

Probing the Protosolar Nebula by Polarimetry of Kuiper Belt Objects and Centaurs*

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Kuiper Belt objects (KBOs) and Centaurs are considered to represent one of the oldest and most primordial populations of bodies originating from the origin of the solar system. Only with the advent of large telescopes they became accessible for systematic research and exploration of their physical properties that are expected to provide constraints and ideas for the formation scenarios of the Sun and the planets. With the FORS1 instrument at the Very Large Telescope VLT of the European Southern Observatory ESO in Chile polarimetric observations of KBOs&Centaurs can now be performed with very high accuracy and on a routine basis (for first results see Boehnhardt et al., 2004, A&A 415). We present linear polarimetry data at phase angles from 0.25 to 4.2 deg of three representatives of this population, i.e. for the Plutino Ixion, the Classical Disk object Quaoar, and the Centaur Chiron. Using complementary information on albedo, size and spectral properties of these objects it is possible through modeling of light scattering at the surface to put constraints on the microscopic surface structure of the objects. We also describe conclusions on these objects from a synoptic view of their known physical properties and how they related to other minor solar system bodies.

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