

Retrieval of Satellite Optical Response from kHz Laser Ranging Data

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Single-photon laser ranging has been proven to be useful for retrieval of optical pulse shapes of satellite returns (Otsubo and Appleby, 2003). We had to accumulate a huge number of passes of observation data to create a usable residual profile, with the previous-generation Herstmonceux laser system of 10 or 20 Hz repetition and 100-ps pulse width. kHz single-photon ranging with a 10-ps-pulse laser currently realised at Herstmonceux is much more powerful to precisely retrieve a optical pulse shape, with just one or few passes. A quick look of actual data profile will be presented for various kind of satellites.