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Mr. PANCI, Paolo (University of L'Aquila & Paris 7 & CERN): Diffuse gamma Ray Constraints on Annihilating or Decaying DM after Fermi

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We consider the diffuse gamma ray data from FERMI first year observations and compare them to the gamma ray fluxes predicted by Dark Matter annihilation or decay, for different observational regions of the sky and a range of Dark Matter masses, annihilation/decay channels and Dark Matter galactic profiles. We find that the data exclude large regions of the Dark Matter parameter space not constrained otherwise. Also, we further constrain Dark Matter interpretations of the positrons PAMELA/FERMI spectral anomalies, both for annihilation and the decaying Dark Matter case: under very conservative assumptions, only models producing dominantly muons and assuming a cored Dark Matter galactic profile can fit the lepton data with masses around 2 TeV.

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