低粘性層を有する月の深部構造：月の潮汐応答に関する最新の測地学的係数に基づいて修正された制約条件

The deep lunar interior with a low-viscosity zone: Revised constraints from recent geodetic parameters on the tidal response of the Moon

*原田 雄司[1,2]、ホーセンス サンダー[3]、松本 晃治[4]、エン 建国[5]、平 勁松[6]、野田 寛大[4]、春山 純一[7]
*Yuji Harada[1,2], Sander Goossens[3], Koji Matsumoto[4], Jianguo Yan[5], Jinsong Ping[6], Hirotomo Noda[4], Junichi Haruyama[7]

1.澳門科技大学太空科学研究所、2.東京大学地震研究所、3.メリーランド大学ボルチモア郡校宇宙科学技術研究探査センター、4.自然科学研究機構国立天文台、5.武漢大学測絵遥感信息工程国家重点実験室、6.中国科学院国家天文台、7.宇宙航空研究開発機構宇宙科学研究所
1.SSI, MUST, 2.ERI, UT, 3.CRESST, UMBC, 4.NAOJ, NINS, 5.LIESMARS, WHU, 6.NAOC, CAS, 7.ISAS, JAXA

We revisit the constraints on the deep lunar interior with a possible low-viscosity zone at the core-mantle boundary obtained from our previous forward modeling of the tidal response of the Moon, by comparing a numerical model with several tidal parameters that have been improved or are newly determined by recent geodetic observations and analyses from GRAIL (gravity), LRO (shape), and LLR (rotation). Our results are in principle consistent with the latest data and lead to a thicker low-viscosity layer (with an outer radius of about 540 to 560 km, which is much larger than that of about 500 km in our earlier investigation) which reaches just below or inside the place where many seismic nests of deep moonquakes are located.

キーワード：粘性、月、内部、潮汐、ラブ数、クオリティ係数
Keywords: viscosity, Moon, interior, tide, Love number, quality factor

