

# Performance of the DAMPE silicon-tungsten tracker during the first 5 years of in-orbit operation

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Since its launch, in December 2015, the DAMPE (Dark Matter Particle Explorer) satellite is taking data smoothly. The Silicon-Tungsten Tracker (STK) of DAMPE consists of six tracking planes (6x, 6y) of single-sided silicon strip detectors mounted on seven support trays. Tungsten plates (1 mm thick) are integrated in the 2nd, 3rd and 4th tray from the top to serve as photon converters. The STK is able to precisely reconstruct the track of charged particles and converted photons, and to measure the charge of the incoming cosmic rays thus improving the particle identification. Commissioned rapidly after the launch, the STK is running extremely well since then. The STK in-orbit calibration and performance during its first 5 years of operation, including the noise behavior and the thermal and mechanical stability, will be presented in this contribution.

## Keywords

tracker; silicon strip detector; satellite; dark matter

## Collaboration

DAMPE

## other Collaboration

## Subcategory

Experimental Methods & Instrumentation

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