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# Results and Prospects of LHAASO Cosmic Ray Composition and Energy Spectra Measurement

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The Large High-Altitude Air Shower Observatory (LHAASO) is a hybrid detector experiment that includes a one-square-kilometer array of scintillator detectors and muon detectors, a 78,000-square-meter water Cherenkov detector array, and 18 wide-field-of-view Cherenkov telescopes. The multi-parameter observation of showers allows LHAASO to measure the single-element energy spectrum with high resolution. The full LHAASO array has been operational since July 2021. We use the moon shadow displacement measured by LHAASO to establish an absolute energy calibration method for the ground-based detector array. Accurate measurements of the single-element energy spectrum near the knee region can be achieved by LHAASO, which are essential for revealing the acceleration and propagation mechanisms of high-energy cosmic rays. The results of the all-particle energy spectra and composition, precisely measured by LHAASO, will be introduced, along with the prospects for proton, helium, and iron energy spectra that will be presented in the talk.

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