2.4602279112E-06	6.6695497295E-06	6.8779264770E-07
-1.6512571006E-06	2.8880602291E-07	1.9638273465E-07	4.0143066983E-07	2.4912921695E-07
1.6654536855E-07	6.4596772935E-09	1.2620378798E-08	8.9898414567E-09	0.

N= 9 K= 8 J= 14

SOLUTION

9.9602477241E-03	6.6526959033E-03	-1.7156721780E-02	-2.2196405759E-02	1.6303389608E-02
3.4817457258E-02	3.5438962241E-03	-4.1266203240E-02	-1.5056999805E-02	2.4398643867E-02
1.2112641970E-02	6.7637457691E-03	-5.4577343570E-03	-4.3036297936E-03	4.7582843473E-04
5.6093064221E-03	9.1856651137E-04	-4.3004652172E-03	-1.4654219694E-03	-6.1587750985E-03
-2.3589260250E-03	1.8155210255E-03	1.3798989966E-03	5.0338739645E-04	-9.7946806302E-04
4.4988802196E-05	5.1842008145E-04	-2.5802548934E-03	-5.5833270261E-04	1.4404405299E-04
4.4920492292E-04	6.3870560469E-06	-1.1006768179E-04	-7.5251551857E-05	-6.6955641890E-05
-5.0103397649E-05	3.2067779762E-05	3.3388504636E-06	1.1833021375E-05	-2.3439511034E-06
3.8694597805E-05	1.9216173400E-05	-7.9650794224E-07	-2.0504410447E-08	-1.7576474789E-06
4.6680146141E-06	1.0534543212E-06	2.0115442877E-07	-3.0532707632E-07	-1.1455618636E-07
5.9642789028E-08	-2.8419302181E-08	-1.5927165946E-08	-1.1345356506E-08	0.
-2.5194414812E-02	-1.1153018363E-02	8.9235492068E-03	1.0542028327E-02	-3.6180349552E-03
-1.1412674002E-02	-3.7566338305E-03	7.0811112908E-03	3.3076367575E-03	-9.3387021897E-03
-3.5931565297E-03	9.9386579261E-04	1.5249615683E-03	-3.3901226762E-04	-1.3649978673E-03
-3.9133646379E-04	5.7689163930E-04	3.9494504279E-04	-4.6882918034E-05	-1.3304073652E-04
-1.6644020075E-04	-8.5268699784E-05	1.5298581332E-05	-2.2212700888E-05	3.5545520979E-04
8.2998012868E-05	-3.7456399012E-05	-5.2613997771E-05	-1.8447452305E-05	4.2346399170E-06
2.4197515616E-05	2.5812299536E-06	-3.7462091987E-06	-4.2481937973E-06	-1.1479269718E-06
-2.9166701446E-06	-1.4031373999E-06	-4.2698307808E-07	-1.3967538782E-07	-3.6917231938E-07
-1.9137960502E-07	-1.9924835569E-08	-9.8616836393E-09	-7.0247473419E-09	0.

N= 9 K= 8 J= 15

SOLUTION

9.1459568410E-03	7.1720017222E-03	-2.0142931652E-02	-2.2156297849E-02	1.4359823765E-02
3.3238726027E-02	5.0880049570E-03	-4.3293381037E-02	-1.0160258527E-02	2.6748355754E-02
1.9683052361E-02	7.9420734710E-03	-8.8201588864E-03	-9.3711967282E-03	2.5281697871E-03
1.0037934910E-02	3.4973456210E-03	-4.7313259959E-03	-2.9834514523E-03	5.8428119715E-04
-1.6416077161E-04	-5.9788851078E-04	-5.6203024453E-04	-1.2616813544E-04	1.3190377383E-04
2.1453534494E-04	1.3102517783E-04	-1.2539082211E-03	-4.8017673315E-04	3.1784225618E-04
2.4672887898E-04	6.8140530722E-05	-3.2808155347E-05	-6.6790002378E-05	-4.2271843745E-04
-8.7872082852E-05	-4.4652458278E-06	4.4378550726E-05	-3.7637291313E-08	-1.3169557668E-05
-5.0802811764E-05	-1.7240746084E-05	-2.9644998506E-06	1.9705516176E-06	6.3295971655E-07
-2.3398528528E-06	-1.1799442072E-06	-3.6450294986E-07	-1.3613985499E-07	3.8209086727E-07
2.4586670176E-08	5.3032779632E-08	1.7468055292E-08	1.2442974189E-08	0.
-1.8013909704E-02	-7.8235508237E-03	8.0902672403E-03	8.2661711542E-03	-2.0021573619E-03
-8.7042527207E-03	-2.9530474945E-03	5.3185551460E-03	2.1642633494E-03	-1.0560570308E-02
-3.5205577601E-03	2.3883103209E-03	2.5340494906E-03	1.3990934339E-04	-1.6566706819E-03
-5.8671043414E-04	4.6636251460E-04	-1.9959793035E-03	-5.3457119129E-04	2.0085402431E-04
3.1146825702E-04	5.1257716269E-05	-1.1607609576E-04	-4.0185887278E-05	-7.7154448907E-05
-2.3274252663E-05	-2.7194178360E-07	4.4029949734E-06	-4.6590832108E-07	-3.7143819162E-06
3.0638709220E-05	7.5294908095E-06	1.9447603974E-06	-2.1979363539E-06	-1.0610568852E-07
5.7000995523E-06	1.8813113116E-06	4.8626562561E-07	-1.0891460614E-07	3.5267875995E-07
1.6619216245E-07	2.2142738441E-08	6.7671606724E-09	4.8204338817E-09	0.

N= 9 K= 8 J= 16

SOLUTION

9.4483658091E-03	4.0943008893E-03	-1.9374806654E-02	-2.6357458110E-02	1.3735712657E-02
3.2199055739E-02	2.9728881189E-03	-3.9823608160E-02	-9.0516897713E-03	3.2157239482E-02
2.7954229384E-02	1.0863174351E-02	-6.5284675797E-03	-1.1760189098E-02	5.7149138366E-03
1.1878460521E-02	4.0239784484E-03	-5.7219134987E-03	-5.1664817772E-03	8.5882381083E-03
4.3014624160E-03	-1.0847503003E-03	-5.0095298959E-04	7.6643675730E-05	1.7849405261E-03
2.1658873522E-04	-4.3227347637E-04	5.8856830623E-04	2.6557553782E-04	-5.5281961203E-04
-2.3776843895E-04	-2.4161438164E-04	3.2539567073E-05	-1.7943276499E-05	4.9118804817E-05
-6.5050994540E-05	-1.0653565092E-06	-4.7169868588E-05	-8.1710931076E-06	-1.3617316470E-05
8.5337389338E-06	8.9243935796E-08	1.0365414335E-05	1.0408138443E-06	2.6291421380E-06
-1.2273785154E-06	9.2577773804E-07	4.3359396524E-07	6.1383507994E-07	-5.8112125098E-07
-8.8504170567E-08	-7.1109215095E-08	-1.8414090967E-08	-1.3116861309E-08	0.
-1.0364931729E-02	-3.3269276058E-03	3.3221819188E-03	5.7206224575E-03	-1.5423262437E-03
-3.5083324034E-03	-1.3077119526E-03	3.2246408581E-03	1.5013937439E-03	-7.8905864610E-03
-2.8650803912E-03	7.8242676407E-04	1.4006171772E-03	-4.0746282059E-04	-1.1553813227E-03
-4.9510772250E-04	3.7552820631E-04	-2.1962355351E-03	-7.9370323624E-04	2.4091549063E-04
2.3202156325E-04	4.9970515831E-05	-1.6549376539E-04	-4.5720862561E-05	-3.6787559140E-04
-1.0298998850E-04	3.6942763386E-05	4.4191242397E-05	1.6547623736E-05	-8.1289969204E-06
-4.7899817230E-05	-1.0910463788E-05	-4.3348736948E-08	4.4787130141E-06	8.5586108255E-07
-4.4696745245E-06	-1.3277942009E-06	-3.2167438477E-07	1.5079920848E-07	-2.1273088187E-07
-9.6234796799E-08	-1.4105318924E-08	-3.4421901650E-09	-2.4519663271E-09	0.

