

Transients in Middle Earth



Contribution ID: 20

Type: not specified

Flying high in the skies over Antarctica, the story of the GUSTO telescope and its data pipeline.

Tuesday, 10 February 2026 10:00 (20 minutes)

GUSTO (Galactic/Extragalactic Spectroscopic Terahertz Observatory) is a NASA Mission of Opportunity balloon mission which successfully flew for 55 days in early 2024 high over Antarctica. GUSTO carried out fully sampled large-area observations of two key fine structure lines - [NII] 3P1-3P0 and [CII] 2P3/2-2P1/2 over a 62 square degree area of the galactic plane with a velocity resolution better than 1 km/s. The extensive two-dimensional spectral line images of the Milky Way provided by the GUSTO galactic plane survey provide an extensive database of the structure of the ISM's different phases and how they connect to one another.

As part of GUSTO's science team, and data reduction team, the author has spent the time since then wrangling this large data set, and finding more and ever cleverer ways of extracting signal from the noise. As an added bonus, he'll also share how if you are particularly patient (very patient, i.e. tens of millions of years patient) the gas in this data set could blossom into bright transient feature that would light up the night sky!

Author: MARTIN, Chris (Explorative Science Foundation)

Presenter: MARTIN, Chris (Explorative Science Foundation)

Session Classification: Ground-based