

Abstract Submitted  
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**Diffuse Gamma-ray and Neutrino Constraints on UHECR sources, for realistic UHECR composition.**<sup>1</sup> MARCO MUZIO, GLENNYS FARRAR, New York Univ NYU, MICHAEL UNGER, Karlsruhe Institute of Technology — Using a method of tabulated fluxes we have produced high-resolution simulations of the diffuse photon fluxes produced in various CR source models. We show that a mixed-composition model, such as that of Unger, Farrar, and Anchordogui (UFA, 2015), can fit both the Auger spectrum and composition evolution as well as respect Fermi-LAT limits on the diffuse photon flux. Moreover, we show these models do so without any need for the Earth to be located at a local overdensity of UHECR sources. We also show that Fermi-LAT data in combination with data from IceCube can be used to constrain source conditions in UFA scenarios.

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