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Algorithm for transforming the coordinates of lunar objects while changing from various coordinate systems into the selenocentric one

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The selenocentric network of objects setting the coordinate system on the Moon, with the origin coinciding with the mass centre and axes directed along the inertia axes can become one of basic elements of the coordinate-time support for lunar navigation with use of cartographic materials and control objects.
A powerful array of highly-precise and multiparameter information obtained by modern space vehicles allows one to establish Lunar Reference Frames (LRF) of an essentially another accuracy. Here, a special role is played by the results of scanning the lunar surface by the Lunar Reconnaissance Orbiter(LRO) American mission.
The coordinates of points calculated only from the results of laser scanning have high enough accuracy of position definition with respect to each other, but it is possible to check up the real accuracy of spatial tie and improve the coordinates only by a network of points whose coordinates are computed both from laser scanning and other methods too, for example, by terrestrial laser location, space photogrammetry methods, and so on.
The paper presents the algorithm for transforming selenocentric coordinate systems and the accuracy estimation of changing from one lunar coordinate system to another one.
Keywords: selenocentric coordinate system, coordinate-time support.