

Global inversions using multi-resolution solar data

Jaime de la Cruz Rodriguez . Adur Pastor Yabar

Institute for Solar Physics, Stockholm University, Sweden

contact e-mail: *jaime@astro.su.se*

Diagnosing the physical state of chromospheric plasmas from observational data is best done through inversion techniques. However, not so many chromospheric diagnostics are available in the solar spectrum in comparison with the photosphere. Therefore, in order to set proper constraints on the inversion process, we usually need to include data from remarkably different instruments and telescopes, operating at different spatial resolutions. The inversion process can struggle to process such datasets because the different spectral windows resolve different spatial scales per resolution element. In this review talk I will present a technique that allows processing such complex datasets with minimal blurring effects induced by the lowest resolution data in the set. I will also present early results from the application of this technique to high resolution spectropolarimetric data.