Deciphering dusty post-RGB stars: a progress report.

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Abstract

The dusty post-Red Giant Branch (post-RGB) stars are a newly discovered class of low-luminosity, low-metallicity objects that have dust excesses and stellar parameters similar to post-Asymptotic Giant Branch (post-AGB) stars. However, they have luminosties lower than the tip of the Red Giant Branch (RGB). We suspect that they have evolved off the Red Giant Branch (RGB) instead of the AGB due to binary interaction. Our recent studies on dusty post-RGB objects in the LMC and SMC (based on spectra from VLT and SALT) include the first radial velcity monitoring of these objects and also investigations of their photospheric chemistry, both of which are excellent tracers for binarirty. In this talk, I will present our efforts and new results on revealing their true evolutionary nature, formation channels, connection to other evolved binaries, and their place in the archaeology of their host galaxy.

Keywords: Evolved stars, binarity, postRGB/postAGB, common envelope evolution, binary formation channels, spectroscopy

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