

San Fernando Laser station: News and improvements

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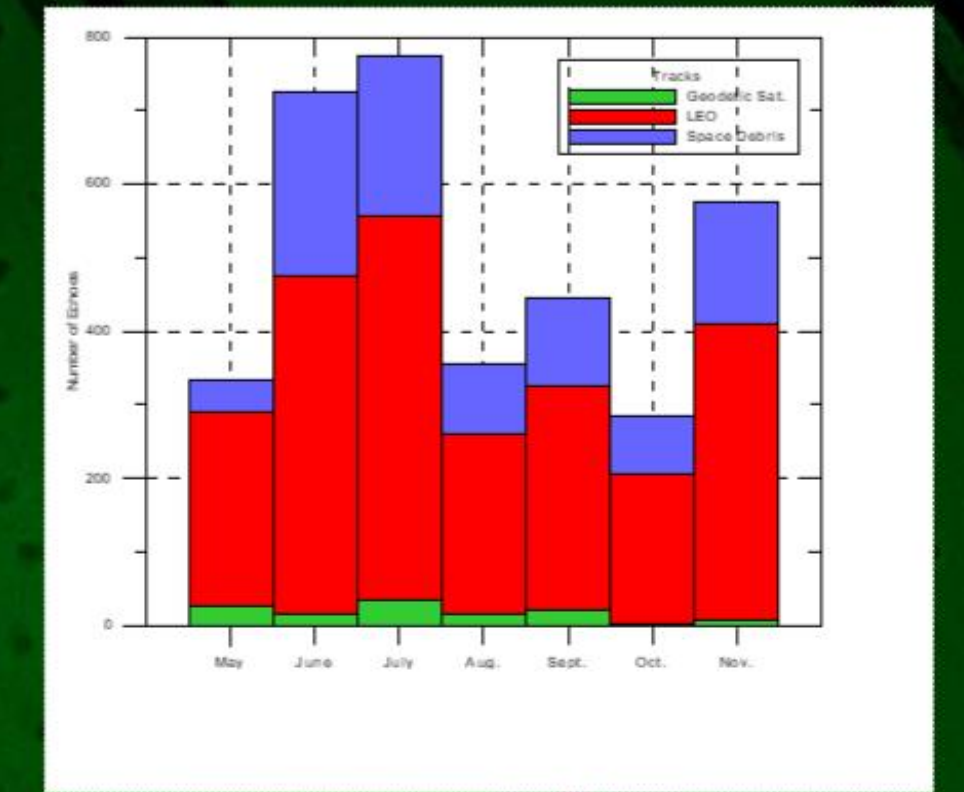
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San Fernando laser station has been working on this geodesic technique for more than 4 decades. In the photo first French installation in 1975.



In 2015, a new field of work was opened, such as the monitoring of non-active collaborative objects. It marked a first step towards space debris tracking. We face some limitations as the poor initial quality of orbital elements, our low transmission power and our low repetition rate (10 Hz).



Despite of these drawbacks we got positive results on inactive collaborative objects.

From 2016 lots of development in software and hardware updates.

