PROCEEDINGS OF SCIENCE

The MAGIC of VHE gamma-ray astronomy: 20 years, 200 peer-reviewed publications and beyond

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The instrumentation for gamma-ray astronomy has advanced tremendously during the last two decades. The study of the most violent environments in the Universe has opened a new window to understand the frontier of physics, exploring processes that are beyond the capabilities of Earth-based laboratories to replicate. One of the instruments at the forefront of gamma-ray astronomy is the MAGIC stereoscopic system, which consists of two 17-m diameter mirror dish telescopes located at 2200m a.s.l. on the Canary Island of La Palma, in Spain. The year 2023 marks the 20th anniversary of MAGIC, reaching the milestone of 200 publications in peer-reviewed journals over a wide range of research areas, covering astrophysics with Galactic and extragalactic objects, dark matter searches, and cosmology. MAGIC has established itself as a world-wide leading instrument for gamma-ray astronomy in the energy range from 20 GeV to beyond 100 TeV. MAGIC is an active participant in multiple multiwavelength and multimessenger observational campaigns, contributing to our understanding of the universe. In the conference, I will provide a status report of MAGIC, including the discussion of a few outstanding results during the last two decades and the prospects for the near future.

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