



ID contributo: 55

Tipo: non specificato

Galactic Star Formation with NIKA2 (GASTON): First results from the Galactic plane survey

venerdì 2 luglio 2021 14:00 (25 minuti)

The formation of high-mass stars, with $M > 8$ solar masses, appears to require special conditions that are unnecessary for their lower-mass counterparts. A growing body of studies in the literature suggests that their precursors occur at the centres of networks of converging filaments, from which mass is channelled from globally-collapsing molecular clouds. However, it is not clear whether the so-called 'hub-filament' morphology is the exception or the rule for high-mass star formation, nor is it clear what the mass regime is at which such a setup becomes vital. The GASTON large programme at the IRAM 30m telescope is exploiting the high-angular resolution and mapping speed of NIKA2 to survey a large field of the inner Galactic plane (GP) at extremely high sensitivity in order to address these questions. In this talk, I will present the first science results obtained from the GASTON GP field, in which we have identified a large population of clumps of dense gas, of which a quarter have not been previously detected by Herschel. I will describe the steps taken to define distances to the clumps in the challenging GP environment, and to determine their physical properties. By dividing the sample into several groups based on their relative evolutionary age, we will show evidence that the most massive GASTON clumps are accreting material from their environment, supporting the scenario of globally-collapsing molecular clouds.

Autore principale: RIGBY, Andrew (Cardiff University)

Coautore: PERETTO, Nicolas (Cardiff University)

Relatore: RIGBY, Andrew (Cardiff University)