

## Development of In-situ Lunar Orientation Measurement telescope

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The ILOM research group that is consisted of NAO and Iwate Univ. members has proposed to deploy the PZT-type telescope on lunar polar region for the post SELENE-I lunar mission. We aim to measure lunar physical libration with much higher accuracy (1mas) than LLR through this telescope. It is considered that this program leads to deeper investigation of lunar interior structure and dynamics. ILOM telescope is PZT-type refractor that permits tube tilt of 100 arcsec. even for 1mas precise measurement. Aperture of the telescope is assumed to be 20cm and focal length is 2m. It has 3 axis gimbals and half mirror which are used for observation of stars in the field of lunar equator. Images are captured by CCD system that is installed under the mercury pool and processed to position data by on-board electronics. There are many items in the development; optical system, thermal structure, mechanics, stability, operation and data processing of whole system. Preliminary results of centroid experiment will be presented in addition to the review of recent status of the development of ILOM telescope.