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A Complete Polarization Survey of Southern Bright Stars

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We have made the first complete survey of the linear polarization of all southern stars brighter than $V=4$. The 391 stars have been observed in the g' band to a median precision of 11 parts-per-million, more than 30 times better than previous incomplete surveys. Stars with significant polarization have been studied for variability. The observations allow mapping of the distribution of interstellar dust in the local region. They also allow us to determine which types of stars most commonly show variable (and hence intrinsic) polarization. Among new polarization variables we have discovered and studied in the course of the survey are the O4 supergiant ζ Puppis and the outbursting Be star η Centauri.

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