

## Magnetic fields in spicules

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Spectropolarimetric data of the He D3 line in spicules taken with the ASP instrument (DST, Sacramento Peak Observatory) is analyzed with a PCA inversion code originally developed for the inferment of prominence magnetic fields.

The anomalous line width of the observed line is empirically fit as an unresolved distribution of velocities.

The inversion algorithm is tested with artificially created datasets reproducing the observed characteristics of the solar data with the result that only the azimuth of the magnetic field in the plane of the sky can be acceptably inferred from the data, while for the field strength one can just tell apart the case of the statistical presence of strong (above 30G) fields from those of ubiquitous weak fields.

The inversion of the real data reveals a magnetic field aligned with the observed spicules or perpendicular to them, since a 90 degrees ambiguity prevents a spectroscopic diagnostic of these 2 possibilities.

It also shows the presence of strong (30-40 G) fields.