

The DAMPE Space Mission

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DAMPE (Dark Matter Particle Explore) is a satellite mission of the Chinese Academy of Science dedicated to high energy particle detections in space. The main scientific objective of DAMPE is to detect electrons and photons in the range of 5 GeV-10 TeV with unprecedented energy resolution in order to identify possible Dark Matter signatures. It will also measure the flux of nuclei up to 100 TeV with excellent energy resolution, which will bring new insights to the origin and propagation high energy cosmic rays. With its excellent photon detection capability, the DAMPE mission is also well placed for new discoveries in high energy gamma astronomy.

The DAMPE detector consists of a plastic scintillator strips detector (PSD) that serves as anti-coincidence detector, a silicon-tungsten tracker-converter (STK), a BGO imaging calorimeter of about 31 radiation lengths, and a neutron detector.

In this talk the science goals, the design, the expected performance and the detector construction status will be presented.

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Session Classification: High-energy cosmic rays and their propagation