N= 9 K= 9 J= 0

SOLUTION

8.7935060816E-03	-8.2137328938E-03	-2.0958989957E-02	-1.3544403395E-03	2.6846554465E-02
-1.8129086500E-02	-3.1590493411E-02	2.6827360449E-02	2.8495960530E-02	-1.0716638425E-02
2.9877029693E-02	-3.9927683951E-03	-7.8959335571E-03	3.9429213215E-03	1.6435180201E-02
-6.4208536810E-03	-5.7533213264E-03	4.2208695928E-03	5.5000251157E-03	1.0920302441E-02
1.7536912502E-03	-2.9343248390E-03	3.5850452064E-03	1.5756533509E-03	6.3359069947E-04
-6.5571392100E-04	1.0303835564E-03	1.6647870433E-03	-1.4957968269E-04	-1.1948320541E-03
1.8899899819E-04	-2.2898157566E-04	-3.3103921681E-05	-2.0953635615E-04	4.2280555751E-04
-2.1843968293E-04	-4.0421020104E-05	-7.4458097564E-05	1.3535311428E-05	-3.3897729933E-05
7.9615477294E-05	-4.8865610311E-06	1.0762628552E-05	1.8838883252E-07	5.7478363557E-06
4.8389185774E-06	2.4307226987E-06	-3.1277117441E-07	8.1156922302E-07	-9.6249973749E-08
3.3168961231E-08	-1.4103915315E-07	2.6868662118E-08	-1.8878249003E-08	3.1502225899E-09
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.
0.	0.	0.	0.	0.

N= 9 K= 9 J= 1

SOLUTION

8.4168143346E-03	1.9112560825E-03	-2.2173581101E-02	1.2988360235E-02	2.6624553156E-02
-1.2233435964E-02	-3.0968316117E-02	2.0476088805E-02	2.0546761865E-02	-2.5588501296E-02
2.2013740551E-02	-3.5505121912E-03	-1.7852172867E-02	4.4508474691E-03	7.2372299493E-03
-5.5599199373E-03	-8.7035531771E-03	3.1071959188E-03	5.7331664880E-03	8.3987484647E-03
-2.9882418983E-03	-2.4995741618E-03	-8.4194813722E-04	1.2952299003E-03	-1.3119832793E-03
-4.2779247234E-04	4.1506696322E-04	1.9852054814E-03	-2.3453265788E-04	2.5204125988E-04
6.6713852538E-05	3.2965807917E-04	-3.8967398237E-05	5.4928047678E-06	7.3645999543E-05
1.2373940051E-04	-3.0910583339E-05	6.5125078517E-05	1.5056577055E-06	1.0862552468E-05
-2.7563551607E-05	-1.3226099851E-06	-1.0927927486E-05	6.2854860679E-07	-2.8942330784E-06
-1.8324976234E-06	-2.1067834371E-06	6.1786365580E-08	-5.4528964556E-07	1.5979628890E-07
-4.9116897206E-08	1.1477080260E-07	-2.2233489621E-08	1.7597898689E-08	-3.1072576598E-09
7.8765704103E-03	-1.5063701762E-04	-5.6291884683E-03	2.6311354733E-03	2.8304201020E-03
-8.5149291879E-04	-2.9410597242E-03	1.9099873038E-03	1.5129211691E-03	6.2436109004E-03
-1.0567979493E-03	-2.3496368267E-03	3.8576255942E-04	6.0186435029E-04	-5.6237026465E-04
-6.4547195414E-04	2.7868218638E-04	2.1730811282E-03	-3.6552567874E-04	-3.2776073607E-04
2.0439932098E-05	1.7076501526E-04	-1.1323256900E-04	-4.7900975931E-05	4.1163249717E-04
-2.7728011383E-05	-3.5124355018E-05	2.0864294907E-05	2.3741576867E-05	-6.5711535651E-06
4.5262158291E-05	-1.1726839832E-06	-6.6313133471E-06	3.3512951808E-06	9.9696412660E-07
3.7435194424E-06	-6.6491116747E-07	-6.8581243727E-07	1.3005045804E-07	3.3025640270E-07
-8.8582873041E-08	-2.2169942411E-08	2.1158593879E-08	-3.0224997708E-09	5.1850959647E-10

N= 9 K= 9 J= 2

SOLUTION

8.9057716445E-03	-2.8238651286E-03	-2.0399816876E-02	7.5694440605E-03	2.7410637403E-02
-1.1730806212E-02	-3.3008462553E-02	2.6374726499E-02	1.9034943724E-02	-2.1332572562E-02
2.0881804098E-02	-2.0679332144E-03	-1.1204786348E-02	3.9952926397E-03	8.0258306062E-03
-5.1439059160E-03	-7.6217070752E-03	2.8338790429E-03	3.6281599466E-03	2.7339567021E-03
1.6389389754E-04	-5.6417134615E-04	4.0069957446E-04	5.5106796034E-04	-3.4430140897E-04
-2.2943783049E-04	-4.8396484185E-05	-1.2592201332E-03	2.3213863108E-04	1.9924026443E-05
-3.0814285008E-05	-9.8875571140E-05	-2.8334820979E-06	6.2130063222E-05	-3.3581336202E-04
-2.4348652396E-05	6.5683527929E-05	-3.1246457679E-05	-4.8697418394E-06	1.0411595349E-05
-3.8268708555E-05	1.0515082069E-05	8.2539639980E-06	-6.4462016039E-07	-1.3225136783E-06
-3.8245534601E-06	1.2777797027E-06	3.1403109005E-07	3.6275888584E-09	-2.9517032713E-07
8.2652991135E-08	-5.0021257220E-08	9.4833929224E-09	-1.4038339087E-08	2.9795348407E-09
1.6245884727E-02	-2.4329874518E-03	-8.5439841163E-03	2.6043485604E-03	6.6788804798E-03
-3.6198442726E-03	-5.6541783726E-03	3.3386924645E-03	2.1547516877E-03	1.0681871976E-02
-9.5995843388E-04	-2.6953815247E-03	9.9340968300E-04	1.6542544096E-03	-9.1502177483E-04
-8.2463742080E-04	3.5434221182E-04	2.2370921223E-03	-1.0691740953E-04	-4.3691392203E-04
1.8496719301E-04	1.8156549412E-04	-8.6750197110E-05	-4.5366332168E-05	1.7207778984E-04
-1.9739538367E-05	-3.2969871526E-05	9.2285934648E-06	7.7859911262E-06	-3.5161285150E-06
-5.3420628004E-06	-2.9333844121E-07	2.2232338270E-06	-8.3479072143E-07	1.6305197266E-07
-3.1040208301E-06	8.5252752773E-07	5.5313501024E-07	-4.6232683734E-08	-4.8613840755E-07
1.3091735678E-07	2.2139892544E-08	-3.7676665146E-08	4.9888836739E-09	-1.0228756028E-09

