

THE ROLE OF INTERSTELLAR MAGNETIC FIELDS IN REFLECTION
NEBULAE

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Polarimetric observations in 38 stars situated in 20 reflection nebulae is presented. The nebulae were selected from the POSS or the ESO (B) survey looking for filamentary structure. Adequate care was used to avoid contamination of the stellar light by the reflection nebula background. In some cases, using multicolor polarimetry, the contribution from circumstellar polarization is removed.

The results indicate that the direction of the polarization of the electric vector of the transmitted light of stars in and behind the nebulae is parallel to the direction of the filamentary structure. This implies that the same magnetic field that holds the dust macroscopically is aligning the particles microscopically.