Poster: Dust property variations and the concentration of mass in IRDCs: a NIKA view

- Andrew Rigby

The thermal continuum emission of interstellar dust grains is a robust tracer of molecular gas, and may be used to estimate its mass over many orders of magnitude. However, that link depends crucially upon our knowledge of dust grain properties. Using observations from NIKA, the pathfinder instrument for the new fast-mapping and high-sensitivity millimetre continuum camera on the IRAM 30 m telescope, NIKA2, we investigate what constraints simultaneous 1.2 mm and 2.0 mm observations can place on spatial variations of the dust emissivity spectral index in two Infrared Dark Clouds lying on the Inner Galactic Plane. In addition, by combining our NIKA observations with Herschel imaging, we explore the concentration of mass in both clouds, and considering the implications for the underlying star formation. We will also present the first images from GASTON, a NIKA2 guaranteed time large programme partly consisting of a Galactic plane survey that will achieve the highest sensitivity ever obtained from a ground-based millimetre telescope.

Upcoming Facilities and Future Surveys