

Abstract Submitted  
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**A search for Signatures of Dark Matter with AMS-01** SA XIAO, GRAY RYBKA, MIT, GIANPAOLO CAROSI, Livermore National Laboratory, PETER FISHER, FENG ZHOU, MIT, AMS COLLABORATION — Weakly Interacting Massive Particles (WIMPs) are one of the possible candidates of cold dark matter. A general feature of many of these WIMP candidates, such as the supersymmetric neutralino, is that they are Majorana particles (equal to their own antiparticle) and can annihilate to stable standard model particles such as electrons, protons, etc. These annihilation products can give rise to anomalous features in the otherwise smooth charged cosmic ray spectra. We search for such features in the charge  $Z=-1$  spectra (electrons and antiprotons) of AMS-01. We use DarkSUSY to predict the annihilation channels given certain supersymmetric models and then use PYTHIA to determine the spectra of the decay products (electrons and antiprotons). We then use the galactic propagation software GALPROP to determine the spectra after propagation given various plausible propagation models, and study the uncertainty in our final dark matter annihilation search induced by propagation effect.

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