

## Optical Laser time transfer and high repetition monostatic SLR

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High repetition rate Satellite Laser Ranging usually employs a bistatic telescope setup. This means that two separate telescopes are dealing with in the transmit and receive functions of the ranging process. The necessary isolation between the bright outgoing laser pulse and the incoming single photon receiver signal requires several orders of magnitude. We have designed a transmit- receive- unit capable of handling the required isolation. Furthermore it is possible to synchronize this system to an external time scale as it is required for the European Laser Timing (ELT) experiment. With the current repetition rate of up to 400 Hz the WLRS now supports the 100 Hz rate specified for ELT. In order to improve the system stability for time-transfer applications, parts of the timing system were upgraded. Routinely we operate the WLRS now at the laser fundamental wavelength of  $1.06\ \mu\text{m}$  with the option of performing laser ranging at the second harmonic if required. Since neither the rise time nor the quantum efficiency of the current detector sets a limitation, we can avoid the signal loss of the second harmonic conversion process. In this talk we discuss the performance of the upgraded system.