

Overview of the Galactic results obtained by MAGIC

Wednesday, 20 June 2012 15:55 (25 minutes)

MAGIC is a system of two atmospheric Cherenkov telescopes which explores the very-high-energy sky, from some tens of GeV up to tens of TeV. Located in the Canary island of La Palma, MAGIC has the lowest energy threshold among the instruments of its kind, well suited to study the still poorly explored energy band below 100 GeV. Although the space-borne gamma-ray telescope Fermi/LAT is sensitive up to 300 GeV, gamma-ray rates drop fast with increasing energy, and statistics are scarce above few GeV. Therefore, the combination of MAGIC and Fermi/LAT observations have provided the first astrophysical spectra sampled in the inverse Compton peak region, resulting in a complete coverage from MeV up to TeV energies, as well as the discovery of a pulsed emission in the very-high-energy band.

This talk focuses on the latest results on Galactic sources obtained by MAGIC which are highlighted by the detection of the pulsed gamma-ray emission from the Crab pulsar up to 400 GeV. In addition, we will present the morphological study on the W51 complex which allowed to pinpoint the location of the majority of the emission around the interaction point between the supernova remnant W51C and the star forming region W51B, but also to find a possible contribution from the associated pulsar wind nebula. Other important scientific achievements involve the Crab Nebula with its unperceived spectrum which covers three decades in energy, starting from 50 GeV, and the HESS J1857+026 source with its morphological study which supports the pulsar wind nebula scenario. Finally we will report on the searches of very-high-energy signals from gamma-ray binaries, mainly LS I +61 303 and HESS J0632+057.

Primary author: Dr ZANIN, Roberta (Universitat de Barcelona)

Presenter: Dr ZANIN, Roberta (Universitat de Barcelona)

Session Classification: The gamma-ray sky