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CONTRIBUTIONS TO NATIONAL GEODETIC
SATELLITE PROGRAM

EARTH'S ISOSTATIC GRAVITY ANOMALY FIELD

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JUNE 1973

GODDARD SPACE FLIGHT CENTER
GREENBELT, MARYLAND

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by

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INTRODUCTION

If the gravity anomalies are to be used for deriving information on the subsequent anomalies mass distribution of the earth, the gravity effect of the obvious surface features must first be removed. One such important effect is that of surface topography and its subsurface compensation. When the gravity effect, likely to result from a compensated topographic feature (on the basis of an assumed compensation model), is removed from the free air gravity anomalies, the resulting anomalies are the isostatic gravity anomalies. These anomalies are the most suitable for use in geophysical interpretation of subsurface features.

The conventional methods of applying the isostatic correction – the gravity effect which would result from a compensated topographic feature, are time-consuming, cumbersome and not too gracefully computerized, though they have their advantages of relatively greater precision, a factor important in accurate gravity surveys such as those for exploration of natural resources. But for purposes of global geophysical interpretation the isostatic correction is most easily computed by treating the earth's topography as a variable surface mass layer which is compensated by a variable mass layer of opposite sign at an appropriate depth of compensation. The basic isostatic model in such computations is the same as the conventional Airy-Heiskenan model of isostatic compensation.

Theory

The theory of the method is summarized by Jeffreys (1962) and Khan (1972). The gravitational potential of a mass anomaly represented by a surface density $\sigma_{nm} S_{nm}$ at $r = R$ is

$$U_{nm} = \frac{4\pi G}{2n+1} \sigma_{nm} S_{nm} \frac{R^{n+2}}{r^{n+1}} \tag{1}$$

where G is the gravitational constant, and S_{nm} is the surface spherical harmonic of degree n and order m.

The compensation of this surface density layer, located at $r = R - d$, where d is the depth of compensation, produces a potential

$$U^c_{nm} = U_{nm} [(R - d)/R]^n \tag{2}$$

Hence the potential due to the isostatic reduction is

$$U^i_{nm} = \frac{4\pi G}{2n+1} \sigma_{nm} S_{nm} \frac{R^{n+2}}{r^{n+1}} \cdot \left[1 - \left(\frac{R-d}{R}\right)^n\right] \tag{3}$$

It is the gravity effect of this potential which must be accounted for in converting free air gravity anomalies to isostatic gravity anomalies.

For a reasonable depth of compensation, the factor in the brackets stays close to zero. For example, for a depth of compensation d = 30 kms, its value is 0.005 for n = 1, 0.009 for n = 2, 0.033 for n = 5, 0.046 for n = 10, 0.068 for n = 15, and 0.009 for n = 20. For a high altitude satellite the effect of equation (3) will be further attenuated beca se of the large distance of the satellite from the source of anomaly. But for low altitude satellites the isostatic reduction effect must be taken into account.

Equation (3) is used to compute spherical harmonic coefficients of isostatic reduction potential reported in this paper.

Data Used:

The set of spherical harmonic coefficients of global topography on which the isostatic reduction potential coefficients are based is that reported by Balmino, Lambeck and Kaula (1973). Their analysis of global topography is based on the same data which were used in Lee and Kaula (1967). However, Lee and Kaula's (1967) analysis had errors of incorrect dimension and incorrect contribution of ice to equivalent rock which have since been reported to be corrected in the recent analysis.

The basic gravity model in computing the free air gravity anomalies, which are then used to compute the isostatic gravity anomaly field in conjunction with the model gravity anomalies, is the GEM 4 gravity model obtained at the Geodynamics Branch of the NASA Goddard Space Flight Center from a combination of the satellite orbital data and the surface gravity data, this model being the latest available at the time this work was completed.

Results

On the assumption that the compensation for the topographic load is achieved in the manner of Airy-Heiskenan hypothesis at a compensation depth of 30 kilometers, the spherical harmonic coefficients of the isostatic reduction potential U are computed. These are listed in Table 1. The degree power spectra of these coefficients are compared in Table 2 with the power spectra of the isostatic reduction coefficients given by Uotila (1964).

The model anomalies based on the coefficients listed in Table 1 (only to harmonic degree 22, 22) are shown in Figure 1. The spherical harmonic coefficients of the isostatic gravity anomaly potential based on the GEM 4 free air gravity and Table 1 isostatic reduction potential, are given in Table 3. The resulting gravity anomalies are shown in Figure 2. These are referred to an ellipsoidal flattening of 1/298.255. The isostatic gravity anomaly field with reference to earth's equilibrium figure having a flattening of 1/299.75 (Khan, 1969, Khan, this volume) is given in Figure 3. This is the anomalous gravity field which should be used in studies of the earth's interior.

References

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TABLES

Table 1 – Spherical harmonic coefficients of isostatic reduction potential.

Table 2 – Power Spectra of the isostatic reduction potential.

Table 3 – Spherical harmonic coefficients of isostatic gravity anomaly potential.

LIST OF ILLUSTRATIONS

Figure 1 – Model gravity anomalies (isostatic corrections) based on the spherical harmonic coefficients model (22, 22). Contour interval 5 milligals.

Figure 2 – Isostatic gravity anomalies (complete to 16, 16 plus 17 - 22, 12, 13, 14 coefficients) with reference to an ellipsoid of f = 1/298.255. Based on GEM 4. Contour interval 5 milligals.

Figure 3 – Isostatic gravity anomalies (complete to 16, 16 plus 17-22, 12, 13, 14 coefficients) referred to equilibrium figure with f = 1/299.75. Based on GEM 4. Contour interval 5 milligals.

Table 1

Spherical Harmonic Coefficients of Isostatic Reduction Potential

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
2	0	0.12373D-06	0.0	7	1	0.16407D-07	0.54385D-07
2	1	0.86012D-07	0.97628D-07	7	2	0.65836D-07	0.60400D-08
2	2	0.11782D-06	-0.14033D-07	7	3	-0.21288D-07	0.79296D-08
3	0	-0.45480D-07	0.0	7	4	-0.69677D-07	0.14564D-07
3	1	-0.45746D-07	0.35873D-07	7	5	-0.14453D-08	0.57459D-08
3	2	-0.14406D-06	0.13749D-06	7	6	-0.20526D-07	-0.32380D-07
3	3	0.32836D-07	0.15807D-06	7	7	-0.14271D-07	-0.34305D-07
4	0	0.84493D-07	0.0	8	0	0.20569D-08	0.0
4	1	-0.70261D-07	-0.75418D-07	8	1	-0.64319D-08	-0.11136D-07
4	2	-0.12992D-06	0.18676D-07	8	2	0.49536D-07	0.61413D-09
4	3	0.11206D-06	-0.45692D-07	8	3	0.16685D-07	0.22516D-07
4	4	-0.13421D-07	0.14207D-06	8	4	-0.64109D-08	0.19638D-07
5	0	-0.16483D-06	0.0	8	5	-0.24296D-07	0.74956D-08
5	1	-0.16222D-07	-0.30173D-07	8	6	0.27534D-07	0.30686D-07
5	2	-0.12337D-07	-0.50672D-07	8	7	0.67589D-02	0.12569D-07
5	3	0.48139D-07	-0.46985D-08	8	8	-0.32217D-07	-0.43795D-07
5	4	0.16700D-06	-0.28485D-07	9	0	-0.51919D-07	0.0
5	5	-0.23851D-07	0.79779-07	9	1	0.19297D-07	0.26553D-07
6	0	0.66589D-07	0.0	9	2	-0.11770D-08	0.14721D-07
6	1	-0.45649D-08	-0.50650D-07	9	3	-0.14810D-08	0.67396D-08
6	2	0.14424D-07	-0.32816D-07	9	4	-0.54762D-08	0.21385D-07
6	3	0.23561D-07	0.57667D-07	9	5	0.15569D-07	0.25632D-07
6	4	0.68300D-07	-0.56185D-07	9	6	-0.71337D-08	0.53373D-07
6	5	-0.34275D-07	-0.59521D-07	9	7	0.24224D-08	-0.39117D-07
6	6	0.71470D-08	0.77438D-08	9	8	0.45893D-07	0.29079D-07
7	0	-0.65804D-07	0.0	9	9	-0.11789D-07	-0.26964D-07

Table 1 – (continued)

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
10	0	-0.20531D-07	0.0	12	4	-0.12427D-07	0.12315D-08
10	1	0.20510D-07	-0.17215D-07	12	5	-0.13856D-08	-0.15399D-07
10	2	-0.56016D-07	-0.20944D-07	12	6	0.27152D-07	-0.69975D-08
10	3	-0.31147D-07	-0.23441D-07	12	7	-0.44505D-08	-0.14362D-07
10	4	-0.35858D-07	0.14415D-07	12	8	-0.18869D-07	0.10511D-07
10	5	0.66503D-08	0.76541-08	12	9	0.22234D-07	0.85599D-08
10	6	0.25695D-07	-0.20836D-07	12	10	-0.35758D-08	-0.50085-08
10	7	0.50250D-08	0.11512D-07	12	11	0.58769D-08	0.29411D-07
10	8	0.17656D-07	-0.28910D-07	12	12	-0.38149D-07	-0.23207D-07
10	9	0.49929D-07	-0.12350D-08	13	0	0.34485D-07	0.0
10	10	0.28225D-07	-0.20620D-07	13	1	0.15532D-07	-0.15532D-07
11	0	0.20463D-07	0.0	13	2	-0.31933D-08	-0.28813D-07
11	1	0.46788D-07	0.17325D-07	13	3	-0.28433D-07	0.14213D-07
11	2	-0.13666D-07	-0.12807D-07	13	4	-0.26109D-08	-0.44247D-08
11	3	-0.30247D-08	-0.13070D-07	13	5	0.10745D-08	0.11861D-07
11	4	0.14720D-07	0.22980D-07	13	6	-0.95059D-08	-0.36852D-08
11	5	0.21348D-07	0.55341D-08	13	7	-0.45956D-08	-0.18291D-07
11	6	0.46834D-08	0.11610D-08	13	8	-0.10895D-07	-0.38861D-09
11	[illegible]	-0.84385D-08	-0.28952D-07	13	9	0.20345D-08	0.34280D-07
11	8	0.23709D-07	0.21926D-07	13	10	0.50854D-08	0.31096D-07
11	9	-0.15104D-07	0.31115D-07	13	11	-0.17749D-07	-0.25163-07
11	10	0.23181D-07	0.18455D-07	13	12	-0.14025D-07	0.20727D-07
11	11	-0.14360D-07	-0.11893D-07	13	13	-0.25229D-07	0.19776D-08
12	0	-0.11411D-07	0.0	14	0	-0.36502D-07	0.0
12	1	0.59560D-08	-0.16071D-07	14	1	0.54544D-08	0.20654D-07
12	2	-0.65212D-08	0.64379D-08	14	2	-0.13750D-07	-0.18543D-07
12	3	-0.40264D-10	-0.23936D-07	14	3	0.39293D-08	-0.50364D-08

