

Gegenschein signal from an inhomogeneous axion dark matter distribution

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Photons with a frequency equivalent to one-half of the axion mass can induce its decay into two photons. Half of the produced photons generate a potentially detectable 'gegenschein' radio signal traveling in the opposite direction. We take into account that, in addition to a smooth halo distribution, a fraction of the axionic dark matter might be in the form of compact objects known as axion stars. We discuss how, as a result, the gegenschein signal might be enhanced.

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