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Presentation Requested: poster
Category: Evolution of the Interstellar Medium and Star formation over Cosmic Time
Question: Is there a common Schmidt-Kennicutt law at all redshifts and all scales? How is this "law" affected by different measurement limitations or conversion factors from tracer molecules or emission / absorption lines to amounts of gas and SFR?

The Low Metallicity ISM in the Small Magellanic Cloud at High Resolution

We present the first results from the Herschel Spectroscopic Survey of the Small Magellanic Cloud (HS^3), which imaged the key infrared gas cooling lines [CII], [OI], [OIII], and [NII] in five star-forming regions at $\sim$ 2 pc resolution and obtained FTS spectra. We find that there is [CII] and [OI] emission throughout all of the regions, suggesting increased heating in the low-metallicity ISM as compared to Galactic. Combining the [CII] and [OI] with APEX ^{12}CO (2-1) data, we use new models based on Kaufman et al. (2006) at 1/5 Galactic metallicity with the PDR Toolbox (Pound & Wolfire 2008) to get maps of the volume density and radiation field in these regions. We also present the plans for ALMA Cycle 2 data in these regions, which will resolve the molecular to atomic transition for the first time at 1/5 Solar metallicity.