Table 1 – (continued)

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
14	4	0.14207D-07	-0.19818D-07	15	15	-0.14971D-09	-0.56958D-08
14	5	-0.98471D-08	-0.39951D-08	16	0	-0.20078D-07	0.0
14	6	-0 .57008D-08	0.11347D-07	16	1	0.80341D-09	0.12692D-07
14	7	0.19080D-08	-0.74512D-08	16	2	-0.44010D-08	-0.85450D-09
14	8	-0.54107D-08	0.77737D-08	16	3	-0.20985D-07	-0.13892D-07
14	9	0.16599D-07	0.87307D-09	16	4	-0.75714D-08	-0.16425D-07
14	10	0.30009D-07	-0.35358D-08	16	5	-0.74197D-08	-0.44397D-08
14	11	-0.10516D-08	-0.33148D-07	16	6	-0.15632D-07	-0.44397D-08
14	12	0.25427D-08	-0.29517D-07	16	7	0.23308D-08	-0.10553D-07
14	13	0.15719D-07	-0.38478D-08	16	8	-0.18091D-07	0.35599D-08
14	14	-0.18659D-07	-0.26296D-08	16	9	-0.81708D-08	-0.26386D-07
15	0	0.25095D-07	0.0	16	10	0.22732D-07	-0.50349D-08
15	1	0.47323D-08	-0.84053D-08	16	11	0.2275D-08	-0.26386D-07
15	2	-0.12501D-07	-0.63486D-08	16	12	0.15566D-07	0.99106D-09
15	3	0.97116D-08	0.31897D-07	16	13	0.12744D-07	0.13737D-07
15	4	-0.2181D-07	-0.11836D-07	16	14	-0.229380D-80	-0.19081D-07
15	5	0.86670D-09	0.56540D-10	16	15	-0.74149D-09	0.28835D-09
15	6	0.74714D-08	-0.16228D-07	16	16	-0.10486D-07	-0.77878D-08
15	7	0.15465D-07	0.16584D-07	17	0	-0.20527D-08	0.0
15	8	-0.76566D-08	0.17809D-07	17	1	-0.22763D-07	0.27868D-07
15	9	0.39308D-08	0.14414D-07	17	2	-0.19246D-07	-0.13299D-07
15	10	-0.79737D-08	0.24808D-08	17	3	0.11745D-07	0.10048D-07
15	11	0.95928D-08	0.12405D-07	17	4	-0.90941D-08	0.38687D-08
15	12	-0.14578D-07	0.29100D-07	17	5	-0.16120D-07	0.31384D-08
15	13	-0.12088D-07	-0.11323-07	17	6	-0.16143D-07	0.87184D-08
15	14	0.22279D-07	-0.16291D-07	17	7	-0.11690D-08	-0.10550D-07

Table 1 – (continued)

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
17	8	0.121440-07	0.99520D-08	18	16	0.87560D-08	0.18735D-07
17	9	-0.42886D-08	-0.15345D-07	18	17	-0.15242D-08	0.184198D-10
17	10	-0.12264D-07	-0.34811D-08	18	18	0.98535D-0[illegible]	-0.67245D-08
17	11	0.71333D-09	0.21376D-07	19	0	-0.14068D-07	0.0
17	12	0.13893D-07	0.26496D-07	19	1	-0.46311D-08	0.65737D-09
17	13	0.20691D-07	0.54750D-08	19	2	-0.50327D-08	0.42670D-08
17	14	0.96803D-08	0.16125D-07	19	3	-0.23122D-08	0.14910D-10
17	15	0.20689D-07	0.11309D-07	19	4	0.72195D-08	-0.12488D-07
17	16	-0.26479D-07	0.13914D-07	19	5	0.19164D-08	0.11600D-07
17	17	-0.13506D-07	-0.14228D-07	19	6	-0.10782D-07	0.92800-08
18	0	0.76904D-08	0.0	19	7	0.17554D-08	0.63214D-08
18	1	0.13655D-07	-0.18411D-07	19	8	0.13447D-08	-0.41895D-08
18	2	0.10420D-07	0.91259D-08	19	9	0.10064D-07	0.38894D-09
18	3	-0.89878D-08	-0.96776D-09	19	10	-0.90316D-08	0.89942D-08
18	4	-0.68788D-09	-0.84613D-09	19	11	0.15523D-08	0.10411D-07
18	5	-0.89752D-08	0.43999D-08	19	12	0.29[illegible]80D-08	-0.38509D-08
18	6	-0.10475D-07	-0.71471D-08	19	13	0.12072D-09	-0.13106[illegible]07
18	7	-0.14528D-07	0.14904D-07	19	14	0.37226D-08	-0.95748D-08
18	8	0.87644D-08	0.11870D-08	19	15	-0.10514D-08	-0.10314D-07
18	9	-0.73350D-08	0.77541D-08	19	16	-0.11861D-07	-0.89528D-08
18	10	-0.28007D-08	0.11513D-07	[illegible]	17	0.90577D-08	-0.11160D-07
18	11	-0.81119D-08	-0.15979D-08	19	18	0.12445D-07	-0.10519D-08
18	12	-0.73963D-09	-0.15748D-07	19	19	-0.32860D-08	0.10634D-09
18	13	0.28896D-08	-0.20029D-07	20	0	0.10077D-07	0.0
18	14	-0.10776D-09	-0.22643D-07	20	1	0.35157D-08	-0.46583D-08
18	15	-0.24958D-07	-0.18019D-07	20	2	0.13652D-07	0.14229D-08

Table 1 – (continued)

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
20	3	-0.78317D-08	0.12627D-07	21	16	0.12883D-07	-0.82463D-08
20	12	-0.54107D-08	-0.37766D-08	21	17	-0.18210D-08	-0.56428D-10
20	13	0.16783D-07	-0.55520D-08	21	18	0.83061D-08	-0.22343D-08
20	14	-0.86[illegible]02D-08	-0.16427D-07	21	19	-0.23168D-07	0.59919D-09
20	15		-0.93405D-08	21	20	-0.13214D-07	0.49200D-08
20	16	0.21440D-09	0.19124D-08	21	21	-0.19797D-08	0.46129D-10
20	17	-0.71377D-08	0.11225D-07	22	0	-0.50791D-08	0.0
20	18	0.39604D-08	-0.10284D-08	22	1	-0.15831D-08	-0.70926D-08
20	19	-0.54236D-09	0.80922D-08	22	2	-0.93078D-08	-0.93462D-08
20	20	0.54897D-08	-0.73939D-08	22	3	0.55753D-08	0.10938D-07
21	0	-0.94323D-08	0.0	22	4	0.15163D-08	-0.12870D-07
21	1	-0.55459D-08	0.86781D-08	22	5	-0.19929D-07	-0.93903D-08
21	2	-0.45769D-09	-0.66797D-08	22	6	0.20368D-08	-0.64268D-09
21	3	0.93690D-08	0.21600D-08	22	7	0.29874D-08	0.24834D-07
21	4	0.24379D-08	-0.15560D-08	22	8	-0.10305D-07	0.3864D-08
21	5	-0.57765D-08	0.11471D-07	22	9	0.42183D-09	0.61279D-08
21	6	-0.12971D-07	0.91200D-08	22	10	-0.34640D-08	0.76632D-08
21	7	0.30901D-08	-0.27775D-08	22	11	0.18929D-08	-0.45409D-08
21	8	-0.10380D-07	-0.17883D-08	22	12	0.25825D-08	-0.28079D-09
21	9	-0.12852D-08	-0.22759D-08	22	13	-0.11328D-08	0.9673D-08
21	10	-0.41319D-08	-0.40280D-09	22	14	0.23362D-0	0.39879D-08
21	11	0.17258D-07	-0.18668D-07	22	15	0.10978D-07	-0.39221D-08
21	12	0.62184D-08	-0.25125D-09	22	16	-0.31515D-08	-0.43529D-09
21	13	-0.13697D-07	-0.10673D-08	22	17	[illegible]26054D-08	-0.69487D-08
21	14	0.12191D-07	0.51218D-08	22	18	[illegible]50D-08	-0.42160D-08
21	15	0.15941D-07	0.80882D-08	22	19	0.95843D-08	-0.91901D-08

Table 1 – (continued)

