The CarbON CII line in post-rEionization and ReionizaTiOn epoch project (CONCERTO)

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Abstract

The fine structure line [CII] at 158 microns is one of the brightest emission lines in the spectra of galaxies. It is considered to be the dominant coolant for neutral atomic gas in the interstellar medium. Conveniently, [CII] is redshifted into the relatively transparent sub-millimeter and millimeter atmospheric windows for 4.56). However, so far, [CII] studies of very distant galaxies have been limited, with detection of only a handful of galaxies. CONCERTO is a new instrument that we are proposing for the APEX Cassegrain Cabin. It is a spectrometer with an instantaneous field of view exceeding 300 Sq. arcmin. and a spectral resolution of 1.5 GHz. It will cover the frequency band 200-360 GHz. The main scientific aim of CONCERTO is to study intensity mapping of the CII line in the reionisation and post-reionisation epoch. I will review the major scientific goals of CONCERTO and present a status of the instrument.

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