

Abstract Submitted
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The Cherenkov Telescope Array VALERIE CONNAUGHTON, University of Alabama in Huntsville, CTA CONSORTIUM COLLABORATION — The Cherenkov Telescope Array (CTA) is a large collaborative effort dedicated to the design and operation of the next-generation ground-based very high-energy gamma-ray observatory. CTA will improve by about one order of magnitude the sensitivity with respect to the current major arrays (VERITAS, H.E.S.S., and MAGIC) in the core energy range of 100 GeV to 10 TeV, and will extend the viability of the imaging atmospheric Cherenkov technique (IACT) down to tens of GeV and above 100 TeV. In order to achieve such improved performance at both a northern and southern CTA site, four 23m diameter Large Size Telescopes (LST) optimized for low energy gamma rays will be deployed close to the centre of the array. A larger number of Medium Size Telescopes (MST) will be optimized for the core IACT energy range. The southern site will include 25 12m single-mirror MSTs and a US contribution of up to 24 novel dual-mirror design Schwarzschild-Couder (SC) type MSTs with a primary mirror of 9.5m diameter, and will also include an array of Small Size Telescopes (SST) to observe the highest-energy gamma rays from galactic sources. The SSTs can be smaller and more widely separated because more energetic gamma rays produce a larger Cherenkov light pool with many photons. The SSTs achieve a large collection area by covering a wide (10 sq km) footprint on the ground. The CTA project is finishing its preparatory phase, and the pre-production phase will start this year. I will review the status and the expected performance of CTA as well as the main scientific goals for the observatory.

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