

Scientific highlights from the MAGIC gamma-ray telescopes

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MAGIC is a system of two Imaging Atmospheric Cherenkov telescopes, in operation since 2009 at the Observatorio del Roque de los Muchachos, in La Palma (Canary Islands, Spain). MAGIC is sensitive to photons in the energy band between few tens of GeV and few tens of TeV: the so-called very-high-energy gamma rays. In this talk, I present a selection of recent scientific highlights involving the MAGIC telescopes in a multi-wavelength and multi-messenger context. I will cover, among others: the discovery of the first gamma-ray burst at very high energies and how we have used the measured signal to look for signatures of the quantum nature of spacetime; the evidence for proton acceleration obtained from the detection at very high energies of the nova RS Ophiuchi in 2021; the first firm association of a neutrino event with a gamma-ray blazar; and our results from dark matter searches using a combination of dwarf spheroidal galaxies and other targets.

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