MULTI-FREQUENCY OBSERVATIONS OF THE POLAR RADIO STRUCTURES

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In this work we present a comparison of the enhanced temperature regions (ETRs) in the radio emission of the Sun with other manifestations of solar polar structures over some days in 2003-2005. The radio observations at 37 GHz were made with the Metsahovi Radio Telescope (Finland). We compared our radio data with different SOHO/EIT and SOHO/MDI images for the same periods. We also superposed the intensity contours of the full-radio maps obtained in Metsahovi on the Meudon Spectroheliograph CaII(k3) and H(alpha) images. We tried to find difference between ETRs inside and outside of coronal holes. We find that the ETRs are clearly connected to brightness structures seen in the CaII(k3)/Hα and magnetic field sources seen in SOHO/MDI. Thus we can conclude that ETRs have chromospheric origin.