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
22	20	0.44369D-08	0.14223D-07	23	23	0.33414D-08	0.20711D-08
22	21	-0.66047D-08	0.10243D-07	24	0	-0.36801D-08	0.0
22	22	-0.66149D-08	0.11172D-08	24	1	-0.55662D-08	-0.1794D-08
23	0	-0.88754D-08	0.0	24	2	-0.35143D-08	-0.11183D-07
23	1	-0.25252D-08	-0.51855D-09	24	3	-0.95727D-08	0.48459D-09
23	2	-0.80654D-08	0.72503D-08	24	4	0.2324D-08	-0.17344D-08
23	3	-0.23255D-08	-0.81132D-08	24	5	-0.70203D-08	0.11542D-07
23	4	-0.11269D-07	0.32854D-08	24	6	0.61288D-09	-0.5431D-08
23	5	0.66051D-09	0.17499D-08	24	7	-0.67869D-08	-0.19320D-08
23	6	-0.15393D-07	0.54356D-08	24	8	-0.67869D-08	-0.19320D-08
23	7	-0.10566D-08	0.26896D-08	24	9	0.11523D-07	-0.29854D-08
23	8	0.54792D-08	0.86328D-09	24	10	-0.71486D-09	-0.40246D-08
23	9	0.63671D-08	-0.64121D-08	24	11	0.93708D-08	0.87163D-08
23	10	-0.17687D-09	-0.61810D-08	24	12	0.24696D-08	0.29834D-08
23	11	0.69697D-08	0.10624D-07	24	13	-0.31139D-08	0.12053D-08
23	12	0.96701D-08	0.89097D-10	24	14	-0.58972D-08	-0.65326D-08
23	13	-0.30481D-08	0.57960D-08	24	15	0.64297D-08	-0.15583D-02
23	14	0.56861D-08	-0.24314D-08	24	16	0.57841D-08	-0.86887D-08
23	15	0.13675D-07	0.63499D-08	24	17	-0.12590D-07	-0.10054D-08
23	16	0.51280D-09	0.55487D-08	24	18	0.59975D-08	0.41785D-08
23	17	0.23959D-08	-0.91491D-08	24	19	-0.10810D-07	-0.26275D-08
23	18	-0.67888D-09	-0.86829D-08	24	20	-0.80409D-08	0.96215D-08
23	19	-0.60294D-08	0.57974D-08	24	21	-0.13852D-08	0.73602D-08
23	20	0.59083D-08	-0.22313D-07	24	22	-0.13125D-07	-0.31201D-08
23	21	0.28079D-08	0.59973D-08	24	23	-0.68024D-09	-0.27670D-08
23	22	-0.14573D-07	-0.13280D-08	24	24	0.56119D-08	-0.41754D-09

Table 1 – (continued)

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
25	0	-0.55771D-08	0.0	26	1	0.51148D-08	-0.11511D-07
25	1	-0.80329D-08	-0.43605D-09	26	2	-0.33298D-09	0.31708D-08
25	2	0.77696D-08	0.41323D-08	26	3	0.79006D-08	0.67236D-08
25	3	-0.11998D-07	-0.51701D-08	26	4	-0.92245D-09	-0.10080D-07
25	4	0.16125D-08	0.9764D-10	26	5	-0.19515D-08	0.70221D-08
25	5	-0.69245D-08	-0.41270D-08	26	6	0.24819D-08	-0.11800D-08
25	6	0.20968D-08	-0.98882D-08	26	7	-0.96356D-08	-0.14391D-08
25	7	0.30451D-08	-0.50542D-08	26	8	-0.18295D-08	0.67073D-08
25	8	0.98385D-08	0.44225D-08	26	9	-0.7769D-08	0.11976D-08
25	9	-0.17034D-07	0.11465D-07	26	10	-0.10665D-07	-0.1921D-08
25	10	0.46318D-08	-0.69000D-08	26	11	-0.22180D-08	-0.27348D-08
25	11	-0.49392D-08	-0.11747D-08	26	12	-0.11171D-07	-0.15449D-07
25	12	-0.48737D-08	0.12998D-08	26	13	-0.72196D-08	0.78124D-09
25	13	-0.27803D-08	-0.12919D-07	26	14	0.29369D-08	0.64224D-08
25	14	-0.11528D-07	0.29698D-08	26	15	-0.14484D-07	0.64673D-08
25	15	0.26043D-08	-0.55431D-08	26	16	-0.28741D-08	0.18139D-08
25	16	-0.34876D-08	-0.77067D-08	26	17	-0.87505D-08	-0.15605D-08
25	17	-0.38889D-08	-0.18072D-08	26	18	-0.11974D-07	-0.13559D-08
25	18	0.58918D-08	-0.75443D-08	26	19	-0.9445D-09	-0.32987D-08
25	19	0.80057D-08	0.27373D-08	26	20	0.80765D-08	-0.46188D-08
25	20	-0.80877D-08	-0.58711D-08	26	21	-0.34781D-08	-0.51387D-08
25	21	0.67235D-08	0.73831D-09	26	22	0.14608D-07	0.67881D-09
25	22	-0.16670D-07	0.94974D-08	26	23	0.59341D-08	0.13427D-07
25	23	0.18940D-08	-0.66789D-08	26	24	0.54377D-08	0.1339D-07
25	24	-0.55469D-09	-0.20356D-08	26	25	-0.11500D-08	-0.65232D-08
25	25	0.34202D-08	-0.23139D-08	26	26	-0.81667D-08	0.34648D-08
26	0	0.87885D-08	0.0	27	0	0.76972D-08	0.0

Table 1 – (continued)

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
27	1	-0.28237D-08	0.71131D-08	28	0	-0.61470D-08	0.0
27	2	0.32516D-08	0.48623D-08	28	1	-0.35204D-08	0.63072D-08
27	3	-0.83563D-08	-0.59587D-09	28	2	-0.55444D-08	-0.37966D-08
27	4	-0.11100D-08	0.91602D-09	28	3	-0.30165D-08	0.34951D-08
27	5	0.57157D-08	0.65706D-08	28	4	-0.12502D-08	-0.10946D-08
27	6	0.24616D-08	0.18593D-08	28	5	0.28567D-09	0.24206D-08
27	7	-0.13649D-07	-0.45785D-09	28	6	-0.50052D-08	0.21888D-08
27	8	-0.11695D-09	0.10573D-09	28	7	-0.40997D-08	0.51706D-08
27	9	-0.33953D-08	0.524843D-08	28	8	-0.76926D-08	-0.12509D-08
27	10	-0.13918D-08	-0.2400D-08	28	9	0.23347D-08	-0.11153D-08
27	11	-0.19717D-08	-0.56588D-08	28	10	0.15511D-08	0.43806D-08
27	12	-0.12178D-07	-0.46154D-08	28	11	0.15348D-08	0.23439D-08
27	13	0.31889D-08	-0.72415D-09	28	12	-0.17874D-08	0.56786D-08
27	14	0.63159D-08	0.26857D-08	28	13	-0.1509D-08	0.50848D-08
27	15	-0.15162D-08	0.28047D-08	28	14	-0.19463D-08	-0.54511D-09
27	16	-0.20657D-08	0.66448D-08	28	15	-0.55584D-08	0.10334D-08
27	17	0.52325D-08	0.32637D-08	28	16	0.17886D-08	-0.44280D-08
27	18	0.39705D-08	0.41554D-08	28	17	0.46233D-08	-0.50428D-08
27	19	-0.16698D-08	-0.60191D-08	28	18	-0.23661D-08	-0.26562D-08
27	20	-0.32678D-08	0.76693D-09	28	19	-0.32236D-09	0.86678D-08
27	21	-0.30742D-08	-0.58374D-10	28	20	-0.32775D-09	0.15258D-08
27	22	-0.32864D-08	-0.68843D-08	28	21	0.22694D-08	0.72114D-08
27	23	-0.89156D-08	-0.54943D-08	28	22	-0.56771D-08	-0.35658D-08
27	24	-0.19215D-09	-0.85588D-08	28	23	0.49147D-08	0.13852D-08
27	25	-0.34524D-08	0.12029D-07	28	24	-0.48879D-08	-0.14315D-07
27	26	-0.68807D-08	-0.14377D-07	28	25	0.49653D-08	-0.15451D-07
27	27	0.52717D-09	-0.34583D-09	28	26	0.87268D-08	0.34345D-08

Table 1 – (continued)

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
28	27	-0.15719D-08	0.78880D-09	29	25	0.36147D-08	0.53315D-08
28	28	0.64615D-08	-0.13049D-09	29	26	-0.51675D-08	-0.10170D-07
29	0	-0.14039D-08	0.0	29	27	-0.27340D-08	-0.25682D-08
29	1	-0.38844D-08	-0.34469D-08	29	28	-0.11987D-08	0.57856D-08
29	2	0.22503D-08	0.22950D-09	29	29	0.10135D-07	-0.87071D-08
29	3	-0.14942D-08	-0.33514D-08	30	0	0.22874D-07	0.0
29	4	-0.53697D-08	-0.62059D-08	30	1	-0.81242D-08	0.97962D-08
29	5	-0.21289D-08	0.11894D-07	30	2	-0.33606D-08	0.44674D-08
29	6	-0.21255D-08	0.15673D-08	30	3	-0.44315D-08	-0.10588D-08
29	7	-0.97729D-09	-0.17425D-08	30	4	-0.86859D-08	-0.23608D-08
29	8	-0.98826D-08	0.61924D-09	30	5	-0.76495D-08	-0.17176D-09
29	9	-0.67104D-08	-0.23483D-08	30	6	-0.58955D-08	0.33198D-08
29	10	0.63903D-08	-0.88507D-08	30	7	0.29809D-08	-0.31339D-08
29	11	-0.66885D-08	0.27009D-08	30	8	-0.24968D-08	0.79271D-08
29	12	-0.64964D-08	-0.51886D-08	30	9	0.11331D-08	-0.35974D-08
29	13	-0.35011D-08	-0.14099D-08	30	10	0.16021D-08	-0.10663D-07
29	14	-0.39482D-08	-0.47297D-08	30	11	-0.67992D-08	-0.41622D-08
29	15	-0.18110D-08	-0.52072D 08	30	12	0.23926D-08	-0.70287D-08
29	16	0.33147D-08	-0.59720D-08	30	13	0.23803D-08	0.57934D-08
29	17	0.38454D-08	-0.30286D-08	30	14	0.28831D-08	0.56956D-08
29	18	0.41749D-08	-0.41447D-08	30	15	-0.24829D-08	-0.50111D-08
29	19	0.25880D-08	-0.23228D-08	30	16	-0.20556D-09	0.44927D-08
29	20	-0.17419D-09	0.44046D-08	30	17	-0.69354D-08	0.19540D-08
29	21	-0.31206D-08	-0.89502D-09	30	18	-0.55791D-08	-0.13622D-09
29	22	0.85332D-09	0.22097D-08	30	19	-0.74886D-08	0.35103D-08
29	23	-0.69312D-08	0.48934D-08	30	20	0.18434D-08	0.82017D-08
29	24	-0.60134D-08	0.29542D-08	30	21	-0.20504D-08	-0.19710D-08

