

# Properties of Post-Asymptotic Giant Branch Stars as seen by Gaia in DR3

Minia Manteiga<sup>1</sup>, Iker González Santamaría<sup>1</sup>, Carlos Dafonte<sup>1</sup>, Ana Ulla<sup>2</sup>, Arturo Manchado<sup>3</sup> and Eva Villaver<sup>3</sup>,

<sup>1</sup> CITIC, Universidade da Coruña

<sup>2</sup> Departamento de Física Aplicada, Universidade de Vigo

<sup>3</sup> Instituto de Astrofísica de Canarias, Universidad de La Laguna

## Abstract

The publication of precise parallaxes in Gaia DR3 made it possible to calculate accurate distances and to revise the derivation of luminosities for post-AGB candidates to discard objects outside the expected luminosity range.

We started by identifying post-AGB stars or possible candidates from the bibliography and, then, searched for their Gaia DR3 counterpart sources. Using the available photometry, interstellar extinction, literature spectroscopically derived temperatures or spectral types, and parallax-based distances, we fitted their Spectral Energy Distributions (SED) and we estimated their luminosities and circumstellar extinctions. When compared to models, luminosity values allowed us to disclose objects that are likely post-AGB stars from other target types. Their position on the Hertzsprung-Russell (HR) diagram allows direct comparison with updated post-AGB evolutionary tracks and an estimation of their masses and evolutionary ages.

This work was published in an extended version in A&A, 688, A209 (2024). Authors acknowledge support by MCIN / AEI / PID2021-122842OB-C22.

My poster in zenodo.org can be found here