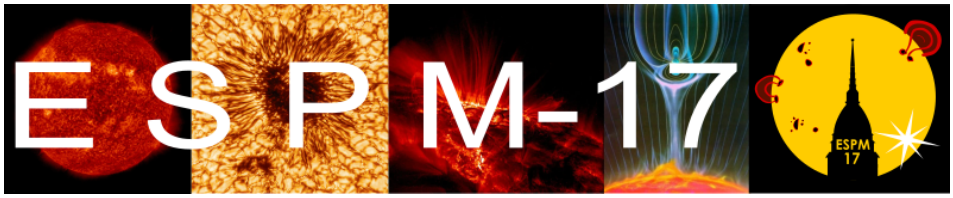

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2D NLTE Modelling of Obsverved Cool Coronal Loops

The modelling of cool coronal loops can aid our understanding of processes in the upper solar atmosphere, and better understand their dynamics and evolution.
In this study, we explored the structure, and principal Lyman, Balmer, and MgII h&k emission of cool loops. This was achieved through the use of a 2D NLTE (i.e. departures from local thermodynamic equilibrium) cylindrical radiative transfer code. Using this, we generated 45 evenly (angularly) spaced circular cross sections of half of the loop. Then, using fourth order weighted essentially non oscillatory interpolation (WENO4), we connected these 45 cross sections together to construct half of the loop, which was subsequently mirrored to construct the full loop. Two loop geometries were considered, semicircle and dipole.
We then compared these simulations with observations from the Interface Region Imaging Spectrograph (IRIS) to see how effectively we could reproduce these observations.

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Session Classification: Coffee break and poster session 1

Track Classification: Energy and mass transfer throughout the solar atmosphere and structures within