

High repetition rate SLR at GRSM

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Abstract :

Advancing our understanding of the dynamic Earth system in the context of global warming requires observations with millimetric accuracy. Since 2014, we are developing at the Grasse laser station (GRSM) an experiment to demonstrate two-color Satellite Laser Ranging (SLR) at high repetition rate in collaboration with SigmaWorks and Politecnico di Milano. An InGaAs/InP Single Photon Avalanche Diode (SPAD) and a silicon SPAD have been specifically developed and characterized with respective maximum repetition rate of 100 kHz and 1 MHz. The first results have been obtained thanks to the performances of the STX event-timer developed for the Time Transfer by Laser Link (T2L2) project. The instrumental performances of the sub-systems will be first introduced. Then, the setup and the results on a ground-ground link of 2x 2.5 km distance will be presented. The space-ground link setup will conclude the presentation.

Topics code :

Session 4 : Novel concepts to improve the SLR network

- High repetition rates

Type :

Oral presentation