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Cosmogenic neutrinos from a combined fit of the Auger spectrum and composition

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We present a combined fit of the Auger spectrum and composition based on a newly developed code for the extragalactic propagation of cosmic ray nuclei (PriNCe). This very efficient numerical solver of the transport equations allows for scans over large ranges of unknown UHECR source parameters.

Here, we present a study of a generalized source population with three parameters (rigidity-dependent maximal energy, spectral index and redshift evolution). By scanning over the redshift source evolution we derive a robust estimate of the allowed range of the cosmogenic neutrino flux.

We also test the robustness under alternative assumptions for the source model. Specifically the impact of using different air-shower models.

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