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Highlights of MAGIC

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Abstract
MAGIC is a ground-based astrophysics instrument for measuring gamma rays in the energy range ˜ 35 GeV – 50 TeV. It is the first instrument, which paved the road into the sub-100 GeV gamma-ray sky. MAGIC consists of two 17m diameter, F/1.03 imaging atmospheric Cherenkov telescopes, which are separated by 85m distance and are located at 2200m a.s.l. in the Roque de los Muchachos European North Observatory on the Canary island of La Palma. Since 2004 the MAGIC-I telescope is performing observations of celestial gamma sources. In 2009 we installed the almost identical MAGIC-II telescope and since then we are operating them in the coincidence (stereo) mode. The MAGIC telescopes went through an upgrade program and since fall 2012 they are taking data with an unprecedented sensitivity. In this report we are going to present the recent observational highlights of MAGIC and their astrophysical implications. I will be showing, for example, recently discovered most distant gamma-ray source at very high energies, the gravitationally lensed blazar S3 0218 residing at the red-shift of 0.944, strong flares of several extragalactic sources from relatively large red-shifts, detection of a new FSRQ from the red shift of 0.37, extraordinary short flare of IC-310, the spectrum of pulsed gamma-rays from the Crab pulsar extending till ˜ 2 TeV, precision measurement of the spectrum and of the peak of the Inverse Compton emission of Crab Nebula, and many other exciting results.

Collaboration

MAGIC

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