
A TeraHertz Balloon-Borne facility : ASTHROS

Laurent Pagani*¹, Jorge Pineda, P. I.², and On Behalf Of The Asthros Team

¹Laboratoire d'Etude du Rayonnement et de la Matière en Astrophysique – Observatoire de Paris, Université de Cergy Pontoise, INSU, CNRS : UMR8112, Université de recherche Paris Sciences Lettres (PSL), Sorbonne Université, UPMC – France

²JPL, NASA, California – United States

Abstract

ASTHROS is a 1.5-3 THz balloon-borne project led by JPL and funded by NASA for a flight in december 2023 from the McMurdo antarctica facility. It will carry a 2.5m dish, two 4-pixel heterodyne cameras to observe simultaneously NII fine structure transitions at 122 and 205 μm in the ISM and in M83. It will also observe the HD J:1-0 transition at 112 μm towards a protostellar disk. The flight should last 21 days (nominal) and could extend up to two months, weather permitting. An extended flight would allow to perform other observations in various sources.

*Speaker