N= 9 K= 9 J= 3

SOLUTION

8.6416996832E-03	-1.5771873665E-03	-2.1724410996E-02	8.1972200979E-03	2.5656782426E-02
-1.3516447719E-02	-3.3181798376E-02	2.4289091051E-02	2.2363277157E-02	-1.9148225956E-02
1.4288302221E-02	-3.7838266339E-03	-7.6297741584E-03	8.1331477327E-04	6.4168103992E-03
-3.7597098158E-03	-4.3942919408E-03	3.0160167787E-03	2.1439153678E-03	-4.1058193583E-03
7.7086841934E-04	1.2766129586E-03	-3.4689735119E-05	-8.5941157450E-04	5.3479635046E-04
7.1655415953E-06	-3.0959938655E-04	-2.4202554615E-03	1.6168082648E-05	4.7652237897E-04
-2.8800753972E-04	-1.7024587256E-04	3.4756010802E-05	8.3068077653E-05	-2.4662377174E-04
5.7511799530E-05	4.2400784365E-05	-2.2964951634E-06	-1.3718491075E-05	5.9072165918E-06
8.5386705242E-06	-9.3073586182E-06	-1.4521097752E-06	-1.9625798045E-06	1.0313908639E-06
5.9344074515E-06	-3.2288391721E-07	-1.7697359363E-07	3.1815116315E-07	3.7544894071E-07
-1.0099074567E-07	-1.9463561105E-08	8.1949219656E-09	8.9769303362E-09	-2.7705380783E-09
2.1798781430E-02	-4.0081946667E-03	-1.2163551040E-02	2.8247295839E-03	8.7737425314E-03
-5.3544669849E-03	-7.7743286183E-03	4.3577635677E-03	3.0251038060E-03	1.0001198553E-02
-1.5143601050E-03	-2.7133310074E-03	5.8359023297E-04	1.4188071465E-03	-8.8927942708E-04
-7.7518095389E-04	4.1552249995E-04	4.9613963155E-04	-1.9970261293E-04	-3.9240815412E-05
-5.0059054068E-05	1.2907958737E-05	-1.3883979151E-05	-3.4797825438E-05	-2.6828641377E-04
9.1712079274E-06	4.7349596049E-05	-2.7010907174E-05	-1.5569177115E-05	7.5057163465E-07
-4.4440212105E-05	4.3022458701E-07	6.3629289012E-06	-3.4676249110E-06	-9.3383103822E-07
-8.6331831356E-07	-4.7197191119E-07	2.9892134723E-07	-1.6217934053E-07	3.9365354961E-07
-1.0717824797E-07	5.4863829135E-09	4.6019758357E-08	-5.1065495031E-09	1.4993402291E-09

N= 9 K= 9 J= 4

SOLUTION

7.8928982111E-03	-2.7539004628E-03	-2.4125170503E-02	6.4912849217E-03	2.5034458915E-02
-1.4825217855E-02	-3.0668922879E-02	2.3457414500E-02	2.6632879563E-02	-1.7135724410E-02
6.8751201587E-03	6.5923764490E-04	-2.7457845095E-03	3.0196753169E-03	3.3201612571E-03
4.6356996219E-05	-1.7948522518E-03	2.0748718781E-03	8.3414829383E-04	-1.0446251428E-02
6.7834566610E-04	1.6902573227E-03	-1.2729328494E-03	-1.9257559227E-03	4.4914626440E-04
4.8426685569E-04	-5.9568829492E-04	-1.5811615072E-03	3.6599787588E-04	4.2094919521E-04
4.0071302113E-05	-5.6374651834E-05	1.1133493637E-04	5.5903970764E-05	1.4139097512E-04
-4.4538889278E-05	-7.3995968857E-05	-3.0733190813E-06	-5.3042697226E-06	-1.1281293858E-05
5.2546503987E-05	4.5140062023E-07	-1.8325118567E-06	3.1389809747E-06	1.9559582865E-06
-2.5567434314E-06	-3.0314869178E-07	-5.0612087232E-07	-2.0354858943E-07	-2.9281093730E-07
7.6516633607E-08	6.0229855152E-08	-2.6354716781E-08	-3.5017175311E-09	2.4859682593E-09
2.4210058851E-02	-2.1443772111E-03	-1.5789626719E-02	6.1002609185E-03	8.9605663744E-03
-4.6288690254E-03	-8.9435346729E-03	4.5426404391E-03	4.6366209817E-03	4.3246288763E-03
-3.0998494741E-04	-2.3043354865E-03	7.5810216206E-04	2.8598945848E-04	-1.0928761447E-04
-3.7522380142E-04	4.4845286139E-04	-2.0416508017E-03	3.4620979645E-04	1.6708169197E-04
1.4099070982E-06	-2.2273053065E-04	1.1964016949E-04	1.1989709058E-05	-4.0401593259E-04
5.0377757657E-05	6.1009522938E-06	-6.8533183365E-07	-2.4136677041E-05	1.0865891216E-05
7.2201386046E-06	2.8459809817E-06	-6.3855881906E-06	2.5762185415E-06	-1.0177502194E-06
2.8907118394E-06	-1.1647910265E-07	-9.8477426662E-07	1.9883063894E-07	-1.1779243550E-07
3.4180002001E-08	-4.3955615272E-08	-4.4599274272E-08	3.0461580456E-09	-1.9349067625E-09

N= 9 K= 9 J= 5

SOLUTION

9.4907267705E-03	-2.2009403244E-03	-1.8249100674E-02	7.4625434287E-03	2.9273694638E-02
-1.3784569641E-02	-3.2010732303E-02	2.3617831959E-02	1.9215372101E-02	-2.2814825956E-02
-3.2954089008E-03	1.0779248858E-03	-8.6876693755E-04	5.9300626760E-04	-2.8803490132E-03
1.2525557255E-03	-5.8600849326E-04	3.6893646717E-04	-1.2506245506E-03	-9.5249689894E-03
1.2083377751E-03	4.2362839341E-03	-9.7448702268E-04	-7.8192970391E-04	7.3094710187E-04
1.0029020061E-03	-5.4178409936E-04	3.9518272667E-04	-5.0798966389E-07	-3.1547392421E-04
8.3236081531E-05	-8.1668878539E-05	2.1107238027E-05	-7.3430811393E-05	4.6505078217E-04
-4.1325349757E-05	1.2511687986E-06	1.1535592625E-05	3.2557651710E-05	-7.4460752707E-06
-2.9083924485E-05	3.7649673773E-06	-3.1915374919E-06	3.4488440955E-07	-2.1679257698E-06
-1.9912750558E-06	3.2074870324E-07	1.0224676832E-06	-1.0189760419E-07	4.0494106551E-08
-8.0963234990E-09	-5.8192607901E-08	4.0366173870E-08	-1.2472441006E-09	-2.1335877067E-09
2.6701262670E-02	-3.2428821241E-03	-1.3058857586E-02	5.0398242793E-03	1.2059239127E-02
-5.5171060201E-03	-7.6955737773E-03	4.4490901091E-03	5.1533734846E-03	-6.0420801947E-04
4.6109783796E-04	1.7878385493E-03	1.0473356476E-04	5.5299413878E-04	2.8905581091E-04
4.6631806214E-04	4.5308488542E-05	-2.2402569683E-03	3.2176211023E-04	6.2278931033E-04
-8.9733067677E-05	-6.0104859662E-05	8.7162084977E-05	1.1025458628E-04	2.2006700058E-04
-1.3863889663E-06	3.7045366745E-05	1.1297752523E-05	2.3946881488E-05	2.1318337496E-06
5.3241149183E-05	-2.7538194855E-06	-9.3803624868E-08	1.8638341523E-06	2.5842079068E-06
3.0745589085E-08	3.9181579842E-07	8.3996692876E-07	4.8011405305E-08	-1.8328362491E-07
4.6564762149E-08	6.4391886015E-08	3.4143880311E-08	9.7076904974E-10	2.3176940833E-09

