



Contribution ID: 29

Type: **Invited**

Disentangling magnetic reconnection in the solar atmosphere.

Monday 9 September 2024 11:30 (25 minutes)

In this presentation, we will explore the fundamental properties of magnetic reconnection, with a particular emphasis on the complexities of three-dimensional (3D) reconnection and the differences with two-dimensional (2D) scenarios. We will present recent state-of-the-art numerical simulations that show how 3D reconnection is key to understanding a variety of phenomena such as braiding, nanojets, and the heating of fundamental blocks in the atmosphere such as Coronal Bright Points, moreover including observations to support the theoretical findings. Additionally, we will address the implications of the differing Prandtl number in simulations versus the actual solar atmosphere. We will also discuss the challenges that need to be addressed in the near future both from theory and observations, and the potential opportunities from future missions such as MUSE and Solar-C.

Primary author: NÓBREGA-SIVERIO, Daniel (Instituto de Astrofísica de Canarias (IAC) | Rosseland Centre for Solar Physics (RoCS))

Presenter: NÓBREGA-SIVERIO, Daniel (Instituto de Astrofísica de Canarias (IAC) | Rosseland Centre for Solar Physics (RoCS))

Session Classification: Fundamental mechanisms of solar plasmas: magnetic reconnection, waves, radiation and particle acceleration

Track Classification: Fundamental mechanisms of solar plasmas: magnetic reconnection, waves, radiation and particle acceleration