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The fluxes of charged cosmic rays as measured by the DAMPE satellite

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The DARK Matter Particle Explorer (DAMPE) is a space mission, promoted by the Chinese Academy of Science with the collaboration of Italian and Swiss scientific institutions. Since December 2015, DAMPE orbits at the altitude of 500 km and collects data regularly. The detector is made of four sub-detectors: top layers of plastic scintillators, a silicon-tungsten tracker converter, a deep BGO calorimeter (32 radiation lengths), and a bottom boron-doped scintillator to detect delayed neutrons. A goal of the mission is the search for indirect signals of Dark Matter in the electron and photon spectra with energies up to 10 TeV. Furthermore DAMPE studies cosmic charged and gamma radiation. Indeed the calorimeter depth and the large effective area allow to measure cosmic ray fluxes in the range from 20 GeV up to hundreds of TeV. The recent measurements of the flux of electrons and positrons, protons and nuclei will be presented.

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