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Model independent search for macroscopic dark matter with EUSO-SPB2

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Macroscopic dark matter (or macro) provides a broad class of alternative candidates to particle dark matter. These candidates would transfer energy primarily through elastic scattering, and this linear energy deposition would produce observable signals if a macro were to traverse the atmosphere. We study the fluorescence emission produced by a macro passing through the atmosphere. We estimate the sensitivity of EUSO-SPB2 to constrain the two-dimensional parameter space (σ vs. M), where M is the macro mass and σ its cross sectional area.

Keywords

macro; microscopic dark matter; EUSO-SPB2

Collaboration

other Collaboration

Subcategory

Experimental Results

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