ISOTOPIC MEASUREMENTS OF COSMIC-RAY HYDROGEN AND HELIUM DURING THE 1997 SOLAR MINIMUM

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The balloon-borne BESS experiment was successful flown from Lynn Lake, Canada during the most recent solar minimum on July 27, 1997. The instrument was reconfigured with a new Aerogel Cherenkov counter for this flight. The time-of-flight system was greatly improved, and it achieved excellent, 50 picosec, time resolution. Isotopes of cosmic-ray hydrogen and helium could be well separated with rigidity up to 6 GV. This is the first composition measurement with rigidity up to 6 GV during a solar minimum. The precise measurement of hydrogen and helium energy spectra and their isotopic composition will be presented in this paper.