NUMERICAL INVESTIGATIONS ON THE CORRECTION TERM FOR THE FREE AIR ANOMALIES ACCORDING TO THE NEW THEORY OF DYNAMICAL GEODESY

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Abstract from [1].

A new practicable scheme for the numerical determination of the correction term for the free-air anomalies according to the so-called "New theory" of gravimetrical geodesy has been developed in order to obtain the potential and the deflections on the surface of the earth. The scheme consists in a square net for which the heights are to be interpolated from maps, to handle them further by an electronic computer yielding the wanted correction term. The first applications were executed for the Harzmountains area.

Reviewer: M. Pick

References

[1] K. A r n o l d, L. S t a n g e: Numerische Unterschungen zum gravimetrischen Zusatzglied. Gerl. Beitr. z. Geophys., (will be published).

Discussion

T e n g s t r ö m: Has the correlation between the correction term and the curvature of the terrain been investigated?

A r n o l d: Yes, it has. The correction term depends on the curvature of the surface of the Earth, being negative in valleys and positive on the tops.

B u r š a: From which distance from the central point did you start integrating?

A r n o l d: From zero.

P e l l i n e n: The correction of Arnold and that of Molodensky G_1 are very similar. You have not considered their distinction.

A r n o l d: There is no similarity between Molodensky's equation and mine. It is quite a different matter.

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