N= 9 K= 9 J= 6

SOLUTION

8.4002299911E-03	-1.1477898992E-03	-2.2149213293E-02	9.2437736100E-03	2.6709201331E-02
-1.2687468788E-02	-3.1174756703E-02	2.3291179898E-02	2.1666972342E-02	-2.2152128488E-02
-9.8391960833E-03	-6.8856554797E-05	6.7999705252E-03	-3.5793935972E-03	-3.7154051477E-03
1.4304199300E-03	3.2451465006E-03	-1.3117247160E-03	-2.8365299326E-03	-7.7380999619E-03
1.2504276392E-03	1.6548686275E-03	-2.5205934958E-04	-1.2132844050E-03	8.5444728058E-04
6.4205869119E-04	-1.4294643712E-04	2.5109930426E-03	-4.2566671692E-04	-3.3250609012E-04
2.7471705325E-05	2.0115669833E-04	-1.1615603825E-04	-6.1005317425E-05	-7.8601296658E-05
2.6429297186E-05	-1.6983744593E-05	1.5738945447E-05	-3.5099517737E-06	6.6948508012E-06
-3.6745203291E-05	-1.0479722717E-06	7.7627753541E-06	-3.8198845419E-06	-2.2155675729E-07
2.4391115929E-06	1.7003252664E-07	-7.2226047308E-07	2.1779152590E-07	2.6989871771E-07
-7.4547413559E-08	2.5093682482E-08	-4.6539308843E-08	4.3477990161E-09	1.7230084432E-09
2.3652092861E-02	-5.1210096197E-03	-1.3425376869E-02	2.2534231434E-03	9.9468569928E-03
-6.5871464659E-03	-7.6682988541E-03	3.5558172606E-03	4.6311119142E-03	-8.5153174409E-03
5.0221651014E-04	1.7587466839E-03	-1.1441964566E-03	-1.2545019924E-03	3.5296960341E-04
6.8254861053E-04	-3.7622422119E-04	-8.4322051859E-04	-1.6598477201E-04	1.1411930455E-04
-2.1944362022E-04	-7.3484058348E-05	-4.4873301340E-05	4.0310611635E-05	3.4592645979E-04
-6.7543225503E-05	-7.9762754308E-05	4.2078359468E-06	1.0342033729E-05	-1.3103493728E-05
-2.7428754355E-05	-5.0275920787E-06	1.2167819651E-06	-3.0868062020E-06	-5.1544604242E-07
-4.7731621414E-06	-5.5936075861E-08	-1.2963042017E-07	-3.0903138626E-07	3.5789723062E-07
-9.4954891807E-08	-4.4928282213E-08	-1.7513327389E-08	-6.2177424935E-09	-2.6372607513E-09

N= 9 K= 9 J= 7

SOLUTION

8.5417847414E-03	-2.3921626547E-03	-2.2041622210E-02	7.1192213926E-03	2.5554674973E-02
-1.3885718684E-02	-3.2911082677E-02	2.4733940028E-02	2.3295852278E-02	-1.8014887187E-02
-1.7427300420E-02	2.9960721235E-03	1.0142110613E-02	-2.5391962866E-03	-6.9847641597E-03
4.2996062084E-03	6.0703382167E-03	-3.0593796253E-03	-3.0166552944E-03	-9.6796362184E-04
-1.8414672219E-04	1.4150772929E-04	-2.1293702411E-04	-1.9598576476E-04	1.1684773886E-04
1.7003468891E-04	6.0172713714E-05	1.9228387645E-03	-7.4584439740E-05	-3.6892301712E-04
1.5956656156E-04	1.7331257105E-04	-8.7027707618E-05	-2.4525390707E-05	-3.7752351437E-04
2.8804433235E-05	5.6322405727E-05	-2.4738207557E-05	-2.0193527189E-05	5.2150673129E-06
2.7044305174E-05	-8.6441139599E-07	-2.5202086890E-06	1.6406724762E-06	8.5078927931E-07
1.2389882142E-06	-7.1923436162E-07	-1.7015863647E-07	-6.0278948844E-08	-4.6999194319E-07
1.2707772187E-07	1.1200842668E-08	4.3021974384E-08	-5.3119074826E-09	-1.2654300010E-09
1.9106292460E-02	-1.5979680556E-03	-1.1010709019E-02	4.0386513992E-03	7.1584211408E-03
-4.8121536952E-03	-6.9303639248E-03	1.9610343036E-03	4.1282571253E-03	-1.0748779237E-02
1.2401458504E-03	2.8689505140E-03	-7.7172788230E-04	-1.8676791780E-03	1.0206434938E-03
5.4652192408E-04	-5.3031071722E-04	1.4032391367E-03	2.6047446848E-05	-3.5939181572E-04
1.7237083265E-04	1.0290995956E-04	-5.0977427719E-05	-2.9340045273E-05	6.5771259702E-05
3.2128439759E-05	-1.8732462418E-05	1.1016300169E-05	-5.6009160146E-06	-4.9191962705E-06
-3.5618690759E-05	1.1492911409E-05	5.0452532656E-06	4.7002111055E-07	-1.8331662935E-06
5.6083964086E-06	-7.8672204406E-07	-3.3309928345E-07	2.0973458587E-07	-3.5055185221E-07
9.5873082012E-08	-1.3510888397E-08	-1.0001595485E-09	1.1631831712E-08	2.8848898209E-09

N= 9 K= 9 J= 8

SOLUTION

8.4366062151E-03	-2.4881348827E-03	-2.2257275491E-02	7.1864626734E-03	2.5885729059E-02
-1.3631158620E-02	-3.2204450904E-02	2.4608532181E-02	2.3211800883E-02	-1.8748111114E-02
-2.3217600838E-02	3.8399505087E-03	1.2270825297E-02	-3.2622882800E-03	-9.6215516511E-03
5.6368844037E-03	7.9059243579E-03	-4.2277695998E-03	-3.5356400453E-03	6.2466513496E-03
-3.9992734914E-04	-1.2528558473E-03	6.5406048695E-04	1.1289370849E-03	-4.9175261667E-04
-3.7709173838E-04	2.2199373906E-04	-1.3350689936E-04	-1.2820455551E-04	8.1115753830E-05
-9.6056560384E-05	-8.1010570633E-06	-1.4067816891E-05	5.2542148821E-06	-1.8400539579E-04
7.2053335536E-06	7.2787628681E-06	-1.0097580263E-05	-1.1869416552E-05	2.1996280771E-06
3.4802859249E-05	-6.4189008323E-07	-5.8077706329E-06	2.8067605787E-06	6.2388440887E-07
-4.0585269918E-06	8.3592697500E-07	7.4187939222E-07	-1.1763067351E-07	4.3783837039E-07
-1.1761802546E-07	-2.5800264375E-08	-3.0256256618E-08	4.1962141976E-09	7.7333392709E-10
1.0769420947E-02	-2.0876882849E-03	-9.2776204815E-03	2.0900215658E-03	3.8606346471E-03
-2.7468702323E-03	-3.6806563790E-03	1.2040886480E-03	3.6692674690E-03	-8.9252491938E-03
2.2019050076E-03	2.6765794879E-03	-3.1943579437E-05	-1.3149099389E-03	8.1304185307E-04
4.1088558299E-04	-6.7030791223E-04	2.9167483347E-03	-3.5427713974E-04	-1.4488392633E-04
1.4069010722E-04	2.8201681605E-04	-4.5036094620E-05	-8.5336480220E-05	-3.4307527560E-04
-5.7038993803E-05	6.9305899377E-05	-5.1053286533E-05	-8.0663840459E-06	4.5689498235E-06
1.3441976843E-05	-6.6125852664E-06	-1.0236764348E-05	9.7742510941E-07	-4.7146027101E-07
-1.0750798579E-06	1.7359625640E-06	1.5554756852E-07	2.7712186274E-07	2.2569762860E-07
-6.5547470139E-08	8.5354404271E-08	1.6714263176E-08	-1.6064380553E-08	-3.0538266164E-09

