Geophysical Research Abstracts Vol. 17, EGU2015-8-3, 2015 EGU General Assembly 2015 © Author(s) 2014. CC Attribution 3.0 License.



Lunar Dynamics on Internal Structure of the Moon on the orbit around the planet Earth

Shigehisa Nakamura

Kyoto University, Tanabe/Wakayama, Japan (schnak09@power.odn.ne.jp)

This work concerns on problem of dynamics of the Moon rotating on the orbit around the Earth. First, the author introduces what about on the reference data which was updated by NASA in 2013. The NASA's mission of GRAIL (Gravity Recovery and Interior Laboratory)in 2012 was a key to obtain the lunar gravity field on the whole area of the Moon's surface.

Now, the author introduces his dynamical model for obtaining an advanced understanding of the lunar internal structure inside of the Moon's surface. The data obtained by NASA had shown that the crust on the moon near side to the Earth was about 30 km thick and that on the moon far side to the Earth was was 50 km. Then, a bold modelling can be introduced for the existing Moon's internal structure referring to the fruuits of the research works in the field of the Earth's gravity found on the basis of the past contributions in the field of geodesy under several bold assumptions wich have been accepted in the fields of astronomy and of the space sciences. In brief, the Moon's gravity could reduce the lunar interface of the core must be surely excentric boldly about 10 km inside of the orbit on the radial line between the Moon and the Earth.Hence, the lunar magnetic field must be freezed to show the reversed polarity relative to that of the Earth. Neverthless, it should be updated to the details in the successive research.