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Axion Gegenschein: Dark Countersources of Bright Radio Objects

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I will describe a new scheme for the detection of radio signals from the decay of axions and axion-like particles, called *axion gegenschein*, using next-generation facilities such as SKA. Ambient radiation arriving from astrophysical radio-bright objects drive stimulated decay in the Galactic halo creating a *countersource* with the dimensions and morphological features of each source in the direction precisely opposite to it, smoothed by the velocity dispersion of dark matter. This technique of probing stimulated decay of axions is more sensitive compared to radio observations of dwarf spheroidals, and provides a direct measure of dark matter density along the line of sight.

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