Session 4

(Invited) Magnetic field diagnostic for the Solar Chromosphere

R. Centeno
HAO/NCAR

Sitting between the dynamically driven Photosphere and the magnetically dominated Corona, is the ever-elusive solar Chromosphere, which harbours the key to quantifying the state and the evolution of the Sun's outer magnetic envelope.
Our knowledge of the magnetic fields in the Sun's atmosphere relies, almost entirely, on our ability to interpret the intensity and the polarization of the light that it emits. While inferences of the photospheric magnetic field vector have been routinely carried out for decades now, chromospheric magnetometry is challenging at many levels. In particular, chromospheric spectral line polarization is theoretically complex and computationally demanding to model, let alone to interpret. In this talk I review the accuracy and limitations of approximate magnetic field inference tools applied to some chromospheric spectral lines of interest.