Determination of Accuracy of Normal Gravity Field Parameters

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A b s t r a c t: Normal Earth's gravity field is generated by the four fundamental constants: the geocentric gravitational constant, angular velocity of rotation of the Earth, gravity potential on the geoid and spherical geopotential coefficient of second degree and zero order. The errors of fundamental constants are not considered when calculating the parameters of the normal gravity field but the location information is determined by measuring of GNSS, which has an error. The transfer of errors in position on the accuracy of the calculation of normal gravity potential and normal gravity acceleration is analyzed in the present contribution.

Key words: normal gravity field, transfer of errors, normal gravity potential and acceleration

References

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