

The Cherenkov Telescope Array view of some peculiar AGN classes

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Active Galactic Nuclei (AGNs) are one of the most studied classes of objects at energies above tens of GeV with current Cherenkov Telescopes and will be a major topic for the upcoming Cherenkov Telescope Array (CTA), the next-generation ground-based gamma-ray observatory. The CTA full array, distributed over two sites, one in the northern and one in the southern hemisphere, will provide whole-sky coverage and will improve the sensitivity with respect to the current Imaging Air Cherenkov Telescope (IACTs) by a factor of five to twenty, depending on the energy. In particular, we focus our studies on three main classes: extreme BL Lacs as the possible source of Ultra-High Energy Cosmic Rays (UHECR) beams and probes of exotic physics, Narrow Line Seyfert 1 (NLS1) and AGN-driven winds as sources of very-high energies (above tens of GeV) gamma rays. In all cases we discuss the scientific relevance and we show dedicated simulations to assess the feasibility of these observations with CTA.

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