
On Critical Heights and Longitudinal Magnetic Field Strength in Prominences

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Abstract

A retrospective statistical analysis of the former magnetic measurements by "the Fabry-Perot magnetograph + the 50 cm coronagraph" assembly is presented: an angular resolution in filtergrams of 1-1.5 arc second, a magnetic resolution of 8 arc seconds, an accuracy of about 5 G. The distributions on maximum height observed and on the longitudinal magnetic fields strengths reveal multimodality. The probabilities of minima are estimated basing on the Student criterion. The peak values of 50Mm and 30-35 G are found to be the critical heights and magnetic field strengths and correspond to the pre-eruption stages of quiescent prominences. The reported study was partially supported by RFBR (research project No. 11-02-00631), IAU, SCOSTEP, SF2A and KLSA/CAS.

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