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Astrophysical interpretation of Pierre Auger Observatory measurements of the UHECR energy spectrum and mass composition

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We present a combined fit of a simple astrophysical model of UHECR sources to both the energy spectrum and mass composition data measured by the Pierre Auger Observatory. The fit has been performed for energies above 5 EeV, i.e. the region of the all-particle spectrum above the so-called "ankle" feature. The astrophysical model we adopted consists of identical sources uniformly distributed in a comoving volume, where nuclei are accelerated with a rigidity-dependent mechanism. The fit results suggest sources characterized by relatively low maximum injection energies and hard spectral indices.
The impact of various systematic uncertainties on the above result is discussed.

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