

## X-rays constraints on sub-GeV Dark Matter

*Wednesday 15 May 2024 16:17 (5 minutes)*

We present updated constraints on ‘light’ Dark Matter (DM) particles with masses between 1 MeV and 5 GeV. In this range, we can expect DM-produced pairs to upscatter low-energy ambient photons in the Milky Way via the Inverse Compton process, and produce a flux of X-rays that can be probed by a range of space observatories. Using diffuse X-ray data from XMM-Newton and realistic cosmic-ray transport parameters, we compute the strongest constraints to date on annihilating and decaying DM for  $1 \text{ MeV} < m_{\text{DM}} < 5 \text{ GeV}$

**Would you be interested in presenting a poster? (this will not impact the decision on your talk)**

yes

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**Session Classification:** Dark Matter