



Contribution ID: 66

Type: **not specified**

CONCERTO at APEX: Installation and first phase of on-sky commissioning

Friday, 2 July 2021 09:55 (30 minutes)

CONCERTO is a large field-of-view spectro-imager that has been installed in the Cassegrain Cabin of APEX telescope in April 2021. The scientific program of CONCERTO has many objectives: the main two programs are focused on mapping the fluctuations of the [CII] line intensity in the reionisation and post-reionisation epoch ($4.5 < z < 8.5$) and on studying galaxy clusters via the thermal and kinetic SZ effect. Also, CONCERTO will measure the dust and molecular gas contents of local and intermediate-redshift galaxies, it will study the Galactic star-forming clouds and finally it will observe the CO intensity fluctuations arising from $0.3 < z < 2$ galaxies. From the instrumental point of view, with 2 focal planes and a total number of 4k KID detectors, CONCERTO will cover an instantaneous field of view of 20 arc-minutes in the range of electromagnetic frequencies 120-360 GHz. The spectral resolution is easily tunable up to 1 GHz depending on the scientific target. I will present the design of the instrument, the installation at Apex and the current status of the commissioning phase and science verification at the time of the talk.

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