



Contribution ID: 11

Type: **Oral**

## The SKALA4-AL antenna: the Italian solution for SKA1-LOW - 15'

*Monday, 3 December 2018 12:30 (15 minutes)*

This contribution deals with the SKALA4-AL antenna developed by INAF in collaboration with CNR-IEIIT and the industrial partner Sirio Antenne. This dual-polarized Log Periodic Dipole Antenna optimized to operate between 50 and 350 MHz is a candidate for the SKA1-LOW telescope. The main characteristics of the antenna are: aluminium material, 50 ohm single-ended feeding, screw fastening and grounding to the metallic plate. Besides the antenna, the Italian team worked also on developing a low noise amplifier (LNA) based on a 50-ohm single-ended solution to be installed on top of the antenna to amplify the signal before transmitting it to the front-end module. Two SKALA4-AL prototypes have been built, one of them used for tests in Italy, while the other antenna shipped to the Murchison Radio Observatory (MRO) site in Australia. Results from electromagnetic numerical analysis and experimental tests conducted in Turin with a hexacopter system and at MRO will be discussed. Finally, the current status and future perspectives of this activity will be presented.

**Primary authors:** BOLLI, Pietro (INAF - OAA); MEZZADRELLI, Lorenze (Sirio Antenne); MONARI, Jader (INAF - IRA); PERINI, Federico (INAF - IRA); SCHIAFFINO, Marco (INAF - IRA); TIBALDI, Alberto (CNR - IEIIT); VIRONE, Giuseppe (CNR - IEIIT)

**Presenter:** BOLLI, Pietro (INAF - OAA)

**Session Classification:** SKA-related technology and HPC activities