



Origin and Early Dynamics of Solar Coronal Mass Ejections

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Solar coronal mass ejections (CMEs) are the most energetic explosive phenomenon in our solar system, may severely disturb the Earth space environment, and thus impact the high-tech activities in the human society. The origin and early dynamics of CMEs is one of the unsolved key scientific problems in the field of solar and space physics. In my talk, I will first present observational evidence for magnetic flux ropes, which are the key structures of CMEs, and their core role in driving the formation of CMEs. Then, I will talk magnetic reconnection in the current sheet stretched by the erupting flux ropes including its three-dimension magnetic structure and turbulence nature. In the end, I will include some preliminary results on 2.5D high-resolution MHD simulations of the current sheet reconnection.

References

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Note: Abstract should be in (full) double-columned one page.