

Gamma ray signals from cosmic ray scattering on axionlike particles

Dark matter (DM) may be comprised of axionlike particles (ALPs) with couplings to photons and the standard model fermions. We study photon signals arising from cosmic ray (CR) electron scattering on background ALPs. For a range of masses we find that these bounds can place competitive new constraints on the ALP-electron coupling. In addition to current Fermi constraints, we also consider future e-Astrogram bounds which will have greater sensitivity to ALP-CR induced gamma-rays.

Secondary category for the parallel session (optional)

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Session Classification: Parallel: Dark Matter 6

Track Classification: Parallel Sessions: Dark Matter Physics