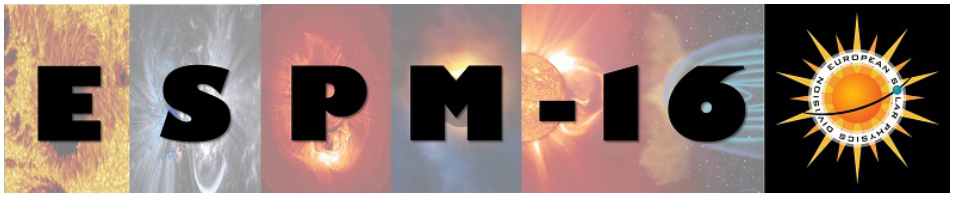

Contribution ID: **553** Type: **Poster**

Statistical spectroscopic analysis of a quiescent prominence observed in hydrogen Lyman lines by SoHO/SUMER and MgII h&k lines by IRIS

Thursday 9 September 2021 11:39 (13 minutes)

A quiescent prominence was observed on October 22, 2013 at NW limb quasi-simultaneously and nearly co-spatially in the Lyman line series of hydrogen by SoHO/SUMER and in MgII h&k UV lines by IRIS. In this contribution we analyze a dense and compact structure of the prominence because this part is quiet and therefore suitable for quasi-static non-LTE modeling. This part of the prominence is also well visible in H_alpha filtrogram images. Spectroscopic analysis of the Lyman line and MgII h&k profiles is done using the following profile characteristics: integral intensities, depth of the central reversal and asymmetry of the peaks. Distributions of the profile characteristics within the studied area of the prominence are statistically analyzed using histograms. The profile characteristics are now defined only for profiles with one peak (purely emissive) or double-peaked. There exist also profiles with more peaks in the observed data from both instruments, thus, statistical analysis of occurrences of different type of profiles – one-, two-, three-, four-and-more-peak profiles and peculiar profiles is also made. Results of the statistical analysis of observed data are to be be compared with the analogous statistical analysis of synthetic profiles obtained using the non-LTE models of the fine structure of prominences.

Author: Dr SCHWARTZ, Pavol (Astronomical Institute, Slovak Academy of Sciences)

Co-authors: GUNÁR, Stanislav (Astronomical Institute of the Czech Academy of Sciences); KOZA, Julius (Astronomical Institute, Slovak Academy of Sciences, Tatranska Lomnica, Slovakia); HEINZEL, Petr (Czech Academy of Sciences)

Presenter: Dr SCHWARTZ, Pavol (Astronomical Institute, Slovak Academy of Sciences)

Session Classification: Poster Session 10.2

Track Classification: Session 2 - The Solar Atmosphere: Heating, Dynamics and Coupling