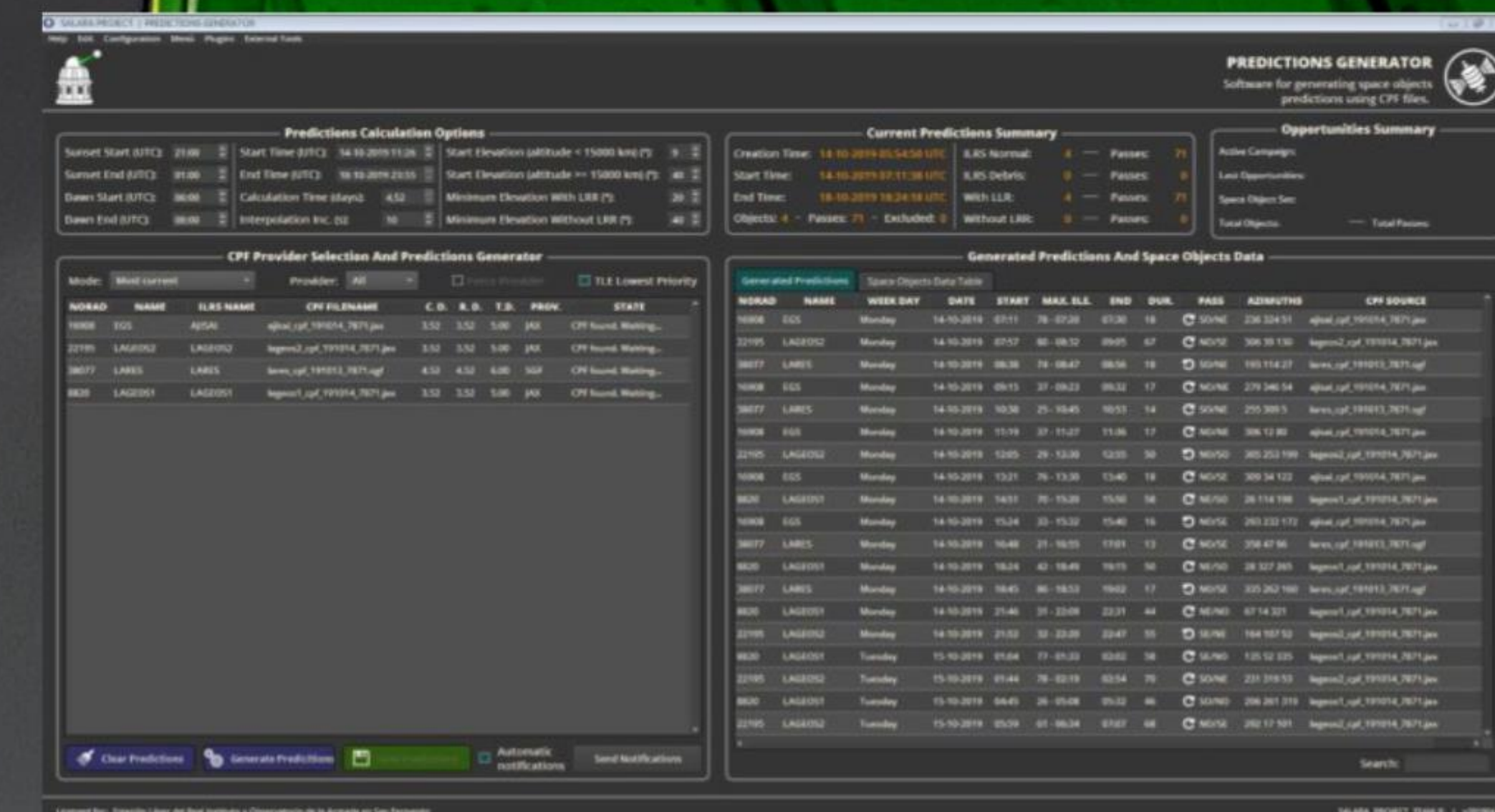
Our Task force is formed

We aim to improve the performances of the Spanish contribution to EU-SST activities

