

## A NEW MEASUREMENT OF THE ENERGY SPECTRA OF COSMIC RAY NUCLEI

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A new large-area detector system was constructed at the University of Chicago for direct measurements of heavy cosmic ray nuclei (oxygen to iron) up to about 10 TeV/nucleon. TRACER ("Transition Radiation Array for Cosmic Energetic Radiation") obtains good charge and energy resolution by using plastic scintillators to measure charge, and a proportional tube array to measure energy via specific ionization and transition radiation. While TRACER is designed for circumglobal long-duration balloon flights, an initial 30-hour flight was conducted in Autumn 1999 from Ft. Sumner, New Mexico, and calibration measurements were performed in January 2000 at Fermilab. We will discuss the performance of the detector and present first data from the balloon flight.