
A Study on the Timing Device for Satellite Laser Ranging

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Satellite laser ranging (SLR) is a technique using a pulsed laser and a telescope to measure the range of satellite from the ground with an achievable resolution of millimeters. The achievable resolution is limited by the accuracy of time of flight (TOF) measurements, atmospheric delay compensation, calibration and etc. This paper initially introduces the measurement process and the limiting factors of the measurement accuracy, and then it proposes a TOF measurement system for a SLR system, which is a part of a feasibility study collaboratively performed by KASI (Korea Astronomy & Space Institute), SaTReC (Satellite Technology Research Center) KAIST, KIMM (Korea Institute of Machinery & Materials) and KAERI (Korea Atomic Energy Research Institute).