HAO Colloquium Series

(Refreshments served)

Speaker: **Valentin Martínez Pillet, IAC, Tenerife**

Time: **10:30–1:30 am**

Date: **Thursday, April 11, 2013**

Location: **CG1-2126**

Title: **Sunspot and Active Region Filaments: what do they have in common?**

Abstract:

Sunspots are preceded by a well documented and spectacular phase of magnetic flux emergence, easy to identify in almost any spectral range. This phase is followed by a more subtle process of flux disappearance that includes diffusion and magnetic cancellation. The decay phase coincides with the development of an active region filament at the neutral line that slowly evolves and often gets expelled in CME events. It has recently been confirmed that these Active Region filaments harbor field strengths of up to 700 Gauss, representing the strongest field concentrations in the chromosphere second only to the sunspots themselves. However, the links between sunspots and Active Region filaments are not fully understood. The conditions under which these two ingredients of Active Regions - sunspot and filaments- can indeed be shown to harbor closer links than previously thought will be discussed in the light of observations made in the He 10830 A spectral region. In particular, the magnetic fields and plasma flows measured in this active region filament will be studied and compared with commonly accepted models of their formation and evolution.

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