
PolarBase: a data base of high resolution spectropolarimetric stellar observations

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Abstract

PolarBase is an evolving data base that contains all stellar data collected with the ES-PaDOnS and NARVAL high-resolution spectropolarimeters, in their reduced form, as soon as they become public. As of early 2014, observations of 2,000 stellar objects throughout the Hertzsprung-Russell diagram are available. Intensity spectra are available for all targets, and the majority of the observations also include simultaneous spectra in circular or linear polarization, with the majority of the polarimetric measurements being performed only in circularly polarized light (Stokes V). Observations are associated with a cross-correlation pseudo-line profile in all available Stokes parameters, greatly increasing the detectability of weak polarized signatures. Stokes V signatures are detected for more than 300 stars of all masses and evolutionary stages, and linear polarization is detected in 35 targets. The detection rate in Stokes V is found to be anti-correlated with the stellar effective temperature. This unique set of Zeeman detections offers the first opportunity to run homogeneous magnetometry studies throughout the H-R diagram. The web interface of PolarBase is available at <http://polarbase.irap.omp.eu>.

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