N= 9 K= 9 J= 9

SOLUTION

8.8066522075E-03	-1.6373766991E-03	-2.0729896227E-02	8.2994580333E-03	2.7570742063E-02
-1.3480818627E-02	-3.1461297563E-02	2.3253453004E-02	2.1280141599E-02	-2.1901057791E-02
-2.5217975634E-02	2.8943276290E-03	1.5036345163E-02	-5.4627189636E-03	-1.0015552341E-02
5.0081392459E-03	8.7556645262E-03	-4.9124609410E-03	-4.4499528312E-03	9.9435956225E-03
-1.3764030528E-03	-3.2157667973E-03	7.4177145350E-04	1.2133057498E-03	-8.5494278097E-04
-8.9121756177E-04	4.2598950796E-04	-2.2524695356E-03	3.2398161144E-04	3.6376644420E-04
-5.6680617049E-05	-1.7437052958E-04	1.0840621874E-04	5.1880566312E-05	3.3107680499E-04
-2.4257531117E-05	-3.0835842847E-05	1.6281491936E-05	1.8634433023E-05	-5.6146765047E-06
-3.1078689643E-05	8.9607280303E-07	4.3340123043E-06	-2.2269569554E-06	-7.2971173263E-07
2.2316300151E-06	-3.6779884914E-07	-4.0826536831E-07	8.3290572110E-08	-1.7737822977E-07
4.7537578171E-08	1.2702084273E-08	1.0882977663E-08	-1.5805095364E-09	-2.6014331957E-10
8.2311981916E-03	-9.0105339113E-04	4.3514978114E-03	2.2162397567E-04	7.5263086256E-03
-1.2924273581E-03	1.3691819504E-03	8.9925269048E-04	1.1859538113E-03	-3.6263364211E-03
-2.3014360818E-03	8.9179497626E-04	-2.6274101938E-03	-4.7903699068E-04	-9.3653113317E-04
2.5122587315E-04	-4.9907674598E-04	4.1535700050E-04	-1.9931764556E-05	-8.8785071208E-04
1.0269916039E-04	-2.7098335216E-04	-6.9070724517E-06	-1.4377629589E-04	-2.6917631433E-04
1.9052475258E-04	1.8368389274E-05	7.2391056498E-05	-8.7195144400E-06	2.7044739438E-05
6.4742603331E-05	-3.1467665179E-06	1.0877879783E-05	-6.9834792318E-08	4.9470752833E-06
-4.0254134794E-06	-2.3474187473E-06	2.4292776926E-07	-7.4032128594E-07	-1.1308490448E-07
3.7401632394E-08	-1.3423418582E-07	-2.5691248052E-08	1.8553626891E-08	3.1394629826E-09

N= 9 K= 9 J= 10

SOLUTION

8.8066522075E-03	-1.6373766991E-03	-2.0729896227E-02	8.2994580333E-03	2.7570742063E-02
-1.3480818627E-02	-3.1461297563E-02	2.3253453004E-02	2.1280141599E-02	-2.1901057791E-02
-2.5217975634E-02	2.8943276290E-03	1.5036345163E-02	-5.4627189636E-03	-1.0015552341E-02
5.0081392459E-03	8.7556645262E-03	-4.9124609410E-03	-4.4499528312E-03	9.9435956225E-03
-1.3764030528E-03	-3.2157667973E-03	7.4177145350E-04	1.2133057498E-03	-8.5494278097E-04
-8.9121756176E-04	4.2598950796E-04	-2.2524695356E-03	3.2398161144E-04	3.6376644420E-04
-5.6680617048E-05	-1.7437052958E-04	1.0840621874E-04	5.1880566312E-05	3.3107680499E-04
-2.4257531117E-05	-3.0835842847E-05	1.6281491936E-05	1.8634433023E-05	-5.6146765047E-06
-3.1078689643E-05	8.9607280302E-07	4.3340123043E-06	-2.2269569554E-06	-7.2971173262E-07
2.2316300151E-06	-3.6779884915E-07	-4.0826536831E-07	8.3290572108E-08	-1.7737822977E-07
4.7537578171E-08	1.2702084273E-08	1.0882977663E-08	-1.5805095363E-09	-2.6014331956E-10
-8.2311981916E-03	9.0105339113E-04	-4.3514978114E-03	-2.2162397567E-04	-7.5263086256E-03
1.2924273581E-03	-1.3691819504E-03	-8.9925269048E-04	-1.1859538113E-03	3.6263364211E-03
2.3014360818E-03	-8.9179497626E-04	2.6274101938E-03	4.7903699068E-04	9.3653113317E-04
-2.5122587315E-04	4.9907674598E-04	-4.1535700051E-04	1.9931764557E-05	8.8785071208E-04
-1.0269916039E-04	2.7098335216E-04	6.9070724518E-06	1.4377629589E-04	2.6917631433E-04
-1.9052475258E-04	-1.8368389274E-05	-7.2391056498E-05	8.7195144401E-06	-2.7044739438E-05
-6.4742603331E-05	3.1467665179E-06	-1.0877879783E-05	6.9834792314E-08	-4.9470752833E-06
4.0254134794E-06	2.3474187473E-06	-2.4292776926E-07	7.4032128594E-07	1.1308490448E-07
-3.7401632394E-08	1.3423418582E-07	2.5691248052E-08	-1.8553626891E-08	-3.1394629826E-09

