

SPACE DEBRIS SYMPOSIUM (A6)
Interactive Presentations (IP)

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ON THE USE OF LONG-RANGE RADARS FOR SPACE SITUATIONAL AWARENESS: AN
EXPERIMENTAL TEST

Abstract

This paper reports on the results achieved in an experimental test conducted with the Selex ES RAT (Radar Avvistamento Terrestre) 31DL long range radar in December 2014. The objective of the test was to determine the capability of the radar in detecting and tracking Low Earth Orbit (LEO) satellites and debris with an external cue command derived by the NORAD two line elements. The test has been prepared and conducted together with the Italian Air Force in the frame of the italian support to European Space Situational Awareness (SSA) program and in particular for the development of a dual-use function for the detection and tracking of space or orbital debris. Test setup and orbits simulation aiming at RADAR tuning and optimization are presented in the paper, as well as the field test results.