

ALMA2019: Science Results and Cross-Facility Synergies



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Small-Scale Substructures in Protoplanetary Disks

Thursday, October 17, 2019 11:40 AM (25 minutes)

Invited talk

Abstract:

The Disk Substructures at High Angular Resolution Project (DSHARP) observed 20 nearby protoplanetary disks in the 240 GHz continuum and $12\text{CO } J=2-1$ spectral line with the Atacama Large Millimeter/submillimeter Array (ALMA) at a resolution of 35 milli-arcseconds (5 au). This talk will describe the motivation for this project and highlight the initial DSHARP results. We find that small-scale substructures in the dust continuum emission are ubiquitous in this sample, manifesting primarily as axisymmetric, narrow rings and gaps, with a small subset showing azimuthal deviations or spiral wave patterns. These features will be compared with current models for potential origins of disk substructures, and used to highlight some important follow-up work.

Presenter: Dr ANDREWS, Sean

Session Classification: Circumstellar Disks