

Computer determination of optimal parameters for the telescope placed on the lunar surface

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Abstract

© 2018, International Multidisciplinary Scientific Geoconference. All rights reserved. The aim of the present paper is to give a brief review of results of computer simulating observations of the lunar rotation from the lunar surface. The simulation of physical libration of the Moon using the lunar telescope was performed on the basis of multi-parametric analysis. High expectations in terms of obtaining accurate data on physical libration of the Moon are linked with SELENE Japanese project. The project implies an installation of the optical telescope at one of the Poles of the Moon. The observation of lunar physical libration parameters directly from the surface of the Moon is a main objective of the project. The task of modeling is to evaluate the effectiveness of such observations and determine the optimal conditions for the planned placement of the lunar telescope. A high-definition CCD-matrix is going to be developed to observe and register images of stars. The advantage of lunar observations compared to ground-based ones is that there is no influence from the atmosphere and one does not need to take into account the terrestrial spin-orbital dynamics. The accuracy of observing coordinates of stars is planned to be 1 milliarcsecond. The observations are going to be taken for 450 days.

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Keywords

Computer simulation, Physical libration of the Moon, Physical surfaces of celestial bodies

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