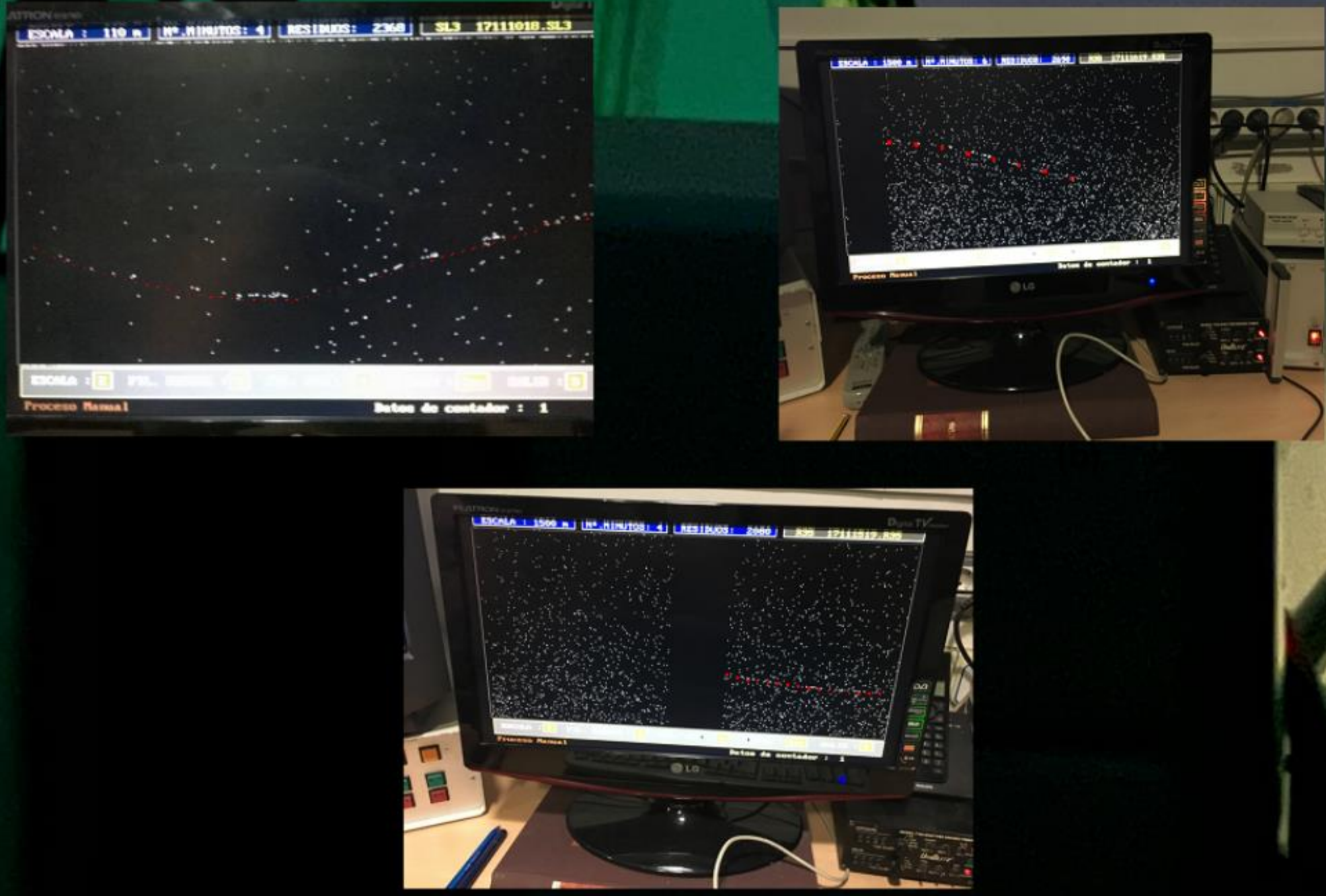
Our new Task Force

NL 319 EKSPLA for SST activities:
Pulse energy at 532 nm: 2.5 J.
A 8 ns average pulse width.
Beam diameter: 21 mm.

