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On the elements of the Earth's ellipsoid of inertia

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Abstract - By using the data for the known geopotential models by means of artificial satellite, the central moments of inertia of the Earth are determined. For this purpose, it was used the value $H = 0.00327369 \pm 9.8 \cdot 10^{-8}$ for the dynamical flattening of the Earth. The results obtained indicate that the pole of inertia is located near the Conventional International Origin (CIO). Also, the orientation of the triaxial ellipsoid of inertia for nine geopotential models considered is given. Our results improve the ones obtained by Erzhanov and Kalybaev (General theory of the rotation of the Earth, Moscow, 1984).

Key words and phrases : geopotential, Earth's moments of inertia, Earth's rotation, dynamical flattening, harmonic coefficients.

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