# Interstellar Polarization in the Optical/NIR/sub-mm: A Tool for Studying the ISM Magnetic Field Structure (and more…)

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We will show some recent results of optical/NIR/sub-mm polarization data towards several interstellar environments. This polarization is produced by dust grains aligned by a magnetic field and can be used as a tracer of the latter. We discuss results of our ISM Survey data and its unveiling of the magnetic field structure in the Galaxy at small and large scales and at high Galactic latitudes. We also explore the relationship between the magnetic field in the local Interstellar Medium (ISM) and the heliosphere. We discuss the nature of the SMC dust and its magnetic field structure. We then look into intriguing data concerning the relationship between the ambient magnetic field direction and that of disks around young stars in the Galaxy. Finally, we describe SOUTH POL, a forthcoming survey of the Southern sky in optical polarized light with a robotic telescope. SOUTH POL will impact several areas, from Cosmology to Solar System studies.

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