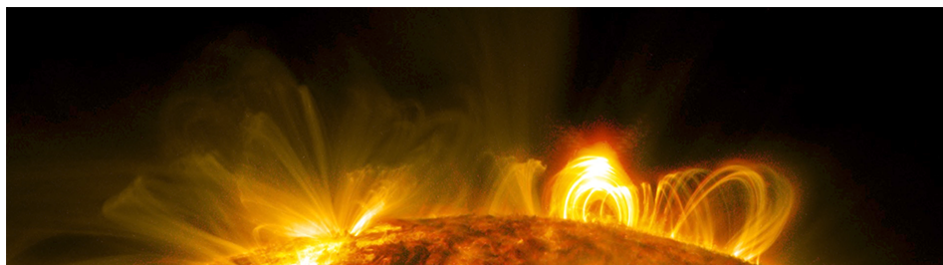


Particle Acceleration in Solar Flares and the Plasma Universe – Deciphering its features under magnetic reconnection



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Type: **Invited talk**

Magnetic reconnection in the partially ionized low solar atmosphere

Thursday, 18 November 2021 08:00 (30 minutes)

The plasmas in the low solar atmosphere are highly stratified and the total hydrogen density decreases about 6 orders of magnitude within a thin layer of 2 Mm. The temperature in this region is generally only several thousand K and the plasmas are partially ionized. Thanks to the high resolution telescopes, plenty of small scale reconnection events at different altitude in this region have been observed. The interactions between ions and neutrals may strongly affect the reconnection process and make the reconnection mechanisms to be very different from those in fully ionized plasmas. What's more, the radiative transfer and cooling process make the studies of magnetic reconnection in this region to be more difficult. In this talk, we will review the recent progresses on theoretical and numerical studies of magnetic reconnection in the low solar atmosphere, and discuss the mechanisms which lead to fast reconnection rate and heating in different reconnection events.

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