

The PHANGS view of cloud-scale motions in the cold gas reservoir of nearby galaxies

Annie Hughes¹, Sharon van der Wel², Raphaël Maris¹ on behalf of the PHANGS collaboration

1 IRAP

2 University of Ghent

The latest generation of observational surveys has significantly improved our understanding of motions within the cold gas reservoir of nearby galaxies. Accessing a rich diversity of galactic environments, these new datasets tend to favour a more dynamic organization of the cold interstellar medium than the traditional view that discrete, virialized clouds set the initial conditions of star formation. In this talk, I will summarise recent observational results from the PHANGS-ALMA survey that characterise where the molecular gas in nearby galaxies exhibits systematic departures from virialization, and describe how we are using these results to test models for the physical origin of those departures and the importance of the background galactic potential for cloud-scale gas motions.