



ID de Contribution: 85

Type: Non spécifié

The Terahertz Intensity Mapper: CII Line Intensity Mapping at Cosmic Noon

mardi 3 juin 2025 16:10 (15 minutes)

The Terahertz Intensity Mapper (TIM) is a NASA far-infrared balloon mission that will conduct a line intensity mapping survey of the [CII] 157 μ m line during the peak and wind down of cosmic star formation. The redshift range of our survey - $0.5 < z < 1.7$ - corresponds to the expected peak in the mean [CII] intensity, and provides abundant opportunities for cross-correlation with extensive existing and planned multi-wavelength surveys. I will provide an overview of the TIM instrument, our progress in preparing for flight in the 2026-2027 austral summer, and our expected scientific results. TIM will achieve sufficient sensitivity to differentiate between a wide range of models for the [CII] auto-power spectrum. Further, by targeting GOODS-S and the Euclid Deep Field Fornax, TIM can detect even the most pessimistic models for [CII] with a signal to noise ratio of 15 or greater in cross-correlation with NIR spectroscopic surveys. This will allow TIM to constrain the mean [CII] intensity in multiple redshift bins around cosmic noon, providing an independent accounting of the cosmic star formation history.

Author: KEENAN, Ryan (Max Planck Institute for Astronomy)

Orateur: KEENAN, Ryan (Max Planck Institute for Astronomy)

Classification de Session: Contrinbuted Talks 7: EXCLAIM/TIM/TIFUUN/SPTSLIM