

# Directional Detection of Cosmic Ray Boosted Dark Matter

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“Dark matter with MeV scale mass is difficult to detect with standard direct search detectors. However, they can be searched for by considering the up-scattering of kinetic energies by cosmic rays. Because the dark matter density is higher in the central region of the Galaxy, the up-scattered dark matter will arrive at Earth from the direction of the Galactic center. Once the dark matter is detected, we can expect to recognize this feature by directional direct detection experiments. In this study, we simulate the nuclear recoils of the up-scattered dark matter and quantitatively reveal that a large amount of this type of dark matter is arriving from the direction of the Galactic center.”

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