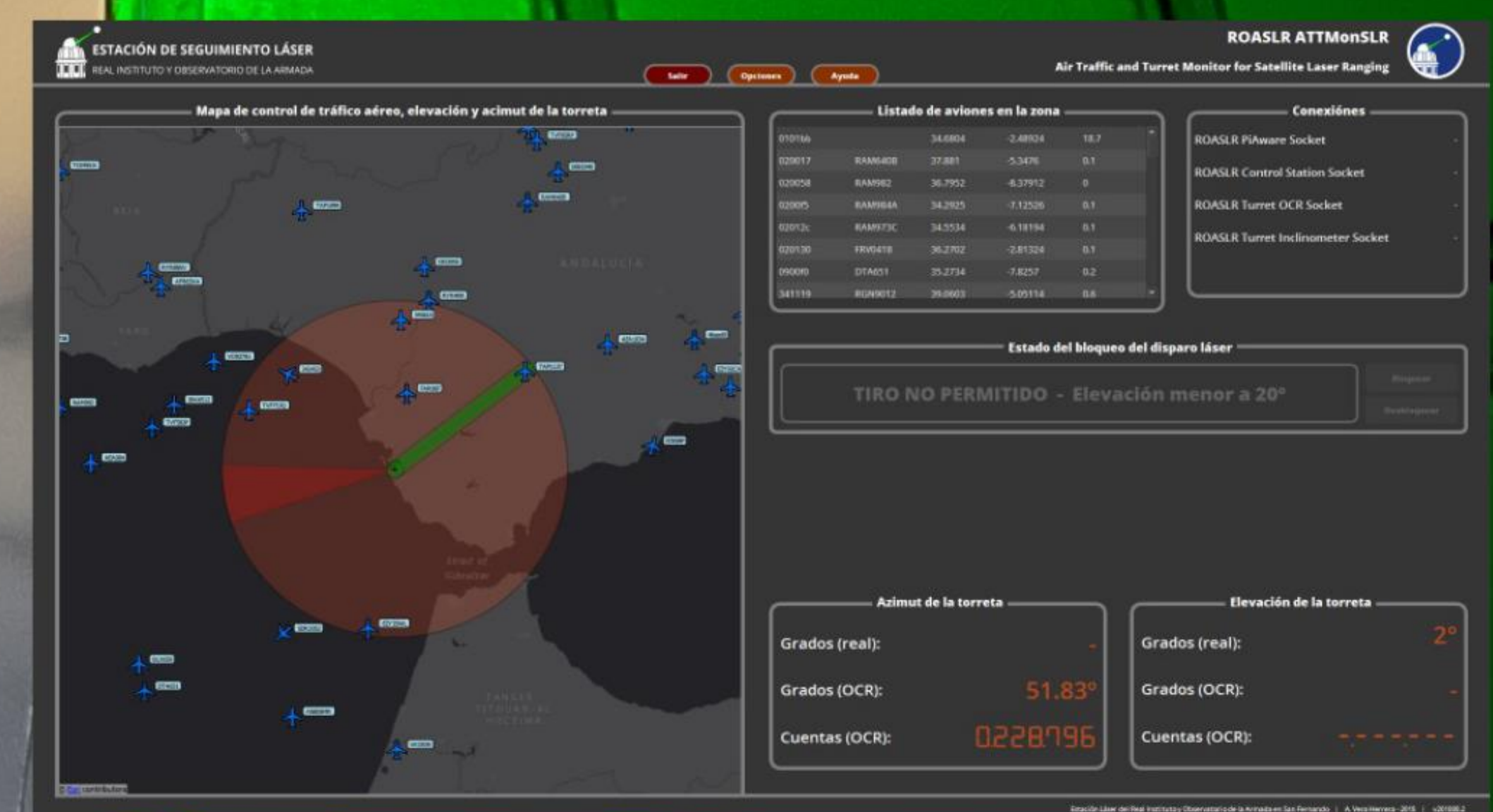
PL 2251C EKSPLA:
Pulse energy at 532 nm: 50 mJ.
Pulse duration: 30 ps.
Beam diameter: 12 mm.



