
PHANGS: Star formation, feedback and chemical enrichment in nearby galaxies

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Abstract

The Physics at High Angular resolution in Nearby Galaxies (PHANGS) project is pursuing three major observing programmes with ALMA, VLT/MUSE and the HST in order to study the interplay of the small-scale physics of gas and star formation with galactic structure and galaxy evolution across a representative sample of star-forming main sequence galaxies in the local Universe ($d < 20\text{Mpc}$). With observations at high angular resolution ($< 100\text{pc}$), the PHANGS legacy datasets provide a detailed, panchromatic view of ionised gas, stellar light and the cold molecular gas in nearby galaxies and enable statistical studies of star formation, feedback and chemical enrichment across different galaxy environments. In this talk, I will give an overview of the PHANGS project, and highlight our latest results for the physical conditions of the molecular gas reservoir, the star formation activity and the metallicity distribution in PHANGS galaxies.

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