

Numerical modeling and observations to understand the solar chromosphere

In the lower solar atmosphere, the chromosphere, transition region, and lower corona are characterized by several physical transitions that render analysis, interpretation, and understanding challenging. Through this region, all of the non-thermal energy that powers the outer solar atmosphere and solar wind is processed and propagated. The plasma undergoes a transition from collisional at the photosphere to weakly collisional and partially ionized and in the chromosphere and low transition region to fully ionized in the corona as well as from unmagnetized to magnetized.

When trying to diagnose conditions in the low solar atmosphere, we are limited to remote sensing of the radiation emanating from this region. However, many chromospheric diagnostics are optically thick and require non-LTE radiative transfer modeling to be properly understood.

This can complicate the interpretation of the observations. We will reveal how numerical modeling combined with observations allows us to interpret the complex data, and the observations provide constraints to the models.



Thursday, February 18th

4:00-5:00 p.m.

See website for Zoom information

Juan Martinez-Sykora

University of Oslo