N= 9 K= 9 J= 11

SOLUTION

8.4366062151E-03	-2.4881348827E-03	-2.2257275491E-02	7.1864626733E-03	2.5885729059E-02
-1.3631158620E-02	-3.2204450904E-02	2.4608532181E-02	2.3211800883E-02	-1.8748111114E-02
-2.3217600838E-02	3.8399505087E-03	1.2270825297E-02	-3.2622882800E-03	-9.6215516510E-03
5.6368844037E-03	7.9059243579E-03	-4.2277695998E-03	-3.5356400453E-03	6.2466513496E-03
-3.9992734914E-04	-1.2528558473E-03	6.5406048695E-04	1.1289370849E-03	-4.9175261667E-04
-3.7709173838E-04	2.2199373906E-04	-1.3350689935E-04	-1.2820455551E-04	8.1115753830E-05
-9.6056560384E-05	-8.1010570628E-06	-1.4067816891E-05	5.2542148819E-06	-1.8400539579E-04
7.2053335535E-06	7.2787628682E-06	-1.0097580263E-05	-1.1869416552E-05	2.1996280771E-06
3.4802859249E-05	-6.4189008321E-07	-5.8077706329E-06	2.8067605787E-06	6.2388440887E-07
-4.0585269918E-06	8.3592697500E-07	7.4187939222E-07	-1.1763067351E-07	4.3783837040E-07
-1.1761802546E-07	-2.5800264375E-08	-3.0256256617E-08	4.1962141976E-09	7.7333392708E-10
-1.0769420947E-02	2.0876882849E-03	9.2776204815E-03	-2.0900215658E-03	-3.8606346471E-03
2.7468702323E-03	3.6806563790E-03	-1.2040886480E-03	-3.6692674690E-03	8.9252491938E-03
-2.2019050076E-03	-2.6765794879E-03	3.1943579438E-05	1.3149099389E-03	-8.1304185307E-04
-4.1088558299E-04	6.7030791223E-04	-2.9167483347E-03	3.5427713974E-04	1.4488392633E-04
-1.4069010722E-04	-2.8201681605E-04	4.5036094620E-05	8.5336480220E-05	3.4307527560E-04
5.7038993803E-05	-6.9305899377E-05	5.1053286533E-05	8.0663840459E-06	-4.5689498235E-06
-1.3441976843E-05	6.6125852664E-06	1.0236764348E-05	-9.7742510941E-07	4.7146027101E-07
1.0750798579E-06	-1.7359625640E-06	-1.5554756852E-07	-2.7712186274E-07	-2.2569762860E-07
6.5547470139E-08	-8.5354404271E-08	-1.6714263176E-08	1.6064380553E-08	3.0538266164E-09

N= 9 K= 9 J= 12

SOLUTION

8.5417847414E-03	-2.3921626547E-03	-2.2041622210E-02	7.1192213926E-03	2.5554674973E-02
-1.3885718684E-02	-3.2911082677E-02	2.4733940028E-02	2.3295852278E-02	-1.8014887186E-02
-1.7427300420E-02	2.9960721235E-03	1.0142110613E-02	-2.5391962866E-03	-6.9847641597E-03
4.2996062084E-03	6.0703382167E-03	-3.0593796253E-03	-3.0166552944E-03	-9.6796362185E-04
-1.8414672220E-04	1.4150772930E-04	-2.1293702411E-04	-1.9598576476E-04	1.1684773886E-04
1.1700346891E-04	6.0172713714E-05	1.9228387645E-03	-7.4584439741E-05	-3.6892301712E-04
1.5956656156E-04	1.7331257105E-04	-8.7027707618E-05	-2.4525390707E-05	-3.7752351437E-04
2.8804433235E-05	5.6322405727E-05	-2.4738207557E-05	-2.0193527189E-05	5.2150673129E-06
2.7044305174E-05	-8.6441139598E-07	-2.5202086890E-06	1.6406724762E-06	8.5078927931E-07
1.2389882142E-06	-7.1923436163E-07	-1.7015863647E-07	-6.0278948843E-08	-4.6999194319E-07
1.2707772187E-07	1.1200842668E-08	4.3021974384E-08	-5.3119074826E-09	-1.2654300010E-09
-1.9106292460E-02	1.5979680556E-03	1.1010709019E-02	-4.0386513992E-03	-7.1584211408E-03
4.8121536952E-03	6.9303639248E-03	-1.9610343036E-03	-4.1282571253E-03	1.0748779237E-02
-1.2401458504E-03	-2.8689505140E-03	7.7172788230E-04	1.8676791780E-03	-1.0206434938E-03
-5.4652192408E-04	5.3031071722E-04	-1.4032391367E-03	-2.6047446849E-05	3.5939181572E-04
-1.7237083265E-04	-1.0290995956E-04	5.0977427719E-05	2.9340045273E-05	-6.5771259702E-05
-3.2128439759E-05	1.8732462418E-05	-1.1016300169E-05	5.6009160146E-06	4.9191962705E-06
3.5618690759E-05	-1.1492911409E-05	-5.0452532656E-06	-4.7002111054E-07	1.8331662935E-06
-5.6083964086E-06	7.8672204405E-07	3.3309928345E-07	-2.0973458587E-07	3.5055185221E-07
-9.5873082012E-08	1.3510888397E-08	1.0001595486E-09	-1.1631831712E-08	-2.8848898209E-09

N= 9 K= 9 J= 13

SOLUTION

8.4002299911E-03	-1.1477898991E-03	-2.2149213293E-02	9.2437736099E-03	2.6709201331E-02
-1.2687468788E-02	-3.1174756703E-02	2.3291179898E-02	2.1666972342E-02	-2.2152128488E-02
-9.8391960832E-03	-6.8856554768E-05	6.7999705252E-03	-3.5793935972E-03	-3.7154051477E-03
1.4304199300E-03	3.2451465006E-03	-1.3117247159E-03	-2.8365299326E-03	-7.7380999619E-03
1.2504276392E-03	1.6548686275E-03	-2.5205934958E-04	-1.2132844050E-03	8.5444728058E-04
6.4205869119E-04	-1.4294643712E-04	2.5109930426E-03	-4.2566671692E-04	-3.3250609012E-04
2.7471705325E-05	2.0115669832E-04	-1.1615603825E-04	-6.1005317425E-05	-7.8601296657E-05
2.6429297185E-05	-1.6983744593E-05	1.5738945447E-05	-3.5099517737E-06	6.6948508012E-06
-3.6745203291E-05	-1.0479722717E-06	7.7627753541E-06	-3.8198845419E-06	-2.2155675729E-07
2.4391115929E-06	1.7003252664E-07	-7.2226047308E-07	2.1779152590E-07	2.6989871771E-07
-7.4547413559E-08	2.5093682482E-08	-4.6539308843E-08	4.3477990161E-09	1.7230084432E-09
-2.3652092861E-02	5.1210096197E-03	1.3425376869E-02	-2.2534231434E-03	-9.9468569928E-03
6.5871464659E-03	7.6682988542E-03	-3.5558172606E-03	-4.6311119142E-03	8.5153174409E-03
-5.0221651014E-04	-1.7587466839E-03	1.1441964566E-03	1.2545019924E-03	-3.5296960341E-04
-6.8254861053E-04	3.7622422119E-04	8.4322051859E-04	1.6598477201E-04	-1.1411930455E-04
2.1944362022E-04	7.3484058349E-05	4.4873301339E-05	-4.0310611635E-05	-3.4592645979E-04
6.7543225503E-05	7.9762754308E-05	-4.2078359467E-06	-1.0342033729E-05	1.3103493728E-05
2.7428754355E-05	5.0275920787E-06	-1.2167819651E-06	3.0868062020E-06	5.1544604242E-07
4.7731621414E-06	5.5936075861E-08	1.2963042017E-07	3.0903138626E-07	-3.5789723062E-07
9.4954891807E-08	4.4928282213E-08	1.7513327389E-08	6.2177424935E-09	2.6372607513E-09

