Radio Studies of Large Scale Structures of the Sun's Corona and Transient Activity

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We discuss the use of meter-decameter wavelengths imaging observations for four different kinds of studies of solar coronal activity. (1) Large scale structure of the upper corona, including coronal holes. Daily imaging observations permit us to compare the radio images with white light images from space and ground, and to generate synoptic charts similar to white light coronagraph synoptic charts, and compare radio brightness enhancements and deficiencies with bright coronal streamers and coronal holes. (2) Relative positions of type III burst sources and coronal streamers as observed by Solwind experiment on P78-1 satellite and by HAO C/P experiment aboard SMM; infer the paths of type III emitting electrons in dense coronal streamers, and from multi-frequency observations derive electron density distributions above active regions near the limb. (3) Non-flare associated type II/type IV bursts associated with coronal streamer disruption events. Such type IV sources have a rather slow velocity ($\lesssim$ 200 Km/sec) and they are associated with slow ($\lesssim$ 100 Km/s) CME's. (4) Meter-decameter microbursts. These are short duration (2-10 seconds) weak type III-like bursts, produced at the fundamental plasma frequency by plasma radiation processes which have important differences from the standard mechanisms used to explain the strong type III bursts.