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Global fits for Dark Matter searches with GAMBIT

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The unambiguous detection of dark matter requires compatible signals from complementary searches. In this regard, global fits can help us understand if observed excesses and limits agree with each other. To this end, we present the global fitting software GAMBIT (Global and Modular BSM Inference Tool). We exploit GAMBIT's modularity to implement a new likelihood for the AMS-02 antiproton data, which uses the deep neural network Dark Ray Net for fast simulation of primary and secondary antiproton fluxes. We present the impact of this newly implemented likelihood on the Scalar Singlet Model and discuss whether there is evidence for a dark matter signal in AMS-02 antiproton data.

Category

Particle / Astroparticle / Cosmology (Theory)

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