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## Background to Dark Matter Searches from Galactic Cosmic Rays

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Just as searches for BSM physics at the LHC necessitate a careful audit of SM backgrounds, the search for signals of dark matter in cosmic rays must contend with production of secondaries like  $e^+$  and  $p\bar{p}$  through cosmic ray propagation in the Galaxy. The theoretical framework for calculating this has however not been directly calibrated at the high energies being explored by AMS-02 and there may be surprises in store. In particular a nearby source where cosmic rays are being accelerated stochastically can naturally generate a  $e^+$  fraction rising with energy as is observed. The test of this is the expected correlated rise in other secondary/primary ratios e.g.  $B/C$  and  $p\bar{p}/p$ . Such a nearby cosmic accelerator should also be detectable through the concomitant flux of neutrinos and its discovery would be (nearly!) as exciting as that of dark matter.

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