

Seminarium Astrofizyczne

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Marco Tailo

(University of Padova; Italy)

RGB mass loss from multiple populations in GCs: hint of a universal mass loss law for Pop II stars?

The amount of mass lost by stars during the red-giant branch (RGB) phase is one of the main parameters to correctly understand later stages of stellar evolution. In spite of its importance, a fully-comprehensive physical understanding of this phenomenon is still missing and, at the time of this writing, we mostly rely on empirical formulations. The Galactic Globular Clusters (GCs) are ideal targets to derive such formulations of mass loss, but the presence of multiple populations with different chemical compositions has been a major challenge in constraining both stellar mass and RGB mass loss. In this talk, I will discuss the insights on RGB mass loss that can be obtained from the study of the horizontal branch stars, once the parameters degeneracy traditionally associated to them has been broken. It will be explained how, in these stellar associations, the integrated RGB mass loss, once measured, show precise trends that are difficult to describe with standard models. Furthermore, the implications relevant for the field of stellar evolution are also discussed, as our findings suggest the existence of a universal mass loss law for Population II stars.

Serdecznie zapraszam,
Agnieszka Majczyna