

# Prospective Science with the Cherenkov Telescope Array: Active Galactic Nuclei

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The Cherenkov Telescope Array (CTA) is the next-generation observatory for ground-based gamma-ray astronomy, providing unprecedented sensitivity and angular resolution in an energy range from 20 GeV to more than 300 TeV.

Active Galactic Nuclei (AGN) emit variable radiation across the entire electromagnetic spectrum up to multi-TeV energies. CTA's observations of AGNs will allow probing particle acceleration and emission mechanisms in AGN and reasons for temporal variabilities from time scales of a few minutes up to a few years. It will also allow performing population studies of AGN and a measurement of the extragalactic background light. To answer these questions, programmes for long-term monitoring of a few prominent AGNs are foreseen, as well as programmes for the search for, and following-up of AGN flares and obtaining high-quality AGN spectra. This contribution will give an overview of the AGN Key Science Project within CTA and present its prospective science and observation strategy.

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