

## The Axion Echo method and the Big Flow

*Friday, July 19, 2019 3:00 PM (1 hour)*

Electromagnetic radiation with angular frequency half the axion mass stimulates the decay of dark matter axions and produces an echo, i.e. faint electromagnetic radiation traveling in the opposite direction. Thus one may search for axion dark matter by sending out to space a powerful beam of electromagnetic radiation and listening for its echo. The method is particularly attractive if the Earth is bathed in a cold axion flow of known direction. The Caustic Ring Model of the Milky Way halo predicts such a cold flow with high local density, called the Big Flow. The direction of the Big Flow is determined from triangular features in the IRAS and GAIA maps of the Milky Way with a precision of order 0.5 degree of arc.

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