

SPACE DEBRIS SYMPOSIUM (A6)  
Measurements (1)

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## SURVEY-ONLY STRATEGIES FOR THE DETECTION AND CATALOGUING OF SPACE DEBRIS

**Abstract**

DEIMOS Space S.L.U. and Observatorio Astronómico de Mallorca (owner and operator of the La Sagra Observatory) carry on a project devoted to testing the operational feasibility of enhanced survey-only observation strategies that minimize the tracking needs to create and maintain a catalogue of high altitude objects. This project is co-funded by these two organisms and the Spanish CDTI (Centro de Desarrollo Tecnológico Industrial). The observations campaigns started at 16 of November 2011 lasting 46 observation nights. Bad weather, full moon and other atmospheric conditions have impacted the observations and associated results. When atmospheric conditions were not favourable, calibration measurements (1857 measurements in total) or tracking measurements (863 measurements in total) were performed. Otherwise, the theoretical survey-only strategy was adapted to the concrete night conditions (58971 measurements in total). We have analysed systematic time errors from the calibration campaign. We have correlated the survey measurements within the TLE catalogue (12.77% of triplets do not match with any object in TLE catalogue). We have analysed the orbit accuracy we reach from these survey measurements, by comparison within TLE orbits. We have also created a catalogue from scratch with these measurements. And we have developed a tracking tool for the telescopes. A summary of those events is provided.