

# High-energy gamma-ray astronomy and dark matter searches with Imaging Air Cherenkov observatories: Status and prospects

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In recent years, ground-based very-high energy ( $E > 50$  GeV) gamma-ray instruments like H.E.S.S., MAGIC, and VERITAS have taken on a major role in high-energy astrophysics. The high sensitivity and performance parameters, still far from the limits of the observation technique though, have led to the detection and enabled studies of more than 100 sources of various source populations. The instruments are also well suited for the indirect searches for dark matter and have conducted major search programs in the last years. Building on their success, Cherenkov Telescope Array (CTA) is a project for a next-generation observatory for very high energy (GeV-TeV) ground-based gamma-ray astronomy, currently in its design phase, and foreseen to be operative a few years from now. In the talk, the observation technique and current status of the field is reviewed and selected recent scientific results are highlighted. I will also review the status of dark matter searches and prospects for CTA.

**Primary author:** WAGNER, Robert (Stockholm University)

**Presenter:** WAGNER, Robert (Stockholm University)

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