

Abstract Submitted
for the NWS15 Meeting of
The American Physical Society

Rotation Measures of diffuse polarized emission: Insights into Galactic magnetism from the Canadian Galactic Plane Survey ANNA ORDOG, JO-ANNE BROWN, University of Calgary — The Galactic Magnetic Field (GMF) is a crucial component of the interstellar medium. Not only is it necessary for accelerating cosmic particles and providing pressure balance against gravitational collapse of the Galaxy, it also contributes to star formation and likely played a role in the formation of the Galaxy itself. Studies have shown the large-scale field lines in the Galactic disk to be approximately aligned to the material spiral arms. On a small scale, the field is thought to have a turbulent component, as well as an ordered component that has small-scale variability while being aligned to the large-scale field. However, much remains unknown about the field structure and the study of Galactic magnetism is an active area of research. Novel ways of analyzing currently available data will lead to advances in constructing realistic GMF models. We present a preliminary analysis of Rotation Measures (RMs) of diffuse Galactic synchrotron emission from the Canadian Galactic Plane Survey (CGPS). We show that contrary to the assumption of it being difficult to extract useful information on large-scale structures from RMs of diffuse polarized emission, the CGPS data reveal interesting features worth investigating further and that may provide new insights into the GMF structure.

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Date submitted: 12 Apr 2015

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