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# Starlight-polarization-based tomography of the magnetized interstellar medium

## Abstract

The wealth of polarization data to come will soon make it possible to obtain a tomographic map of the Galactic magnetic field and answer outstanding questions that have so far been out of reach due to the lack of local measurements in 3D space.

In this talk, I will present the basis of the first Bayesian method for tomographic reconstruction of the plane-of-sky component of the magnetic field in dusty regions from accurate optical polarization of stars with known distances.

I will also present the first degree-scale tomographic map based on the polarization of starlight from the magnetized ISM, obtained from a PASIPHAE-pathfinding survey, and discuss it in the light of complementary data sets.