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CA CTA Consortium

TI Introducing the CTA concept

SO ASTROPARTICLE PHYSICS

LA English

DT Editorial Material

DE TeV gamma-ray astronomy; Air showers; Cherenkov Telescopes

ID SUPERNOVA REMNANT W44; TELESCOPE; ASTRONOMY; EMISSION; MISSION; HESS

AB The Cherenkov Telescope Array (CTA) is a new observatory for very high-energy (VHE) gamma rays. CTA has ambitious science goals, for which it is necessary to achieve full-sky coverage, to improve the sensitivity by about an order of magnitude, to span about four decades of energy, from a few tens of GeV to above 100 TeV with enhanced angular and energy resolutions over existing VHE gamma-ray observatories. An international collaboration has formed with more than 1000 members from 27 countries in Europe, Asia, Africa and North and South America. In 2010 the CTA Consortium completed a Design Study and started a three-year Preparatory Phase which leads to production readiness of CTA in 2014. In this paper we introduce the science goals and the concept of CTA, and provide an overview of the project. (C) 2013 Elsevier B.V. All rights reserved.

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