

Dark Matter searches in M15 galactic globular cluster

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The MAGIC telescopes observed the galactic globular cluster M15 for an amount of ~ 150 hours during 2015 and 2016. This large data set can be used to search for Dark Matter (DM) signals from this source. The interest of this work lies in the fact that globular clusters are among the oldest objects in the Universe (M15 is one of the oldest GCs in the Milky Way) and the study of their DM component and of its interaction with baryonic matter is crucial to understand their evolution and hence the evolution of the Universe as a whole.

After a deep study of GCs literature, focusing on their modelling and phenomenology, an analysis that follows the one previously carried out by the HESS and WHIPPLE experiments on the same source will be made. At a later time, the analysis can be improved by modifying the baryonic+DM model taking into account recent findings on tidal stripping and a better modelization of the DM profile.

Primary author: MAGGIO, Camilla (Universitat Autònoma de Barcelona & CERES-IEEC)

Co-author: GAUG, Markus (Universitat Autònoma de Barcelona)

Presenter: MAGGIO, Camilla (Universitat Autònoma de Barcelona & CERES-IEEC)

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