THE CROSSOVER AND MAGNETO-OPTICAL EFFECTS IN SUNSPOT SPECTRA

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Abstract. Two peculiarities of the magnetic splitting of a line in sunspot spectra have been investigated. The one is that in a rather small region of the penumbra near the umbra-penumbra boundary the π-component is absent in one circular polarization spectrum while both σ-components are present. In the spectrum of opposite circular polarization the σ-components are absent but the π-component is present. The second peculiarity consists of the anomalous splitting of the π-component of Zeeman triplets which are of the same and opposite signs in comparison with splitting of the σ-components. The nature of these effects is discussed.

Howard (ed.), Solar Magnetic Fields, 148.