## A two source population fit to ultrahigh-energy cosmic ray data

Tuesday 3 December 2019 16:50 (20 minutes)

We fit ultrahigh-energy cosmic ray spectrum and composition data from the Pierre Auger Observatory using two populations of astrophysical sources. One population, accelerating dominantly protons, follows typical cosmological evolution similar to luminous astrophysical sources; while another, mostly nearby, population of astrophysical sources accelerate light-to-heavy nuclei. We compute expected cosmogenic neutrino flux in such a hybrid source population scenario and discuss possibilities to detect these neutrinos by upcoming detectors to shade lights on the sources of ultrahigh-energy cosmic rays.

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Session Classification: Parallel

Track Classification: Cosmic rays