Table 1 – (continued)

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
30	22	-0.48534D-08	-0.80440D-08	31	18	-0.19402D-08	0.24798D-08
30	23	-0.67531D-08	-0.11874D-07	31	19	0.12641D-08	0.26923D-08
30	24	-0.35323D-09	-0.18068D-08	31	20	-0.89557D-09	0.10933D-08
30	25	0.62963D-08	-0.12021D-07	31	21	-0.34693D-08	-0.24025D-08
30	26	0.23692D-08	0.14419D-07	31	22	-0.12248D-08	-0.94864D-08
30	27	-0.66018D-09	0.10823D-07	31	23	0.33910D-08	0.41344D-08
30	28	-0.28557D-08	-0.57593D-08	31	24	0.19715D-09	-0.17082D-08
30	29	0.36973D-08	0.68985D-08	31	25	-0.61918D-08	0.12250D-09
30	30	0.60077D-08	-0.94014D-09	31	26	-0.29683D-08	0.50063D-08
31	0	0.51012D-08	0.0	31	27	0.55847D-08	0.26005D-08
31	1	-0.23710D-08	0.1224D-07	31	28	0.56187D-08	0.73353D-08
31	2	-0.39919D-11	0.15671D-08	31	29	-0.15811D-09	-0.58895D-08
31	3	-0.36704D-09	-0.41769D-08	31	30	0.22423D-08	-0.27185D-08
31	4	0.12171D-07	-0.23074D-08	31	31	0.18925D-08	0.58956D-08
31	5	0.35768D-09	0.37653D-08	32	0	0.24576D-09	0.0
31	6	-0.28852D-08	-0.33973D-08	32	1	-0.44168D-08	0.18605D-08
31	7	-0.65869D-08	-0.15467D-09	32	2	0.64323D-08	0.25752D-08
31	8	0.10473D-08	0.49393D-08	32	3	-0.33195D-08	-0.89209D-08
31	9	0.33902D-08	0.21137D-08	32	4	-0.11602D-08	-0.83905D-09
31	10	-0.15997D-08	-0.52530D-08	32	5	0.76261D-08	0.33594D-08
31	11	-0.23332D-08	0.65903D-08	32	6	-0.53288D-10	-0.16603D-08
31	12	-0.52873D-08	0.30967D-08	32	7	0.11442D-08	0.47141D-08
31	13	-0.25315D-08	0.27969D-08	32	8	-0.48033D-10	0.35237D-08
31	14	-0.53230D-08	-0.15236D-09	32	9	0.15654D-08	0.27897D-08
31	15	-0.86104D-09	0.22933D-08	32	10	0.45337D-08	0.80893D-08
31	16	-0.12135D-08	0.62504D-08	32	11	-0.19401D-08	-0.19607D-08
31	17	-0.98306D-08	0.88335D-08	32	12	-0.73255D-08	0.87254D-08

Table 1 – (continued)

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
3.	13	0.29187D-09	0.50628D-08	33	7	-0.43455D-09	-0.17372D-08
32	14	0.81874D-09	0.16473D-08	33	8	-0.59440D-08	0.56190D-08
32	15	0.43013D-08	0.16313D-08	33	9	0.10705D-07	0.42279D-08
32	16	-0.25390D-08	0.53986D-08	33	10	-0.19704D-08	-0.36687D-08
32	17	-0.21497D-08	0.40718D-08	33	11	-0.49173D-08	-0.33635D-08
32	18	0.28109D-08	-0.68886D-08	33	12	-0.77702D-09	0.92354D-08
32	19	0.12005D-08	0.19659D-08	33	13	0.34448D-08	0.83793D-08
32	20	-0.15105D-08	0.17618D-09	33	14	0.14332D-08	0.6536D-08
32	21	0.25422D-08	0.56731D-08	33	15	0.49929D-09	0.10510D-08
32	22	-0.42443D-08	-0.51125D-08	33	16	0.29583D-08	0.19629D-08
32	23	0.52636D-08	-0.10420D-08	33	17	-0.94931D-09	0.15421D-08
32	24	-0.12234D-08	-0.22679D-08	33	18	0.16584D-08	-0.60786D-08
32	25	-0.13769D-07	-0.19162D-08	33	19	0.87171D-08	0.21913D-08
32	26	-0.60116D-09	-0.32587D-08	33	20	-0.93633D-09	-0.25999D-08
32	27	-0.94306D-08	-0.62187D-08	33	21	0.35666D-08	-0.21822D-08
32	28	0.28244D-08	-0.68876D-08	33	22	-0.37156D-08	-0.49824D-08
32	29	0.76900D-08	0.21458D-08	33	23	-0.14055D-08	0.13016D-08
32	30	0.11517D-08	0.45498D-08	33	24	-0.62173D-09	-0.45977D-08
32	31	-0.16345D-08	-0.46193D-08	33	25	0.23896D-08	-0.63809D-08
32	32	0.24511D-08	0.40287D-08	33	26	0.12291D-08	0.28514D-08
33	0	0.33880D-08	0.0	33	27	0.63318D-08	-0.33252D-08
33	1	-0.20069D-0	-0.29836D-08	33	28	0.36942D-08	-0.73763D-09
33	2	-0.20134D-08	0.45767D-08	33	29	-0.15347D-07	-0.28[illegible]26D-08
33	3	-0.40173D-08	0.48574D-08	33	30	-0.25653D-08	-0.71798D-08
33	4	-0.15857D-08	0.81564D-08	33	31	-0.25428D-08	0.25215D-08
33	5	0.31728D-08	0.39701D-08	33	32	-0.37637D-08	-0.42428D-08
33	6	0.11682D-08	-0.63181D-08	33	33	-0.20532D-08	0.42112D-08

Table 1 – (continued)

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
34	0	-0.47798D-08	0.0	34	27	0.59745D-08	-0.24677D-08
34	1	0.76315D-09	-0.20338D-09	34	28	-0.10388D-08	-0.1436D-08
34	2	0.86685D-08	-0.21622D-08	34	29	0.20537D-08	0.23837D-07
34	3	0.91197D-09	-0.13913D-08	34	30	-0.13182D-07	-0.30815D-09
34	4	-0.35736D-08	-0.33305D-08	34	31	-0.68800D-08	-0.43378D-08
34	5	-0.53507D-08	0.79445D-08	34	32	0.30909D-08	-0.18428D-08
34	6	0.37360D-08	-0.15906D-08	34	33	0.56810D-09	0.16993D-08
34	7	-0.81400D-09	-0.45481D-08	34	34	-0.61841D-08	-0.46545D-09
34	8	-0.18737D-08	0.28927D-08	35	0	0.14057D-07	0.0
34	9	0.13586D-08	-0.10200D-08	35	1	-0.49730D-08	0.65131D-09
34	10	-0.83713D-08	-0.28416D-08	35	2	-0.53851D-08	0.96214D-08
34	11	-0.19002D-09	-0.27705D-09	35	3	-0.15506D-08	0.76286D-08
34	12	0.43681D-08	-0.30678D-08	35	4	-0.25633D-08	0.78351D-08
34	13	-0.61476D-08	0.6231D-09	35	5	0.18122D-08	-0.62496D-08
34	14	0.37341D-09	0.10580D-08	35	6	0.52461D-09	0.52467D-09
34	15	0.12614D-08	0.46155D-08	35	7	-0.43528D-08	0.21810D-08
34	16	0.50906D-08	-0.13329D-08	35	8	0.22196D-08	0.78375D-08
34	17	0.44046D-09	-0.28464D-08	35	9	-0.18390D-08	-0.36036D-08
34	18	0.14438D-09	-0.31864D-08	35	10	-0.52935D-08	-0.28135D-08
34	19	-0.14668D-08	0.26841D-08	35	11	-0.18660D-08	-0.48274D-08
34	20	-0.34555D-08	-0.32074D-08	35	12	-0.45821D-09	-0.24791D-08
34	21	-0.65296D-08	-0.29429D-08	35	13	-0.21395D-08	0.17338D-08
34	22	-0.27042D-08	0.49195D-08	35	14	-0.15734D-08	0.14103D-08
34	23	-0.14694D-08	-0.54252D-08	35	15	-0.45230D-08	0.12484D-08
34	24	0.23841D-09	-0.28555D-08	35	16	0.14655D-08	-0.58393D-08
34	25	0.77843D-09	-0.92914D-08	35	17	0.69361D-08	-0.60044D-08
34	26	0.67959D-09	-0.75808D-08	35	18	-0.19939D-08	-0.28045D-09

Table 1 – (continued)

