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The High Energy cosmic-Radiation Detection (HERD) Facility

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The High Energy cosmic-Radiation Detection (HERD) facility, planned for launch in 2027 and is one of the scientific payloads on board of the Chinese Space Station. HERD's primary scientific objectives covers several high energy astrophysics topics, including the search for dark matter annihilation products, precise measurements of the cosmic electron (and positron) spectrum beyond 10 TeV, analysis of cosmic ray spectra for various species up to the knee energy, and the monitoring and surveying of high-energy gamma rays. At the heart of HERD lies a 3-dimensional imaging calorimeter, surrounded by a fiber tracker, a plastic scintillator detector, and a silicon charge detector on five sides. To ensure calibration of TeV nuclei, a transition radiation detector is employed. Thanks to its design with five instrumented sides, HERD has an acceptance area an order of magnitude greater than that of existing experiments. In this presentation, I will provide an overview of the recent progress made in the HERD project.

Collaboration / Activity

HERD collaboration

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