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Gamma-ray astronomy: latest results and prospects

Gamma-ray astronomy offers a unique window into the most extreme environments of the Universe, enabling the study of cosmic particle acceleration, high-energy emission mechanisms, and potential signatures of dark matter and fundamental physics. In recent years, the field has witnessed significant progress, driven by observations from space-based instruments such as Fermi-LAT and ground-based Cherenkov telescopes including H.E.S.S., MAGIC, and VERITAS, and wide-field observatories like HAWC and LHAASO. This talk will present recent highlights from gamma-ray observations across a range of astrophysical sources, focusing on new detections and multi-wavelength and multi-messenger synergies. I will also discuss the challenges and opportunities ahead, and outline the expected impact of next-generation observatories such as the Cherenkov Telescope Array Observatory (CTAO) on the future of the field.

Secondary track

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