N= 9 K= 9 J= 14

SOLUTION

9.4907267705E-03	-2.2009403245E-03	-1.8249100674E-02	7.4625434287E-03	2.9273694638E-02
-1.3784569641E-02	-3.2010732303E-02	2.3617831959E-02	1.9215372101E-02	-2.2814825956E-02
-3.2954089008E-03	1.0779248858E-03	-8.6876693757E-04	5.9300626761E-04	-2.8803490132E-03
1.2525557255E-03	-5.8600849327E-04	3.6893646718E-04	-1.2506245506E-03	-9.5249689894E-03
1.2083377751E-03	4.2362839341E-03	-9.7448702268E-04	-7.8192970391E-04	7.3094710187E-04
1.0029020061E-03	-5.4178409936E-04	3.9518272666E-04	-5.0798966378E-07	-3.1547392421E-04
8.3236081531E-05	-8.1668878539E-05	2.1107238027E-05	-7.3430811393E-05	4.6505078217E-04
-4.1325349757E-05	1.2511687986E-06	1.1535592625E-05	3.2557651710E-05	-7.4460752707E-06
-2.9083924485E-05	3.7649673773E-06	-3.1915374919E-06	3.4488440955E-07	-2.1679257698E-06
-1.9912750558E-06	3.2074870324E-07	1.0224676832E-06	-1.0189760419E-07	4.0494106551E-08
-8.0963234990E-09	-5.8192607901E-08	4.0366173870E-08	-1.2472441006E-09	-2.1335877067E-09
-2.6701262670E-02	3.2428821241E-03	1.3058857586E-02	-5.0398242793E-03	-1.2059239127E-02
5.5171060201E-03	7.6955737773E-03	-4.4490901091E-03	-5.1533734846E-03	6.0420801947E-04
-4.6109783796E-04	-1.7878385493E-03	-1.0473356476E-04	-5.5299413878E-04	-2.8905581091E-04
-4.6631806214E-04	-4.5308488542E-05	2.2402569683E-03	-3.2176211023E-04	-6.2278931033E-04
8.9733067677E-05	6.0104859662E-05	-8.7162084977E-05	-1.1025458628E-04	-2.2006700058E-04
1.3863889662E-06	-3.7045366745E-05	-1.1297752522E-05	-2.3946881488E-05	-2.1318337496E-06
-5.3241149183E-05	2.7538194855E-06	9.3803624864E-08	-1.8638341523E-06	-2.5842079068E-06
-3.0745589090E-08	-3.9181579842E-07	-8.3996692876E-07	-4.8011405305E-08	1.8328362491E-07
-4.6564762149E-08	-6.4391886015E-08	-3.4143880310E-08	-9.7076904974E-10	-2.3176940833E-09

N= 9 K= 9 J= 15

SOLUTION

7.8928982111E-03	-2.7539004628E-03	-2.4125170503E-02	6.4912849217E-03	2.5034458915E-02
-1.4825217855E-02	-3.0668922879E-02	2.3457414500E-02	2.6632879563E-02	-1.7135724410E-02
6.8751201588E-03	6.5923764488E-04	-2.7457845095E-03	3.0196753169E-03	3.3201612571E-03
4.6356996224E-05	-1.7948522518E-03	2.0748718781E-03	8.3414829383E-04	-1.0446251428E-02
6.7834566609E-04	1.6902573227E-03	-1.2729328494E-03	-1.9257559227E-03	4.4914626440E-04
4.8426685569E-04	-5.9568829492E-04	-1.5811615072E-03	3.6599787588E-04	4.2094919521E-04
4.0071302112E-05	-5.6374651834E-05	1.1133493637E-04	5.5903970764E-05	1.4139097512E-04
-4.4538889278E-05	-7.3995968857E-05	-3.0733190813E-06	-5.3042697227E-06	-1.1281293858E-05
5.2546503987E-05	4.5140062024E-07	-1.8325118567E-06	3.1389809747E-06	1.9559582865E-06
-2.5567434314E-06	-3.0314869178E-07	-5.0612087232E-07	-2.0354858943E-07	-2.9281093730E-07
7.6516633607E-08	6.0229855152E-08	-2.6354716782E-08	-3.5017175311E-09	2.4859682593E-09
-2.4210058851E-02	2.1443772111E-03	1.5789626719E-02	-6.1002609185E-03	-8.9605663743E-03
4.6288690254E-03	8.9435346729E-03	-4.5426404391E-03	-4.6366209817E-03	-4.3246288763E-03
3.0998494741E-04	2.3043354865E-03	-7.5810216206E-04	-2.8598945849E-04	1.0928761447E-04
3.7522380142E-04	-4.4845286139E-04	2.0416508017E-03	-3.4620979645E-04	-1.6708169197E-04
-1.4099709982E-06	2.2273053065E-04	-1.1964016949E-04	-1.1989709058E-05	4.0401593259E-04
-5.0377757657E-05	-6.1009522939E-06	6.8533183364E-07	2.4136677041E-05	-1.0865891216E-05
-7.2201386045E-06	-2.8459809817E-06	6.3855881906E-06	-2.5762185415E-06	1.0177502194E-06
-2.8907118394E-06	1.1647910264E-07	9.8477426662E-07	-1.9883063894E-07	1.1779243550E-07
-3.4180002000E-08	4.3955615272E-08	4.4599274272E-08	-3.0461580456E-09	1.9349067625E-09

N= 9 K= 9 J= 16

SOLUTION

8.6416996832E-03	-1.5771873665E-03	-2.1724410996E-02	8.1972200979E-03	2.5656782426E-02
-1.3516447719E-02	-3.3181798376E-02	2.4289091051E-02	2.2363277157E-02	-1.9148225956E-02
1.4288302221E-02	-3.7838266338E-03	-7.6297741584E-03	8.1331477328E-04	6.4168103992E-03
-3.7597098158E-03	-4.3942919408E-03	3.0160167787E-03	2.1439153678E-03	-4.1058193584E-03
7.7086841935E-04	1.2766129586E-03	-3.4689735118E-05	-8.5941157450E-04	5.3479635046E-04
7.1655415945E-06	-3.0959938655E-04	-2.4202554615E-03	1.6168082649E-05	4.7652237897E-04
-2.8800753972E-04	-1.7024587256E-04	3.4756010802E-05	8.3068077653E-05	-2.4662377174E-04
5.7511799530E-05	4.2400784365E-05	-2.2964951634E-06	-1.3718491075E-05	5.9072165918E-06
8.5386705241E-06	-9.3073586182E-06	-1.4521097752E-06	-1.9625798045E-06	1.0313908639E-06
5.9344074515E-06	-3.2288391721E-07	-1.7697359363E-07	3.1815116315E-07	3.7544894071E-07
-1.0099074567E-07	-1.9463561105E-08	8.1949219658E-09	8.9769303362E-09	-2.7705380783E-09
-2.1798781430E-02	4.0081946667E-03	1.2163551040E-02	-2.8247295839E-03	-8.7737425314E-03
5.3544669848E-03	7.7743286183E-03	-4.3577635677E-03	-3.0251038060E-03	-1.0001198553E-02
1.5143601050E-03	2.7133310074E-03	-5.8359023297E-04	-1.4188071465E-03	8.8927942708E-04
7.7518095389E-04	-4.1552249995E-04	-4.9613963155E-04	1.9970261293E-04	3.9240815412E-05
5.0059054068E-05	-1.2907958737E-05	1.3883979151E-05	3.4797825438E-05	2.6828641377E-04
-9.1712079273E-06	-4.7349596049E-05	2.7010907174E-05	1.5569177115E-05	-7.5057163464E-07
4.4440212105E-05	-4.3022458702E-07	-6.3629289012E-06	3.4676249110E-06	9.3383103822E-07
8.6331831357E-07	4.7197191119E-07	-2.9892134723E-07	1.6217934053E-07	-3.9365354961E-07
1.0717824797E-07	-5.4863829135E-09	-4.6019758357E-08	5.1065495031E-09	-1.4993402292E-09

