

Dark Matter in X-rays: Revised XMM-Newton Limits and New Constraints from eROSITA

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We investigate two classes of dark matter (DM) candidates, sub-GeV particles and primordial black holes (PBHs), that can inject low-energy electrons and positrons into the Milky Way and leave observable signatures in the X-ray sky. In the case of sub-GeV DM, annihilation or decay into e^+e^-

contributes to the diffuse sea of cosmic-ray (CR) leptons, which can generate bremsstrahlung and inverse Compton (IC) emission on Galactic photon fields, producing a broad spectrum from X-rays to γ -rays detectable by instruments such as eROSITA and XMM-Newton.

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Session Classification: Student Talks