Abstract Submitted
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Probing Magnetic Reconnection in Solar Flares with Radio Spectral Imaging[1] BIN CHEN, New Jersey Institute of Technology — Flares on the Sun, thanks to their proximity, serve as an outstanding laboratory to test our understanding of magnetic reconnection and the associated energy release and particle acceleration processes. Flare-accelerated electrons in the low solar corona emit radio waves in decimeter-centimeter wavelengths. Observations of these radio waves provide excellent means for tracing the accelerated electrons, and for probing a variety of physical processes and plasma properties in and around the magnetic reconnection site. The newly available radio spectral imaging technique from multiple recently commissioned telescope arrays opens up a new window for such studies. I will discuss recent results of this kind based on observations from the Karl G. Jansky Very Large Array and NJITs Expanded Owens Valley Solar Array. Examples include tracing fast electron beams from reconnection sites, mapping termination shocks driven by reconnection outflows, and measuring properties of a large-scale reconnection current sheet.

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