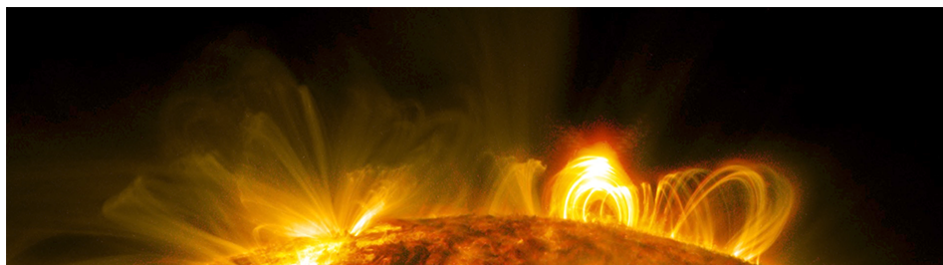


## Particle Acceleration in Solar Flares and the Plasma Universe – Deciphering its features under magnetic reconnection



Contribution ID: 43

Type: **Invited talk**

### The role of plasma physics, shocks, and magnetic fields in the intra-cluster medium

*Wednesday, 17 November 2021 11:30 (30 minutes)*

Although commonly approximated as an ideal fluid in cosmological simulations, the hot tenuous gas permeating clusters of galaxies is known to be a magnetized collisionless plasma sharing some similar physical properties with, e.g., planetary magnetospheres, the solar atmosphere and solar wind, and accretion discs around compact objects. I will discuss the current knowledge and challenges in constraining and understanding the process of particle acceleration in galaxy clusters, as well as the cosmic evolution of large-scale magnetic fields. At the moment, most studies revolve around observations of shock- and turbulent (re)acceleration, however there are a few instances where magnetic reconnection has also been hypothesized to play a role.

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