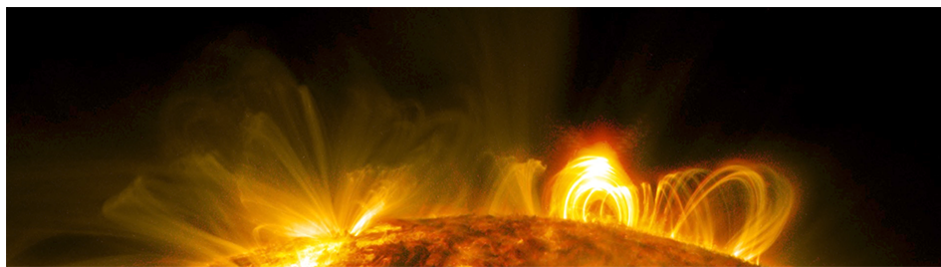


Particle Acceleration in Solar Flares and the Plasma Universe – Deciphering its features under magnetic reconnection



Contribution ID: 45

Type: **Invited talk**

Accelerations of energetic electrons in the Earth's inner magnetosphere: Arase observations

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

In the terrestrial inner magnetosphere, the energetic electron is highly variable during magnetic disturbance such as substorms and magnetic storms. The wave-particle interactions play important roles on accelerations, transportations, and loss of the energetic electrons through the cross-energy couplings. Interactions with MHD fast mode waves cause the betatron accelerations through drift resonance, while whistler mode waves cause the acceleration of electrons through cyclotron resonance. The Arase satellite has observed the inner magnetosphere and provided the direct measurements about these interactions with waves. In this presentation, we will give an overview of the Arase observations about the energetic electron accelerations and discuss what processes are essential to generate ultra-relativistic electrons.

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Session Classification: Day 4 / Session 1