Two Dimensional Imaging Observations of Meter-Decameter Bursts Associated with the February 1986 Flare Activity

N. Gopalswamy and M.R. Kundu
Astronomy Program
University of Maryland
College Park, Maryland 20742

We present the analysis of two dimensional imaging observations of a flare observed on Feb. 3, 1986 using the Clark Lake Multifrequency radioheliograph. The flare porduced almost all types of meter-decameter radio emission: enhanced storm radiation, bursts of type III/V, II and IV and flare continuum. The flare continuum had early (FCE) and late (FC II) components and the type II occurred during the period between these two components. Comparing the source positions of type III/V and FCE we found that these bursts must have occurred along adjacent open and closed field lines respectively. The positional analysis of type II and FC II implies that the nonthermal electrons responsible for FC II need not be accelerated by type II shock and this conclusion is further supported by the close association of FC II with a microwave peak. Using the positional and temporal analysis of all these bursts and the associated hard X-ray and microwave emissions, we develop a schematic model for the magnetic field configuration in the flaring region in which the nonthermal particles responsible for these bursts are confined or along which they propagate.