Contribution ID: **52** Type: **Contributed talk**

Infrared light curves of dusty & metal-poor AGB stars

Monday, 11 June 2018 15:45 (25 minutes)

The effects of metallicity on both the dust production and mass loss of evolved stars have consequences for stellar masses, stellar lifetimes, the progenitors of core-collapse supernovae, and the origin of dust in the ISM. With the DUST in Nearby Galaxies with Spitzer (DUSTiNGS) survey, we have discovered samples of dusty evolved AGB stars out to the edge of the Local Group, reaching metallicities down to 0.6% solar. This makes them the nearest analogs of AGB stars in high-redshift galaxies. We present new infrared light curves of the dustiest AGB stars in 10 galaxies from the DUSTiNGS survey and show how the infrared Period-Luminosity (PL) relation is affected by dust and by metallicity. These results have implications for the efficiency of AGB dust production at high-redshift and for the use of the Mira PL relation as a potential distance indicator.

Consider for a poster?

Yes

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Session Classification: Dust production in low mass stars

Track Classification: The creation and evolution of dust