

Atmospheric seeing studies based on kHz mm SLR in Graz

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We are presenting the results of the atmospheric seeing studies based on long term monitoring of its relation to the ground targets and satellite laser ranging precision. The measurements have been carried out at the SLR Graz, Austria, employing the excellent station performance: 2kHz repetition rate and sub-millimeter instrumental precision. The contribution of the atmospheric fluctuations to the ground target and satellite laser ranging has been measured for the first time. The relation to the local seeing conditions has been identified. The contribution of the atmospheric fluctuations to the ranging jitter budget is in the range of 0.1 to 0.6 millimeter rms. The appropriate model describing the jitter contribution has been found and verified.