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The Galactic magnetic deflection of Cosmic Rays from Cen A

AZADEH KEIVANI, Louisiana State University, GLENNYS FARRAR, Center for Cosmology and Particle Physics, Department of Physics, New York University — We present the results of propagating ultra-high energy cosmic rays (UHECRs) from Centaurus A, to characterize their arrival-direction locus and determine whether Cen A can be a significant source of the UHECR excess reported by the Pierre Auger Observatory within 18 degrees of Cen A. We use the recent galactic magnetic field model of Jansson and Farrar (JF12), a 35-parameter model which includes coherent, striated and random components and is constrained by WMAP synchrotron maps and all available extragalactic rotation measures. We also present a new method to increase the efficiency of forward-tracking the UHECRs through the galactic magnetic field. Simulations are done for rigidities $E/Z = 64$ EV down to 1 EV, thus covering the possibility of compositions as heavy as Fe for the published UHECR events.

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