N= 9 K= 9 J= 17

SOLUTION

8.9057716445E-03	-2.8238651286E-03	-2.0399816876E-02	7.5694440606E-03	2.7410637403E-02
-1.1730806212E-02	-3.3008462553E-02	2.6374726499E-02	1.9034943724E-02	-2.1332572562E-02
2.0881804098E-02	-2.0679332144E-03	-1.1204786348E-02	3.9952926397E-03	8.0258306062E-03
-5.1439059160E-03	-7.6217070752E-03	2.8338790429E-03	3.6281599466E-03	2.7339567021E-03
1.6389389753E-04	-5.6417134615E-04	4.0069957446E-04	5.5106796034E-04	-3.4430140897E-04
-2.2943783049E-04	-4.8396484185E-05	-1.2592201332E-03	2.3213863108E-04	1.9924026442E-05
-3.0814285008E-05	-9.8875571140E-05	-2.8334820980E-06	6.2130063222E-05	-3.3581336202E-04
-2.4348652396E-05	6.5683527929E-05	-3.1246457679E-05	-4.8697418395E-06	1.0411595349E-05
-3.8268708555E-05	1.0515082069E-05	8.2539639980E-06	-6.4462016039E-07	-1.3225136783E-06
-3.8245534601E-06	1.2777797027E-06	3.1403109005E-07	3.6275888584E-09	-2.9517032713E-07
8.2652991136E-08	-5.0021257220E-08	9.4833929223E-09	-1.4038339087E-08	2.9795348407E-09
-1.6245884727E-02	2.4329874518E-03	8.5439841163E-03	-2.6043485604E-03	-6.6788804798E-03
3.6198442726E-03	5.6541783726E-03	-3.3386924645E-03	-2.1547516877E-03	-1.0681871976E-02
9.5995843388E-04	2.6953815247E-03	-9.9340968300E-04	-1.6542544096E-03	9.1502177483E-04
8.2463742080E-04	-3.5434221182E-04	-2.2370921223E-03	1.0691740953E-04	4.3691392203E-04
-1.8496719301E-04	-1.8156549412E-04	8.6750197110E-05	4.5366332168E-05	-1.7207778984E-04
1.9739538367E-05	3.2969871526E-05	-9.2285934648E-06	-7.7859911262E-06	3.5161285150E-06
5.3420628003E-06	2.9333844123E-07	-2.2232338270E-06	8.3479072142E-07	-1.6305197266E-07
3.1040208301E-06	-8.5252752772E-07	-5.5313501024E-07	4.6232683734E-08	4.8613840755E-07
-1.3091735678E-07	-2.2139892544E-08	3.7676665146E-08	-4.9888836739E-09	1.0228756028E-09

N= 9 K= 9 J= 18

SOLUTION

8.4168143346E-03	1.9112560825E-03	-2.2173581101E-02	1.2988360235E-02	2.6624553156E-02
-1.2233435964E-02	-3.0968316117E-02	2.0476088805E-02	2.0546761865E-02	-2.5588501296E-02
2.2013740551E-02	-3.5505121912E-03	-1.7852172867E-02	4.4508474691E-03	7.2372299493E-03
-5.5599199373E-03	-8.7035531771E-03	3.1071959188E-03	5.7331664880E-03	8.3987484647E-03
-2.9882418983E-03	-2.4995741618E-03	-8.4194813723E-04	1.2952299003E-03	-1.3119832793E-03
-4.2779247234E-04	4.1506696322E-04	1.9852054814E-03	-2.3453265788E-04	2.5204125988E-04
6.6713852538E-05	3.2965807917E-04	-3.8967398237E-05	5.4928047679E-06	7.3645999543E-05
1.2373940051E-04	-3.0910583339E-05	6.5125078517E-05	1.5056577055E-06	1.0862552468E-05
-2.7563551607E-05	-1.3226099851E-06	-1.0927927486E-05	6.2854860680E-07	-2.8942330784E-06
-1.8324976234E-06	-2.1067834372E-06	6.1786365579E-08	-5.4528964556E-07	1.5979628890E-07
-4.9116897207E-08	1.1477080260E-07	-2.2233489621E-08	1.7597898689E-08	-3.1072576598E-09
-7.8765704103E-03	1.5063701762E-04	5.6291884683E-03	-2.8311354733E-03	-2.8304201020E-03
8.5149291879E-04	2.9410597242E-03	-1.9099873038E-03	-1.5129211691E-03	-6.2436109004E-03
1.0567979493E-03	2.3496368267E-03	-3.8576255942E-04	-6.0186435029E-04	5.6237026464E-04
6.4547195414E-04	-2.7868218638E-04	-2.1730811282E-03	3.6552567874E-04	3.2776073607E-04
-2.0439932097E-05	-1.7076501526E-04	1.1323256900E-04	4.7900975931E-05	-4.1163249717E-04
2.7728011383E-05	3.5124355018E-05	-2.0864294907E-05	-2.3741576867E-05	6.5711535651E-06
-4.5262158291E-05	1.1726839832E-06	6.6313133471E-06	-3.3512951808E-06	-9.9696412661E-07
-3.7435194424E-06	6.6491116747E-07	6.8581243727E-07	-1.3005045804E-07	-3.3025640270E-07
8.8582873041E-08	2.2169942411E-08	-2.1158593879E-08	3.0224997709E-09	-5.1850959648E-10

BIOGRAPHICAL NOTES

CHARLES A. LUNDQUIST joined the Smithsonian Astrophysical Observatory as Assistant Director for Science in 1962. In this position, he is responsible for organizing and coordinating current research projects, as well as seeking new directions for future research.

From 1956 to 1960 he was Chief of the Physics and Astrophysics Section, Research Projects Laboratory, Army Ballistic Missile Agency; and from 1960 to 1962 he held concurrent positions as Director of the Supporting Research Office and Chief of the Physics and Astrophysics Branch of the Research Projects Division at the Marshall Space Flight Center.

Dr. Lundquist received his undergraduate degree from South Dakota State College in 1949 and his doctorate in 1954 from the University of Kansas.

GIORGIO E. O. GIACAGLIA received his B.S. in 1958 from the Polytechnical School in São Paulo, Brazil, and his Ph.D. in astronomy from Yale in 1965. Since 1966, he has been chief professor at the University of São Paulo.

Dr. Giacaglia came to SAO in 1968 on a year's leave of absence from the University, where he worked in the Research and Analysis Division, specializing in research in celestial mechanics.

MISS KAREN HEBB received a B.S. in astrophysics from Marlboro College in 1965.

Miss Hebb joined SAO in 1964 and completed her thesis work on stellar and comet photometry. She is currently an astronomer with the Celescope and satellite geophysics programs.

MRS. SUSAN GOODRICH MAIR received a B.A. in mathematics from Connecticut College in 1965.

Mrs. Mair joined SAO in 1967 as a mathematician for the Data-Processing Division, Programing Department. She is currently a programer with West Coast Transmission Company, Vancouver, British Columbia.

NOTICE

This series of Special Reports was instituted under the supervision of Dr. F. L. Whipple, Director of the Astrophysical Observatory of the Smithsonian Institution, shortly after the launching of the first artificial earth satellite on October 4, 1957. Contributions come from the Staff of the Observatory.

First issued to ensure the immediate dissemination of data for satellite tracking, the reports have continued to provide a rapid distribution of catalogs of satellite observations, orbital information, and preliminary results of data analyses prior to formal publication in the appropriate journals. The Reports are also used extensively for the rapid publication of preliminary or special results in other fields of astrophysics.

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