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Propagation uncertainties in measuring galactic SUSY dark matter in the AMS-01 electron spectrum SA XIAO, MIT, AMS COLLABORATION — Assuming dark matter is SUSY neutralinos, its self-annihilation can give rise to anomalous features on the astrophysical background of various normal charged particles in cosmic rays, such as electrons, positrons, protons and antiprotons. We search for such features in the electron spectrum on Earth with data taken by AMS precursor flight on NASA space shuttle mission STS-91 in 1998. Propagation effects in galaxy are crucial to background estimation and understanding how the signal appears at Earth. The boron-to-carbon ratio in cosmic rays is very sensitive to propagation parameters. I study this in our data, and use it to place uncertainties on the limits we get from our dark matter search.

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