



**POLITECNICO**  
MILANO 1863

DIPARTIMENTO DI  
SCIENZE E  
TECNOLOGIE  
AEROSPAZIALI

## Italian Space debris radar monitoring within the SST (Space Surveillance and Tracking) EU program

*Germano Bianchi*

*Istituto Nazionale di Astrofisica - Istituto di Radioastronomia*

**Abstract** - As the amount of space debris orbiting the earth is continuously increasing, it is becoming essential to monitor and predict the debris trajectories in order to avoid collisions that could threaten space missions, i.e. operative satellites or manned spacecraft. In this presentation, an innovative bistatic radar system, involving the Northern Cross radiotelescope, is proposed as an instrument for the observation of Earth-orbiting objects. The Northern Cross is a receiving part of a bistatic radar named BIRALES (Bistatic RADar for LEO Survey), which is one of the European sensors involved in the SST network.



**Bio** - **Germano Bianchi** graduated in Radio Communication Engineering from the University of Bologna. He is working as a researcher at the Medicina (BO) Radio Astronomical Institute of the National Institute for AstroPhysics (INAF). He is in charge of the Northern Cross radiotelescope and he is the chairman of the national technological Space Debris committee. He is involved in the SST EU programme for the upgrading of assets and radar monitoring of orbiting objects. In the past he was involved in the development of the new generation radiotelescope named SKA (Square Kilometer Array) as a designer of digital backend, analogue signals synchronization and antenna array correlation.

Sito Web DAER: <http://www.aero.polimi.it>

June, the 30th, 2017 at 12:15  
Sala Consiglio, 2nd Floor, Building B12, Campus Bovisa  
Dip. di Scienze e Tecnologie Aerospaziali  
Via La Masa, 34 - 20156 Milano