

A NEW MEASUREMENT OF THE COSMIC-RAY PROTON AND HELIUM SPECTRA

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A new measurement of the proton and helium spectra was performed from 4 to 300 GeV by the balloon-borne experiment CAPRICE98. The experiment used the NMSU-WIZARD/CAPRICE98 balloon-borne magnet spectrometer equipped with a gas Ring Imaging Cherenkov detector, a time-of-flight system, a tracking device consisting of drift chambers and a superconducting magnet and a silicon-tungsten calorimeter. The combination of these detectors permitted a precise determination of the proton and helium spectra with a very good control of the systematics up to the highest energy.