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ROBAST 3

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ROOT-Based Simulator for Ray Tracing (ROBAST) is an open source library designed to simulate complex optical systems used in Cherenkov and fluorescence telescopes. It has been used for the Cherenkov Telescope Array (CTA) more than 10 years to simulate hexagonal light concentrators and parabolic, Davies–Cotton, and Schwarzschild–Couder optical systems. In addition to CTA, ROBAST is also used in design study of future cosmic-ray telescope projects. The latest major revision, ROBAST 3, is able to simulate multilayer interference on optical components. Thus more detailed detector properties such as reflection on silicon photomultipliers, and UV-enhanced or IR-cut coating can be simulated. We report the current development status and the new functionality of ROBAST 3, and a few applications will be presented. Items to be shown are updates from our ROBAST 2 talk presented at ICRC2015.

Keywords

ROBAST, ray-tracing simulation, CTA, Cherenkov, Fluorescence, SiPM, Winston cone, IACT

Collaboration

other Collaboration

Subcategory

Experimental Methods & Instrumentation

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