

Poster General

INFRARED OBSERVATIONS WITH SOFIA

R. Klein¹ and the SOFIA team

¹*SOFIA/USRA, NASA Ames, Moffett Field, CA, USA*

The infrared is a crucial wavelength range to study any astrophysical object with a temperature between a few 100K and a few Kelvin. At these temperatures, which are typical for the cold and warm interstellar medium (ISM), the spectral energy distribution (SED) peaks in the infrared. For example, the absolute maximum of an SED of a star-forming galaxy is located in the infrared as the bulk of the star light is absorbed by the ISM and reemitted in the infrared. Fine-structure lines from atoms and ions are prominent cooling lines of the ISM and can be used as diagnostic tool for various phases of the ISM. Another example for targets in the right temperature range are planetary atmospheres or surfaces of minor bodies.

SOFIA, the Stratospheric Observatory for Infrared Astronomy, is the only facility providing community access to this crucial part of the spectrum currently and for the foreseeable future. Infrared observations are possible from $5\mu\text{m}$ up to $240\mu\text{m}$ with suite of five instruments. The instruments offer imaging and spectroscopy over the whole wavelength range.

This poster presents a short summary of the capabilities and instruments of SOFIA together examples of how they have been employed. The science highlights range from extra-galactic star formation, the galactic center and galactic star formation over to planetary science.