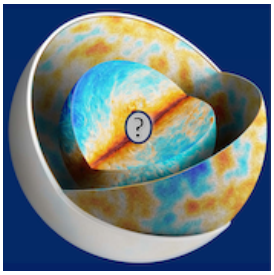

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BISOU: a balloon project to measure the CMB spectral distortions

lundi 15 novembre 2021 15:10 (20 minutes)

The BISOU (Balloon Interferometer for Spectral Observations of the Universe) project aims to study the viability and prospects of a balloon-borne spectrometer, pathfinder of a future space mission dedicated to the measurements of the CMB spectral distortions, in order to achieve a first measurement. A balloon concept based on a Fourier Transform Spectrometer, covering a spectral range from about 90 GHz to 2 THz, adapted from previous mission proposals such as PIXIE and PRISTINE, is being studied and modelled. Taking into account the specificities of a balloon flight in term of requirements and conditions (i.e. residual atmosphere, observation strategy for instance), this CNES phase 0 study will evaluate if such an spectrometer is sensitive enough to measure at least the Compton y-distortion while consolidating the instrumental concept and improving the readiness of some of its key sub-systems.

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