High resolution measurement of magnetic field

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In June 1995 we performed observations at the German Vacuum Tower Telescope at the Observatorio del Teide (Tenerife) by using a full Stokes polarimeter in front of a two-dimensional imaging spectrometer with a narrow-band Fabry-Perot interferometer (FPI). We obtained full Stokes-profiles for an region of approx. 55 x 37 arcsec. The observed line was Fe I at 6173.4 Å.

With the best images of a series of 29 scans a magnetograph was simulated. After a correction for Doppler-shift the line profiles were integrated over simulated magnetograph slits. The magnetic field vector was calculated from the obtained data using the well tested magnetograph code of the Sonnenobservatorium ‘Einsteinturn’. We present the results of these calculations. The magnetic field maps show well resolved details.

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References:

    NATO ASI Series C 433, 189.