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
35	19	0.37221D-09	0.17370D-08	36	10	0.21763D-08	0.21458D-08
35	20	-0.60458D-08	-0.28359D-08	36	11	-0.73804D-09	-0.93008D-09
35	21	0.36792D-08	-0.45438D-08	36	12	0.17247D-08	-0.65665D-08
35	22	0.41805D	-0.51258D-09	36	13	-0.63049D-08	-0.25274D-08
35	23	0.71447D-09	-0.32854D-09	36	14	-0.58013D-08	0.24311D-08
35	24	0.54508D-08	-0.33625D-08	36	15	0.21937D-08	0.71453D-09
35	25	0.56105D-08	-0.10327D-08	36	16	0.42771D-08	0.49612D-08
35	26	-0.17273D-08	0.13645D-07	36	17	0.48355D-08	-0.36228D-08
35	27	0.16258D-08	-0.36702D-08	36	18	-0.28626D-08	0.82697D-09
35	28	0.29310D-08	-0.62049D-08	36	19	-0.11722D-08	-0.98962D-09
35	29	-0.23084D-08	-0.10859D-09	36	20	0.14700D-08	0.13816D-08
35	30	0.11456D-08	-0.29394D-08	36	21	0.32682D-08	-0.24665D-08
35	31	0.46716D-08	0.50807D-08	36	22	0.34408D-08	0.37864D-08
35	32	-0.21933D-08	-0.64219D-08	36	23	0.66399D-08	0.25960D-08
35	33	0.62082D-09	0.34445D-09	36	24	0.67085D-09	0.39645D-08
35	34	0.44810D-08	0.10426D-07	36	25	0.23857D-08	0.47364D-08
35	35	-0.51297D-08	-0.14532D-08	36	26	-0.23428D-08	0.45743D-08
36	0	-0.14591D-08	0.0	36	27	-0.75698D-08	0.62442D-08
36	1	0.10273D-07	0.20357D-08	36	28	-0.41515D-08	-0.53677D-08
36	2	0.34493D-08	-0.91745D-09	36	29	-0.26537D-08	-0.9623D-08
36	3	-0.48545D-08	-0.17399D-07	36	30	-0.47379D-08	0.23846D-08
36	4	0.11177D-08	-0.25218D-08	36	31	0.42497D-08	-0.22221D-08
36	5	-0.80469D-08	0.27543D-08	36	32	0.12033D-07	0.30017D-08
36	6	-0.26681D-08	-0.83204D-09	36	33	-0.75118D-09	0.46889D-08
36	7	0.68653D-09	0.43010D-08	36	34	-0.10271D-07	0.33612D-08
36	8	0.35516D-08	-0.41243D-08	36	35	0.53811D-08	-0.42684D-08
36	9	-0.13481D-08	-0.17008D-08	36	36	-0.67738D-12	-0.32417D-08

Table 2 – Power Spectra of the Isostatic Reduction Potential

n	Khan's	Uotila's
2	0.05	0.13
3	0.27	1.02
4	0.61	2.25
5	1.06	3.69
6	0.60	2.26
7	0.71	2.16
8	0.65	2.03
9	0.91	3.11
10	1.08	3.60
11	0.87	2.97
12	0.75	2.38
13	1.17	3.75
14	1.16	2.93
15	1.22	3.42
16	1.04	4.04

Table 3

Spherical Harmonic Coefficients of Isostatic Gravity Anomaly Potential

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
2	0	-0.10419D-06	0.0	7	0	0.15683D-06	0.0
2	1	-0.93839D-07	-0.97987D-07	7	1	0.23885D-06	0.79046D-07
2	2	0.25415D-05	-0.13754D-05	7	2	0.26461D-06	0.68769D-07
3	0	0.10025D-05	0.0	7	3	0.27706D-06	-0.23600D-06
3	1	0.20621D-05	0.21393D-06	7	4	-0.22421D-06	-0.12101D-06
3	2	0.10604D-05	-0.76973D-06	7	5	0.49742D-08	0.25343D-07
3	3	0.67345D-06	0.12650D-05	7	6	-0.30250D-06	0.19931D-06
4	0	-0.32610D-06	0.0	7	7	0.89448D-07	0.47306D-07
4	1	-0.462275D-06	-0.38597-06	8	0	0.49433D-07	0.0
4	2	0.48097D-06	0.64657D-06	8	1	0.369098D-07	0.68924D-07
4	3	0.85925D-06	-0.17302D-06	8	2	0.15710D-08	0.73252D-07
4	4	-0.16764D-06	0.17328D-06	8	3	-0.42930D-07	-0.10342D-06
5	0	0.23408D-06	0.0	8	4	-0.24155D-07	0.26961D-07
5	1	-0.57846D-06	-0.48476D-07	8	5	-0.64117D-07	0.77302D-07
5	2	0.67431D-06	-0.26382D-06	8	6	-0.75122D-07	0.25343D-06
5	3	-0.51821D-06	-0.25186D-06	8	7	-0.18160D-07	0.55316D-07
5	4	-0.47773D-06	0.60595D-07	8	8	-0.25292D-07	0.15958D-06
5	5	0.19384D-06	-0.76430D-06	9	0	0.83107D-07	0.0
6	0	-0.21937D-06	0.0	9	1	0.13429D-06	-0.17767D-07
6	1	-0.85978D-07	0.59080D-07	9	2	0.54612D-07	-0.31812D-07
6	2	0.53499D-07	-0.34670D-06	9	3	-0.16850D-06	-0.11160D-06
6	3	-0.66526D-08	-0.70391D-07	9	4	0.26724D-07	-0.75035D-08
6	4	-0.16878D-06	-0.40387D-06	9	5	-0.47521D-07	-0.80459D-07
6	5	-0.26217D-06	-0.45198D-06	9	6	0.72195D-07	0.15759D-06
6	6	0.24164D-07	-0.24257D-06	9	7	-0.70952D-07	0.17904D-07

Table 3 – (continued)

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
9	8	0.17233D-06	-0.2385D-07	12	2	-0.38363D-07	0.45747D-07
9	9	-0.15508D-07	0.10708D-06	12	3	0.13897D-06	0.66875D-07
10	0	0.70741D-07	0.0	12	4	-0.29894-07	-0.18041D-07
10	1	0.55200D-07	-0.12577D-06	12	5	0.41241D-07	0.10597D-07
10	2	0.10349D-07	-0.45772D-07	12	6	0.36289D-07	-0.18157D-07
10	3	-0.17202D-07	-0.74145D-07	12	7	-0.29033D-07	0.14896D-07
10	4	-0.57494D-07	-0.13210D-06	12	8	-0.12843D-07	-0.45207D-08
10	5	-0.94851D-07	-0.14663D-07	12	9	-0.14168D-07	0.12209D-07
10	6	-0.43484D-07	-0.10114D-06	12	10	-0.21666D-08	0.36234D-07
10	7	0.59903D-08	-0.45211D-07	12	11	-0.72584D-09	0.10458D-08
10	8	0.24186D-07	-0.96729D-07	12	12	0.26417D-07	0.28066D-07
10	9	0.56234D-07	-0.71198D-07	13	0	0.13167D-07	0.0
10	10	0.50408D-07	-0.25934D-08	13	1	0.27807D-07	-0.74015D-08
11	0	-0.35755D-07	0.0	13	2	0.22546D-07	-0.11889D-06
11	1	-0.6658D-07	0.54414D-07	13	3	-0.50419D-08	0.15936D-07
11	2	0.29486D-07	-0.11219D-06	13	4	-0.51659D-07	-0.69280D-07
11	3	-0.17524D-07	-0.75664D-07	13	5	0.40751D-07	0.41915D-07
11	4	-0.10239D-07	-0.70764D-07	13	6	-0.11890D-06	0.41481D-07
11	5	0.52232D-07	0.27668D-07	13	7	-0.48019D-07	0.16560D-06
11	6	-0.25748D-07	0.43125D-07	13	8	0.52132D-07	-0.18802D-07
11	7	0.30748D-07	-0.81447D-07	13	9	0.11670D-07	0.85360D-07
11	8	-0.22651D-07	0.42019D-07	13	10	-0.17852D-07	0.48216D-07
11	9	-0.3537D-07	0.54600D-07	13	11	-0.26511D-07	0.36307-08
11	10	-0.95905D-07	-0.24779D-07	13	12	-0.16608D-07	0.78661D-07
11	11	0.10436D-06	-0.13615D-07	13	13	-0.22005D-08	0.91034D-07
12	0	0.50354D-07	0.0	14	0	0.98851D-08	0.0
12	1	-0.65170D-07	-0.30545D-07	14	1	-0.50800D-07	0.16422D-07

Table 3 - (continued)

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
14	2	-0.23206D-07	0.13547D-06	15	14	-0.19780D-07	-0.53094D-08
14	3	0.34657D-07	-0.10648D-07	15	15	-0.78610D-07	0.36491D-07
14	4	0.20412D-07	0.26244D-07	16	0	0.10814D-07	0.0
14	5	0.52609D-07	-0.27100D-07	16	1	-0.21171D-07	-0.44967D-08
14	6	0.59095D-07	-0.43647D-07	16	2	0.15209D-07	0.22577D-07
14	7	0.12943D-06	-0.72297D-07	16	3	0.51614D-07	-0.21138D-08
14	8	0.60906D-08	-0.68248D-07	16	4	0.38417D-07	0.56903D-07
14	9	-0.50149D-08	0.45078D-07	16	5	0.23391D-07	0.38516D-07
14	10	-0.27103D-08	-0.12759D-06	16	6	-0.25089D-07	-0.14509D-07
14	11	0.99035D-07	0.30486D-10	16	7	0.32121D-07	-0.35668D-07
14	12	0.72669D-08	0.27052D-08	16	8	-0.12020D-07	-0.28337D-07
14	13	0.16043D-07	0.12551D-07	16	9	0.48061D-07	-0.34438D-07
14	14	-0.33479D-07	-0.47772D-08	16	10	-0.82902D-07	-0.42819D-08
15	0	-0.30095D-07	0.0	16	11	0.23791D-08	-0.12018D-07
15	1	0.99559D-07	0.50338D-07	16	12	0.99866D-08	-0.86036D-08
15	2	0.13332D-07	-0.94698D-07	16	13	-0.63105D-08	-0.35028D-07
15	3	0.52943D-08	0.23304D-07	16	14	-0.84797D-08	-0.18334D-07
15	4	0.32713D-07	-0.13568D-07	16	15	-0.53614D-07	0.86699D-08
15	5	0.24560D-07	-0.17569D-07	16	16	0.56509D-08	0.41425D-08
15	6	-0.24901D-07	-0.31833D-07	17	0	0.19410D-07	0.0
15	7	-0.3687D-07	0.80214D-07	17	12	0.12185D-07	-0.27558D-07
15	8	-0.15238D-06	0.11223D-07	17	13	0.11173D-07	0.35863D-07
15	9	0.27101D-08	0.62473D-07	17	14	-0.25139D-07	-0.10137D-07
15	10	0.58245D-07	0.32033D-07	18	0	0.35881D-08	0.0
15	11	-0.66303D-07	0.44404D-07	18	12	-0.56034D-07	-0.71479D-08
15	12	-0.19489D-07	-0.13770D-07	18	13	-0.55907D-08	-0.63367D-07
15	13	0.98228D-08	0.21988D-07	18	14	-0.23271D-07	0.18360D-07

