Improvements of the French Transportable Laser Ranging Station to high accuracy level

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***Why ?**

To be able to track Low to Lageos satellites
To acquire great accuracy and stability
To operate and maintain Ftlrs in « the fields »

***How ?**

Laser to green, pulse shorter (35 ps), stable

New optical design for reception

C-Spad for return detection
Fast start device with level processing

Timing devices (clock, chronometry)

Friendly and efficient software

***+ engineering tests in laboratory**

C-Spad Time walk
Chronometer
Laser stability and roughness

Colocation and validation experiment with the three Grasse laser stations (FTLRS, SLR and LLR) on Lageos satellites (fall 20001)

* **Relative biases :**

Slr-Ftlrs : 5mm
Ftlrs-Graz : 3 mm
Ftlrs-Herstm : 3 mm

Corsica campaign for Jason1 calibration/validation (01-09 2002)

***Objectives :**

1.positioning with Lageos

2.Jason1/Topex calibration

***Results in passes :**

1563 Low earth orbiting sat
87 Lageos
467 in common with Grasse

Reliability of the system demonstrated on six months

Very good stability from CSR lageos analysis

Excellent agreement for positionning with Lageos and Jason1 orbits.

***17 Jason1/Topex calibration passes (13 common with Grasse SLR)**