Near-Infrared Imaging Polarimetry as a Probe of Magnetic Field

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Magnetic field plays an important role in many astrophysical processes. Yet it is seledomly considered in the theoretical works that deal with the evolution of celestial objects. One of the main reasons is that the magnetic field is very difficult to detect and measure. Here we give a brief introduction to the widely-used approach to study the interstellar magnetic fields – by means of near-infrared polarimetric imaging observations of background stars. We will talk about the mechanism of the polarization of star light, the observation techniques, and discuss the advantages and disadvantages of this method. In the epilogue we will give a number of examples on the study of the magnetic fields in the interstellar nebulae.