Table 3 – (continued)

n	m	C_{nm}	S_{nm}	n	m	C_{nm}	S_{nm}
19	0	[illegible]	0.0	21	0	0.18136D-08	0.0
19	12	[illegible]	-0.16482D-07	21	12	0.97646D-09	-0.34415D-07
19	13	[illegible]	0.11867D-07	21	13	-0.53262D-68	0.26751D-07
19	14	-0.3[illegible]929D-08	-0.13346D-08	21	14	-0.79427D-08	0.82636D-08
20	0	-0.11203D-08	0.0	22	0	0.12584D-08	0.0
20	12	0.17515D-07	0.15220D-08	22	12	-0.56275D-07	-0.33049D-07
20	13	0.14448D-07	-0.58146D-07		13	-0.12578D-07	-0.44435D-07
20	14	0.20348D-07	0.12948D-07		14	0.19161D-07	0.30858D-08

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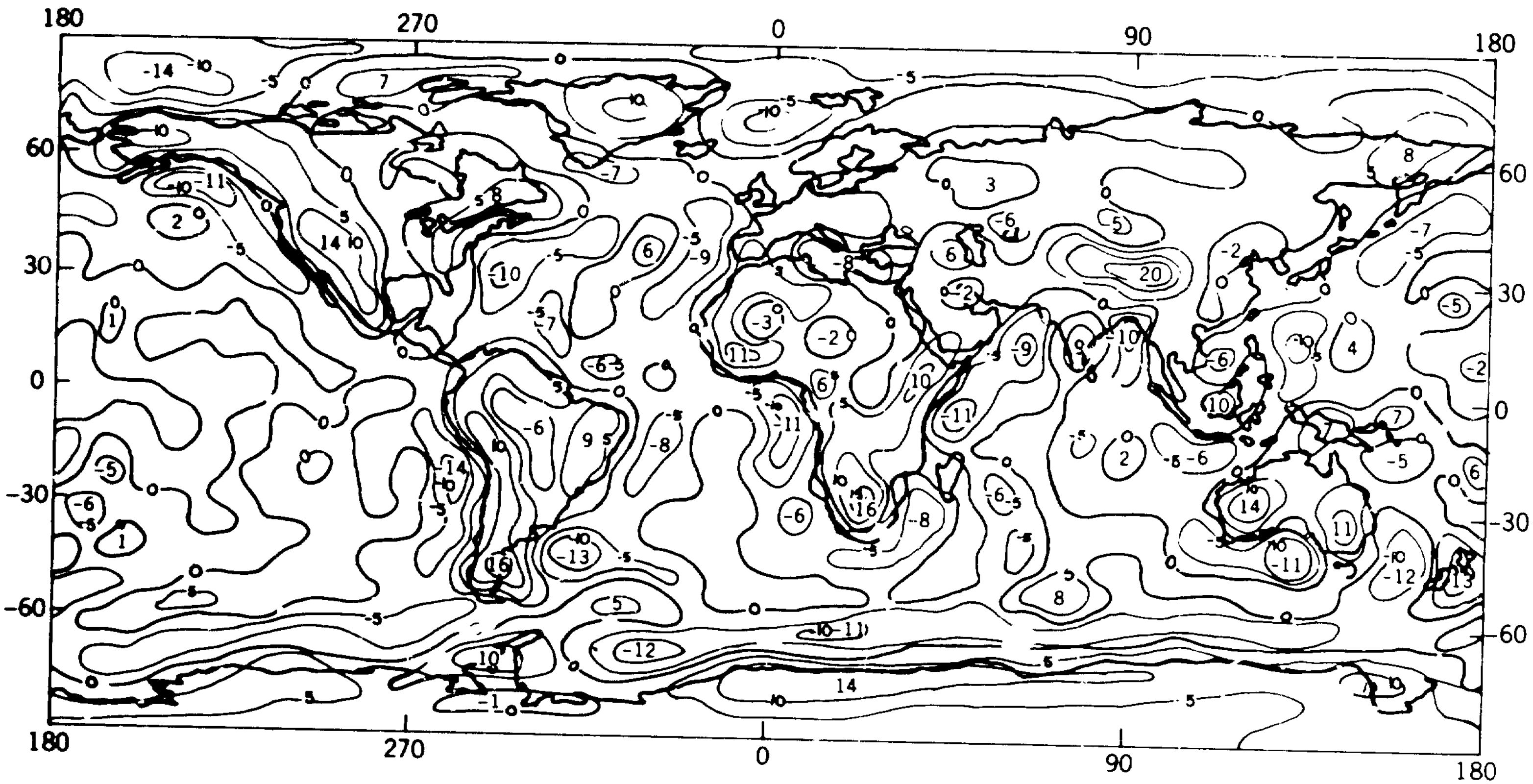

Figure 1. Model gravity anomalies (isostatic corrections) based on the spherical harmonic coefficients model (22, 22). Contour interval 5 milligals.

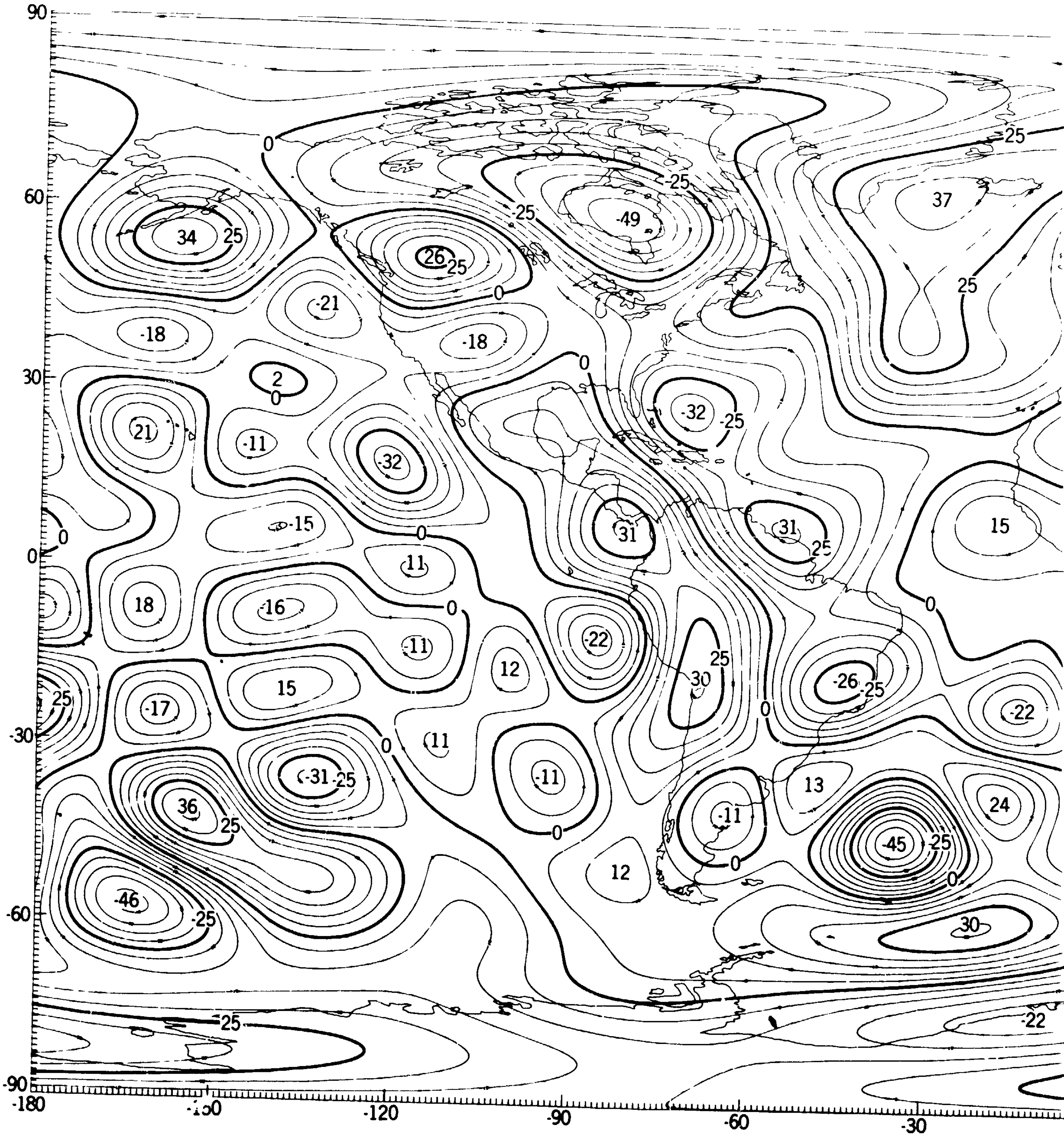

Figure 2. Isostatic Gravity Anomalies (complete to 16, 16 plus 17-22, 12, 13, 14 coeffic

