

# Dynamics of 70 micron quiet clumps and their environment

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In a hierarchical view of the star formation process the material flows from large molecular clouds down to clumps and cores. In this talk I will focus on the dynamics and gravo-turbulent properties of massive clumps at the very early stages of star formation, the so-called 70 micron quiet clumps. I will compare the properties of some of the most massive 70 micron quiet clumps identified in association with IRDCs with a new sample of intermediate massive objects that have been observed with IRAM 30m. With these data I will show how the interplay between gravity and turbulence changes as function of the mass of the regions. I will also investigate the relation between the dynamics of these clumps and the properties of the clouds associated with them. The large majority of these objects are embedded in filaments recently identified in the Hi-GAL survey, and their dynamics have been evaluated with  $^{13}\text{CO}$  data. I will compare the properties of the filaments and the 70 micron quiet clumps and show if there is any correlation between the large-scale and the parsec-scale properties of these regions, as expected in a hierarchical star-formation mechanism, across a large range of clump masses.

*Galactic Scale*