

WG1/WG3: Radio Observations of CMEs and Particle Acceleration

Radio emission at metric and longer wavelengths due to energetic electrons can be used to probe the rapid dynamical evolution of structures involved in the early evolution of CMEs, and the acceleration of energetic particles that escape from the corona into interplanetary space. Radio emission associated with CMEs in the low corona (within a few solar radii of the Sun) can be divided into two categories:

1. Non-thermal and possibly thermal emission from CME structures – provides information on CME structure, dynamics, and magnetic fields.
2. Radio bursts associated with CMEs (type II, shock-associated type III or type III-l, type IV, and U-bursts).

The questions to be addressed at the workshop include:

1. What can radio observations tell us about CMEs in the low corona – structure, dynamics, and magnetic field?
2. What can radio observations tell us about particle acceleration associated with CMEs in the low corona – location, timing, and mechanism?
3. How do radio observations fit with observations of CMEs at other wavelengths – visible, EUV, X-ray?

This is a new topic for SHINE. We plan on one half-day session to introduce the topic at this workshop, with more sessions to be held at future SHINE workshops.

Speakers (Thursday, July 14)

The time allocated for each paper includes 5 minutes for discussion.

09:45 – 10:15 Tim Bastian (NRAO): Radio Emission from CMEs

10:15 – 10:30 Open Discussion

10:30 – 10:45 Coffee Break

10:45 – 11:15 Stephen White (University of Maryland): Coronal Radio Bursts

11:15 – 11:45 Hilary Cane (NASA/GSFC): Relationships between Solar Radio Emissions and Energetic Particle Events

11:45 – 12:15 Mike Reiner (Catholic University & NASA/GSFC): Radio Observations Related to CMEs and to Particle Acceleration

12:15 – 12:30 Open Discussion