Earth's Isostatic Gravi

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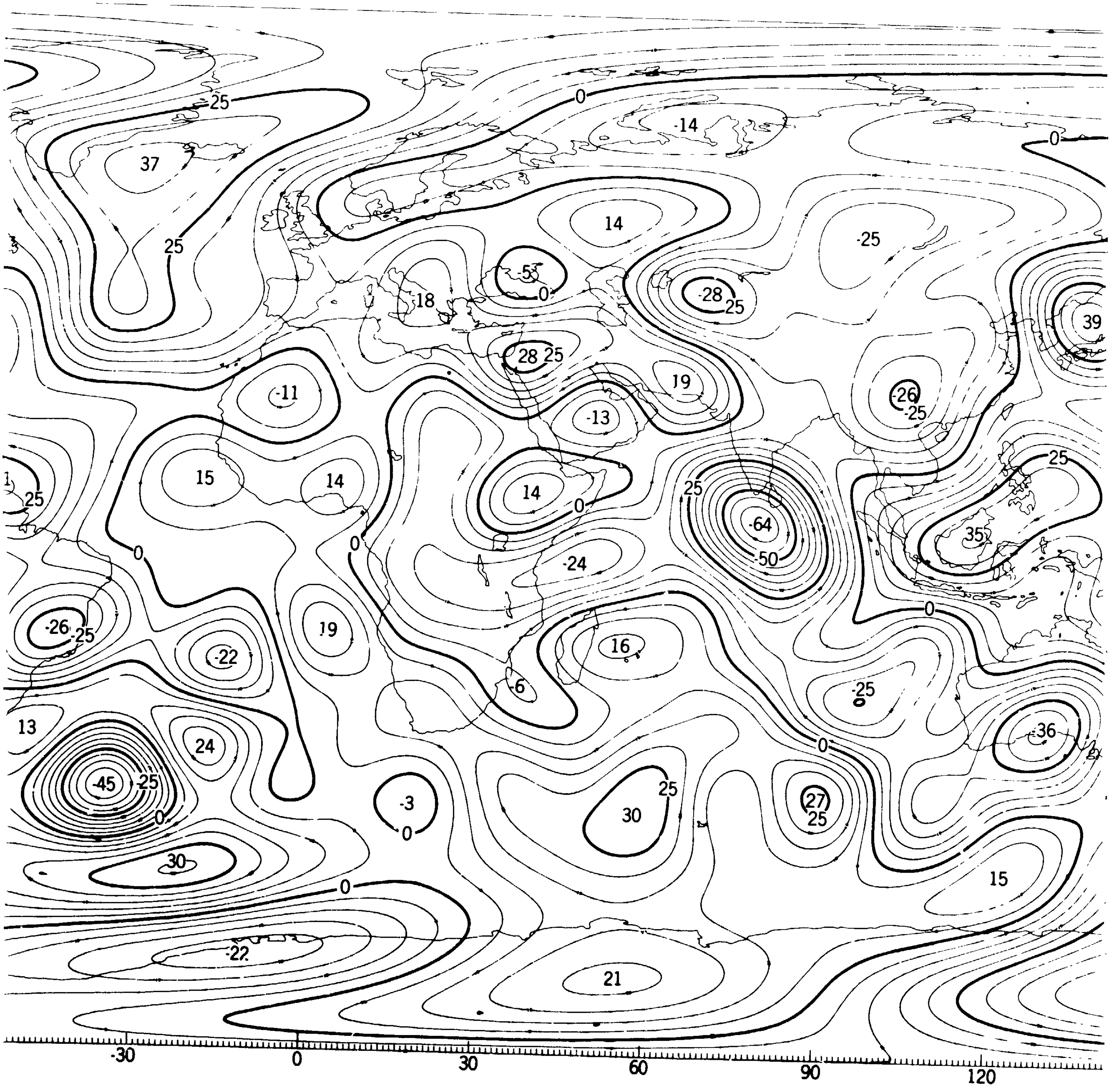

16 plus 17-22, 12, 13, 14 coefficients) with Reference to an Ellipsoid of f=1/298.255. Based on GEM 4. Contour Interval 5 milligals.
Earth's Isostatic Gravity Anomaly Field (Khan, 1973)

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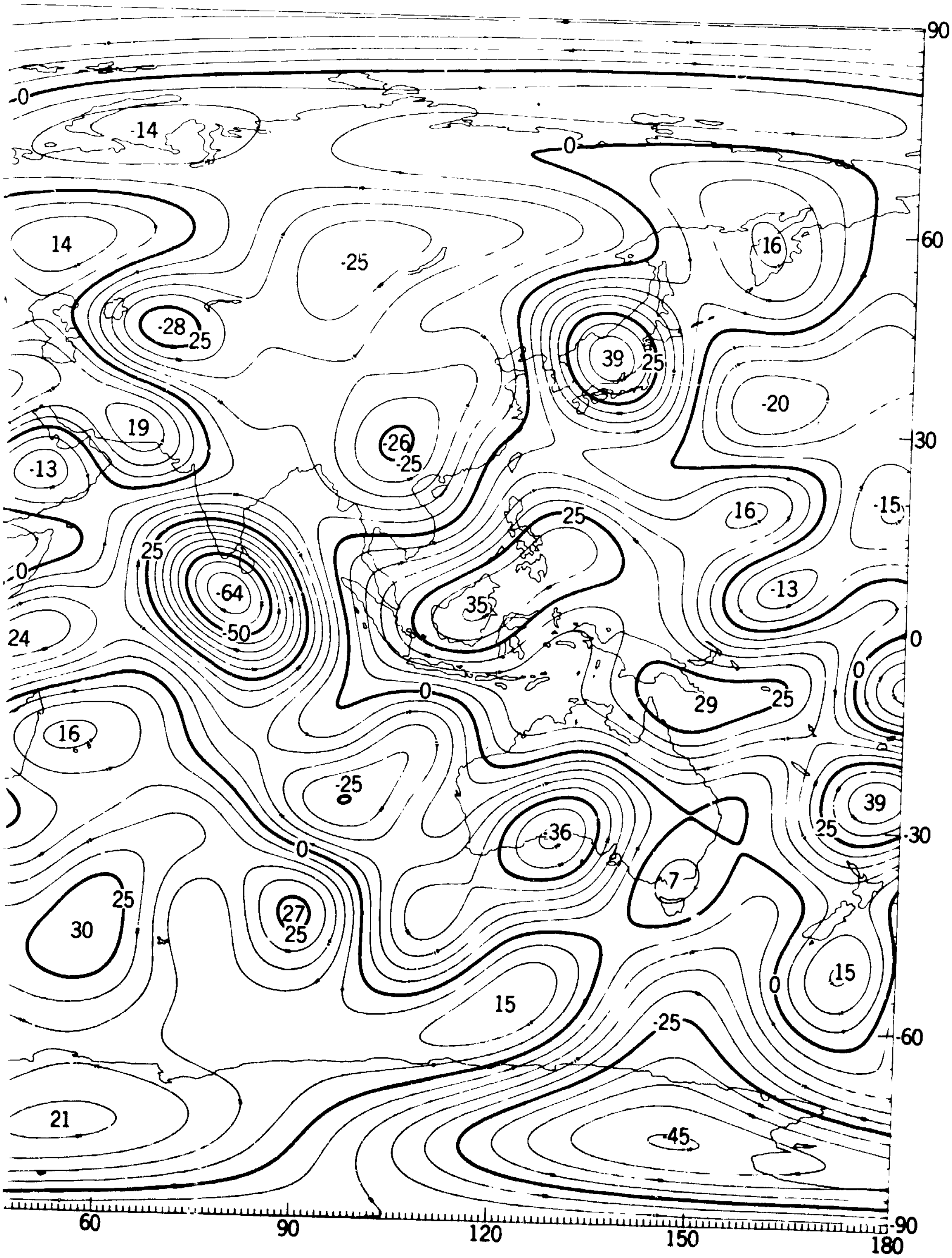

f=1/298.255. Based on GEM 4. Contour Interval 5 milligals.

