

*Hinode-3: 3rd Hinode Science Meeting
Hitotsubashi Memorial Hall, Tokyo
1-4 December, 2009*

Structure of small magnetic elements in the solar atmosphere

Vicente Domingo

Grupo de Astronomía y Ciencias del Espacio. Laboratorio de Procesado de Imágenes. Universidad de Valencia

Judith Palacios

Universidad de Valencia

Iballa Cabello

Universidad de Valencia

Laura Balmaceda

Universidad de Valencia

Santiago Vargas

Mullard Space Science Laboratory, University College London

Abstract. The small magnetic elements have been studied profusely, see for instance the review paper by de Wijn et al (2009). However, their detailed structure as well as a quantitative evaluation of their contribution to several global and statistical properties of the different layers of solar atmosphere, is only recently receiving an important impetus with the availability of data produced by instruments that provide high-resolution images based in high quality spectroscopy, i.e. the Hinode spacecraft and improved instrumentation in ground-based telescopes. Here we show some preliminary results being derived by our group from recently obtained observations, as a contribution to the understanding of structure of the small magnetic elements that permeate the photosphere and the immediate atmosphere above it.

High resolution images at different wavelengths, spectrograms and magnetograms, representing different levels of the atmosphere obtained mainly with Hinode and the Swedish Solar Telescope at La Palma have been combined to attempt to describe the 3-dimensional structure of the small magnetic elements as well as relating it to their radiance.