Contribution ID: **19** Type: **Talk**

High-resolution SZ cartography of clusters of galaxies with NIKA ath the IRAM 30-m telescope

Saturday, 5 December 2015 15:25 (20 minutes)

Thermal Sunyaev-Zeldovich effect (tSZ) is a powerful probe that has been proved to be complementary with respect to traditional methods of cluster detection (e.g. X-ray, optical). Previous arcmin resolution tSZ observations (e.g. SPT, ACT and Planck) only allowed detailed studies of the intra cluster medium morphology for low redshift clusters (z < 0.2). Thus, the development of precision cosmology with clusters requires high angular resolution observations to extend the understanding of galaxy cluster towards high redshift.
NIKA2 is a wide-field (6.5 arcmin field of view) dual-band camera, operated at 100 mK and containing ˜ 5000 KID (Kinetic Inductance Detectors), designed to observe the millimeter sky at 150 and 260 GHz, with an angular resolution of 18 and 12 arcsec respectively. The NIKA2 camera will be installed on the IRAM 30-m telescope (Pico Veleta, Spain) in September 2015. The NIKA2 tSZ observation program will allow us to observe a large sample of clusters (50) at redshifts between 0.5 and 1. As a pathfinder for NIKA2, several clusters of galaxies have been observed at the IRAM 30-m telescope with the NIKA prototype to cover the various configurations and observation conditions expected for NIKA2.

I will present recent tSZ observations of clusters of galaxies with the NIKA prototype at the IRAM 30-m telescope together with the forthcoming tSZ observation program with the NIKA2 camera.

Primary author: MAYET, Frédéric (CNRS)

Presenter: MAYET, Frédéric (CNRS)

Session Classification: 08 - Cosmic microwave background