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**Magnetic fields in a limb solar flare at a height of 40 Mm according to spectral-polarization observations in the H $\alpha$  line**

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We present the results of measurements of the magnetic field in the solar flare of July 19, 2012 of M7.7 score based on the data of spectral-polarization observations made on the Echelle spectrograph of the horizontal solar telescope of the Astronomical Observatory of Taras Shevchenko Kyiv National University. The material of the observations was a Zeeman spectrogram from 6:45:50 UT, which was scanned using the Epson Perfection V 550 scanner. The blackening was converted into intensity taking into account the characteristic curve of the photomaterial of the spectrogram and the nonlinearity of the scanner itself. To measure the Zeeman splittings, the I+V and I-V spectra were "tied" by wavelengths using telluric lines. It was established that the averaged (effective) magnetic field  $B_{\text{eff}}$  in this flare reached 600-700 G, but local magnetic fields could be much stronger. The inhomogeneity of the magnetic field is evidenced by the following effects: (a) the splitting of the bisectors of the I+V and I-V profiles is unequal at different distances from the center of the emission profile of the H-alpha line - in general, this splitting increases from the wings of the emission profile of the H-alpha line to its core, (b) at distances from the center of 350-450 mÅ, a local maximum of bisector splitting is observed. Effect (b) is possible with extremely strong magnetic fields at the level of  $10^4$  G, but this result needs careful verification.