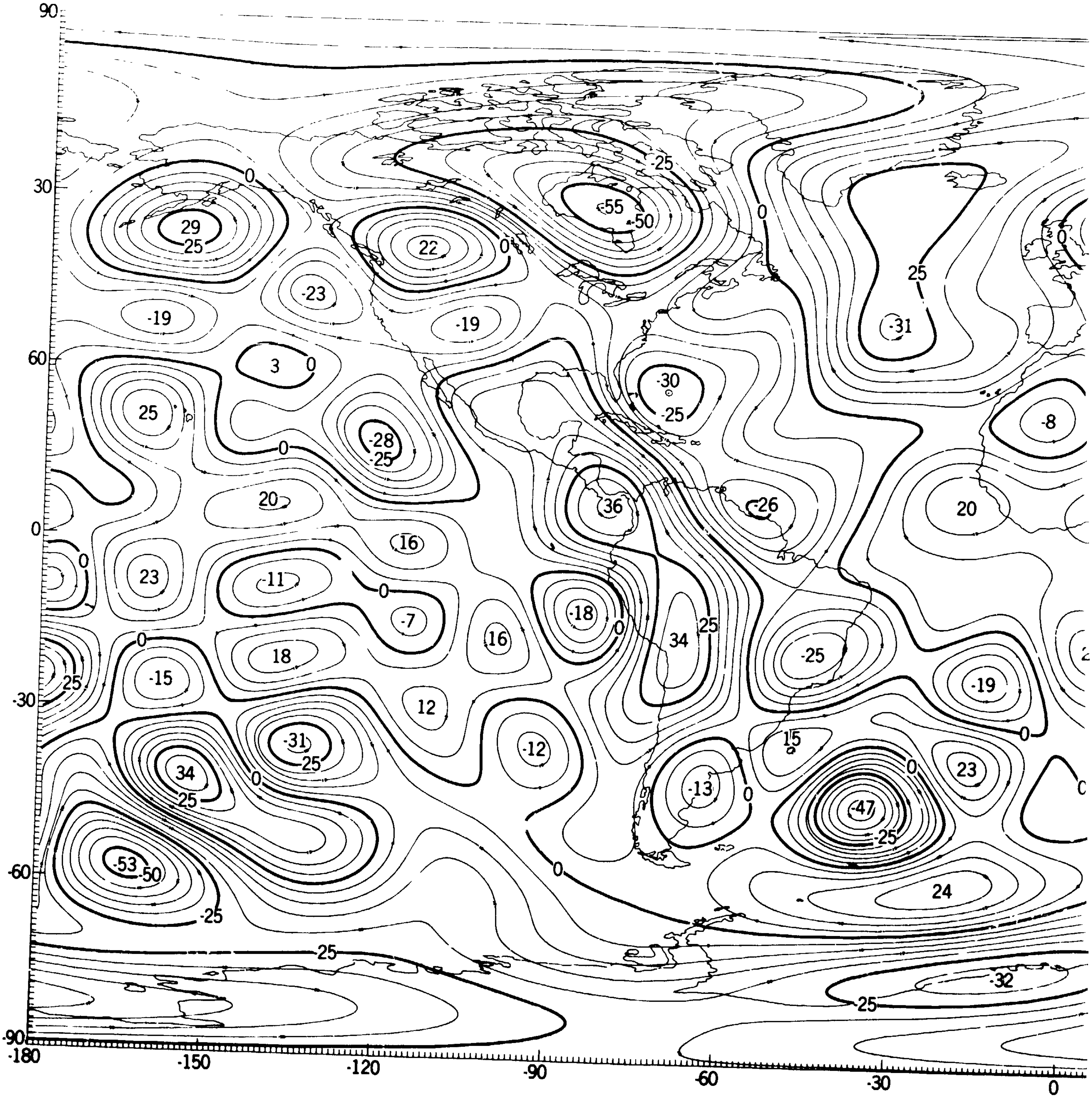

Figure 3. Isostactic Gravity Anomalies (complete to 16, 16 plus 17-22, 12, 13, 14 coefficien

Earth's Isostatic Gravity Anoma

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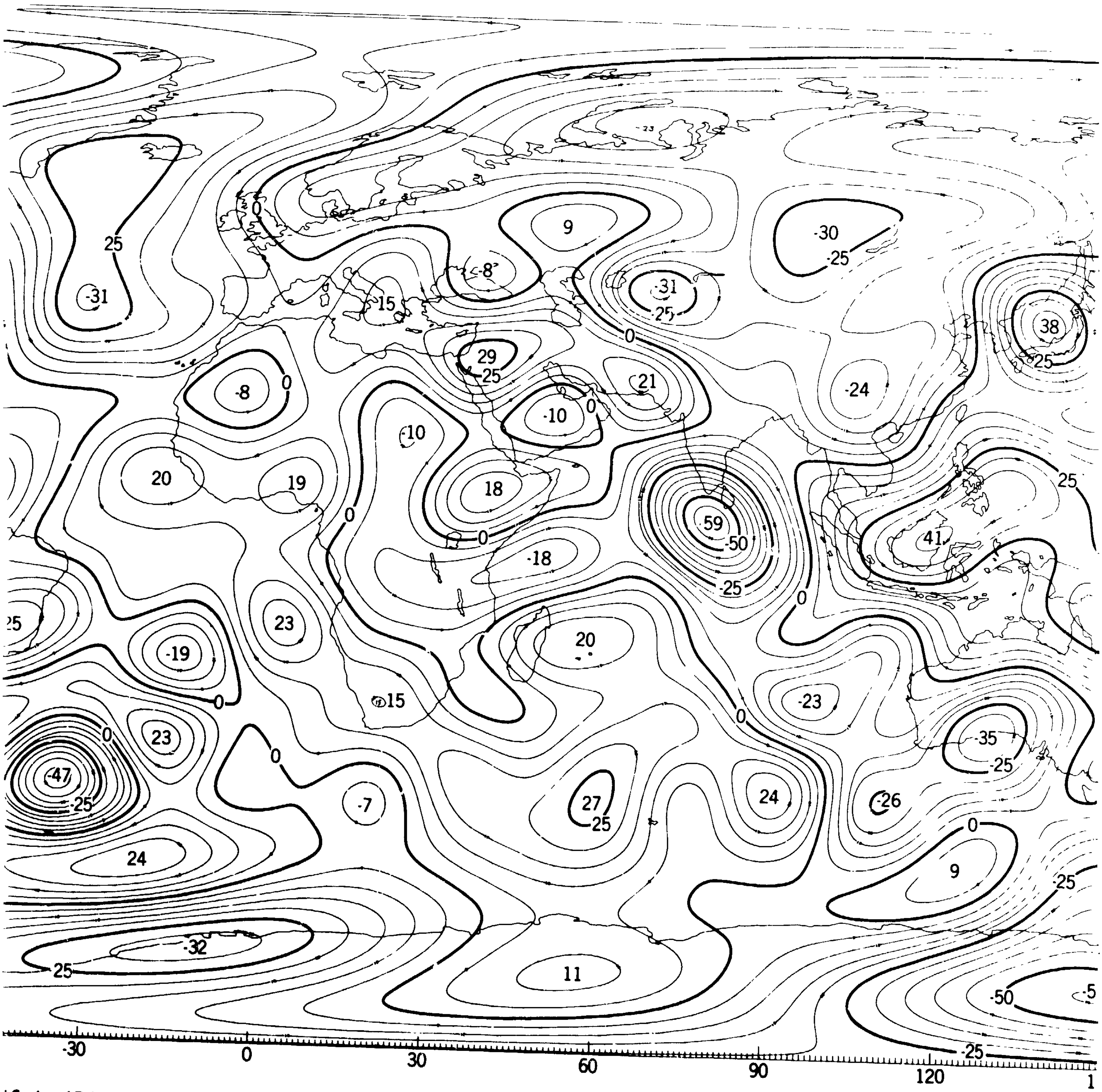

16 plus 17-22, 12, 13, 14 coefficients) Referred to Equilibrium Figure with f=1/299.75. Based on GEM 4. Interval 5 milligals.

Earth's Isostatic Gravity Anomaly Field (Khan, 1973)

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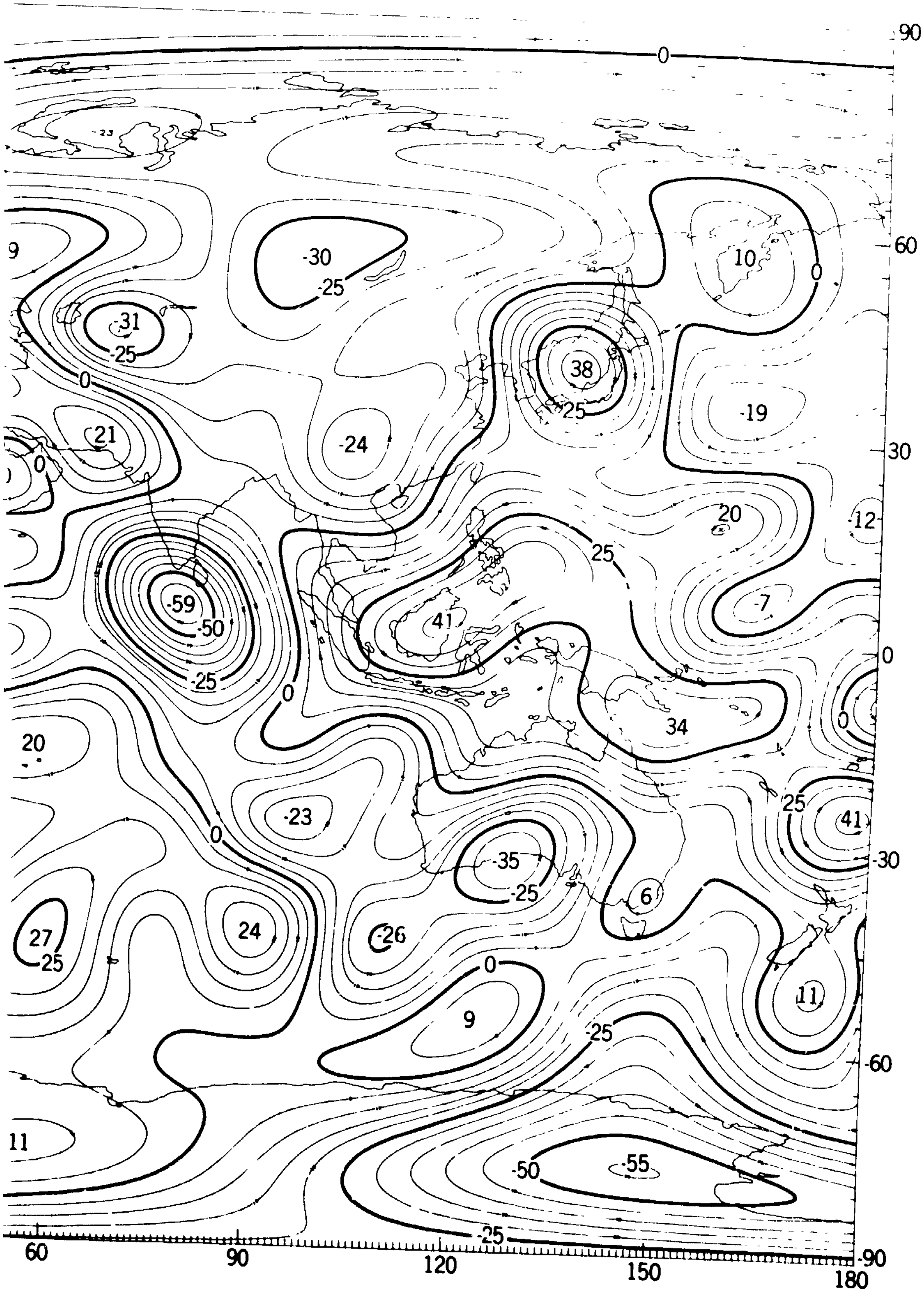

. f=1/299.75. Based on GEM 4. Interval 5 milligals.

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