

Carbon stars in the Milky Way and beyond

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Carbon stars are crucial dust producers in the Universe.

These Asymptotic Giant Branch (AGB) stars play a significant role in the creation of a considerable portion of the molecules observed in the Interstellar Medium (ISM), contributing to the interstellar reddening not only within our Galaxy but also in other galaxies.

Despite their importance, a self-consistent estimation of the astrophysical parameters of Carbon Stars belonging to the Milky Way (MW) and the Magellanic Clouds (MCs) is still missing.

In this work, we provide a homogeneous and internally consistent analysis of stellar and dust properties for a sample consisting of over 10,000 candidate Carbon Stars, belonging to both the MW and the MCs.

We conducted a comparison of photometric data obtained from SDSS, GAIA and other missions with a wide grid of synthetic Spectral Energy Distributions (SEDs), created using DUSTY in combination with the MARCS models.

Through this comparison, we derived various parameters for our stars, including the effective temperature, dust temperature, mass loss rate, and more.

In this talk the first results will be presented.

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