



ID contributo: 60

Tipo: non specificato

Observations with KIDs Interferometer Spectrum Survey (KISS)

venerdì 2 luglio 2021 09:30 (25 minuti)

In the millimeter astronomy domain, there is a strong demand of the scientific community to develop multi-band instruments for component discrimination, foreground characterization and Cosmic Microwave Background spectral distortion mapping and line intensity mapping. An interesting instrumental candidate to fulfill such a necessity is the exploitation of Fourier Transform Spectrometers (FTSs). In particular, the case of ground-based experiments needs an additional requisite: the atmospheric fluctuations have to be addressed. For this purpose, FTSs have to be coupled with fast detectors, and Kinetic Inductance Detectors (KIDs) are the fastest available in large format array.

In this scientific framework, we have developed the KIDs Interferometer Spectrum Survey (KISS), which uses two arrays of KIDs coupled to a Martin-Puplett interferometer. KISS allows a wide instantaneous Field of View (1 degree) and a spectral resolution up to 1.5 GHz in the 120–180 GHz electromagnetic band. The instrument is installed on the 2.25-meter Q-U-I JOint TENERife (QUIJOTE) telescope in the Observatory of Teide, Tenerife, and it is currently operational.

KISS has been the pathfinder of the new Carbon CII line in the post-reionization and Reionization epoch project (CONCERTO).

I will give an overall description of the instrument and I will present recent results from the last year of observations.

Autore principale: Dr. FASANO, Alessandro (LAM)

Coautore: Dr. MACIAS-PEREZ, Juan (LPSC); Dr. CATALANO, Andrea (LPSC); KISS COLLABORATION

Relatore: Dr. FASANO, Alessandro (LAM)