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Status of the prototype Schwarzschild Couder Telescope

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The Schwarzschild Couder Telescope (SCT) is a dual mirror medium-sized telescope proposed for the Cherenkov Telescope Array Observatory (CTAO), the next-generation very-high energy (from about 20 GeV to 300 TeV) gamma-ray observatory. The innovative design of SCT consists of a dual-mirror optics and a high resolution camera with a field of view (FoV) of 8 degrees squared, which will allow exceptional performance in terms of angular resolution and background rejection. A prototype telescope (pSCT) has been installed at the Fred Lawrence Whipple Observatory in Arizona, USA. With a partially instrumented camera of 2.7°, the pSCT has successfully detected the Crab Nebula with a statistical significance of 8.6 standard deviations. Currently, a major upgrade of the focal plane is ongoing, aimed to equip the full camera with 11382 upgraded sensors and electronics, enhancing the telescope field of view from the current 2.7° to the final 8° and allowing for a lower trigger threshold. In this presentation, an overview of the pSCT project and obtained results will be given, together with the camera upgrade status and expected performance.

Primary author: Prof. GIORDANO, Francesco (University of Bari and Istituto Nazionale di Fisica Nucleare)

Presenter: Prof. GIORDANO, Francesco (University of Bari and Istituto Nazionale di Fisica Nucleare)

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