

Investigation of coronal source region properties in solar eruptive events

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The physical environment governing the initiation of solar eruptive phenomena, including the solar flares, coronal mass ejections (CMEs), and/or eruptive prominences, is not fully understood although lots of efforts have been done to address the relationship between physical quantities and observational signatures. In this project, we particularly focus on the limb flare eruptions associated with CME events to characterize their coronal source regions. For the preparation of ALMA solar investigation, we attempt to quantify the source region properties and analyze the energy budget connection between flares and CMEs by combining the radio observations from Nobeyama Radio Observatory with the RHESSI X-ray, SDO UV/EUV, and STEREO coronagraph measurements. In addition to the data analyses of solar multi-wavelength observations, students in the summer program can learn the related magnetic reconnection and particle acceleration theories.