A SYNOPTIC VIEW OF THE MAGELLANIC CLOUDS: VMC, GAIA AND BEYOND

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Beyond The Solar Neighborhood: Studying Star Formation in Low-mass Molecular Clouds in the SMC

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The Magellanic Clouds play an important role in addressing long-held goals of the star formation community: to extend detailed studies of individual molecular clouds beyond the Solar Neighborhood and bridge the gap between Galactic and extragalactic studies. I present results from a study of star-forming molecular clouds in the SMC that addresses these goals through its analysis of Magellanic analogs to benchmark Milky Way clouds. Using deep Hubble Space Telescope imaging obtained by the SMIDGE survey, I identify and characterize a sample of ~1000 solar-mass pre-main sequence stars that serve as sensitive star formation tracers. When combined with CO observations from APEX and ALMA, I derive measurements of star formation efficiency for a sample of ~ 20 molecular clouds that are well-matched to nearby Milky Way clouds (e.g., Orion, Perseus) in terms of cloud mass ($\sim 10^4$ Msun) and star formation rate sensitivity. I will discuss how these observations address open questions regarding offsets and scatter in current star formation efficiency measurements, and look ahead to upcoming studies of star formation in the Magellanic Clouds enabled by ALMA and JWST.