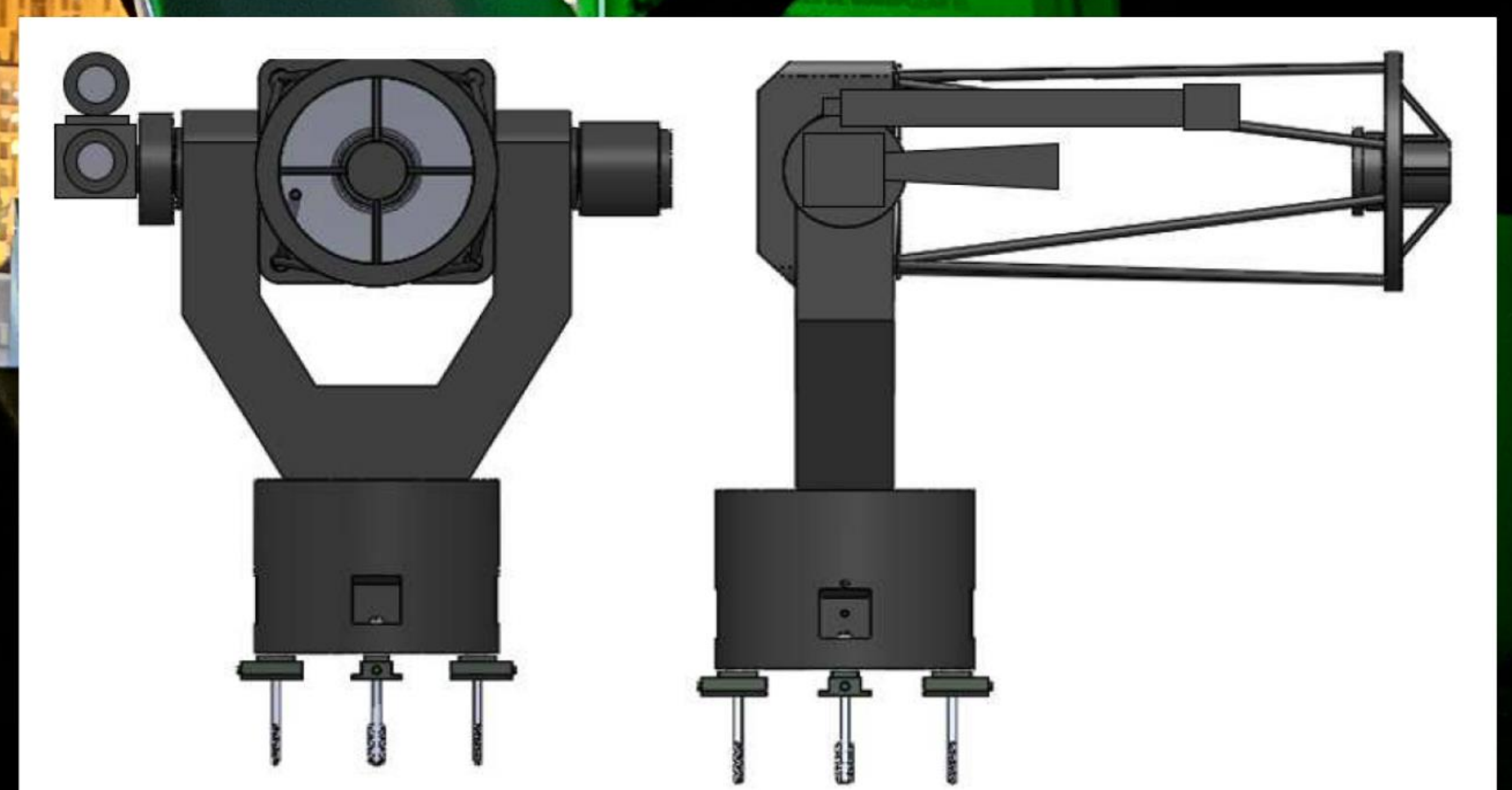
To set nighttime schedule observation by selecting objects according with a criteria: RCS / with or without LRR/...CPF manager



A study on the impact of the installation of a more powerful laser bench on the EU-ST activities. This new laser bench allows tracking on a more complete set of space objects, including non-collaborative



Air safety alert system based on ADS-B



Currently our major limitation refers to the laser-telescope gimbal. Recently we have got funding to carry out its replacement and we hope it will be a reality in the next coming months. It means that San Fernando station will be out of activity temporarily for some months.

This project will be a turning-point as it will enhance our angular resolution, reaching 2 or 3 arcseconds. We hope that our observational performance will be very clearly improved, opening the possibility of daytime and blind tracking on active objects and space debris as well.