

## Preliminary results of the correlation between T2L2 and DORIS, on Jason2

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T2L2 (Time Transfer by Laser Link) is a real two-way time transfer system based on Satellite Laser Ranging (SLR) technology. It has been accepted in 2005 to be on board the Jason2 altimetry satellite. The metrological specifications of T2L2 should permit to maintain a precision of 1 to a few ps when measuring the phase of a clock during around 1000 seconds; in addition it has been designed to reach an accuracy better than 100 ps when comparing two ground clocks via the space equipment.

First analysis of T2L2 data permitted to validate some important characteristics of the experiment ; Exertier et al., (2010) described the overall error budget in terms of ground to space time transfer. Now, the complete instrumental model of the hardware being developed it leads to a stability of a few ps over 1000 s when transferring time from an SLR station equipped with Hydrogen Maser as time device, to the on board clock of Jason2 (the Ultra Stable Oscillator of the DORIS package).

Among the scientific objectives of T2L2 related to space geodesy, there is a possibility to monitor the DORIS-USO during a ground-to-space time transfer session (of 1000 secnds maximum). By taking into account the best data sets available between SLR stations that have been equipped with a H-Maser as the reference clock, we show the fine deviations (order of few picoHz) of the DORIS-USO frequency every 10 to 30 seconds, depending on the availability of both SLR and T2L2 data. We also make a correlation with DORIS by accounting for the orbit residuals that are produced during the Jason2 orbit estimation process.