

# The lower chromosphere in a coronal hole

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Coronal holes draw special attention of the Sun researchers. In particular, they are known as suppositional sources of fast solar wind flows.

A coronal hole was observed for three days of its passage near the central meridian of the Sun. Spectrograms containing strong lines of ionized calcium were obtained. The Ca II K, H and  $\lambda$  854.2 nm line profiles in the region of the coronal hole and in the quiet Sun region outside its boundaries were measured. Only the line profiles that were confidently identified as being undisturbed even by weak plages were selected. All the profiles were averaged in each of the two chromospheric network components (network, cell), and the average profiles were calculated using all of the available data (network + cell). Comparing the profiles was carried out separately for cells and cell boundaries of the chromospheric network. Our principal result is that space- and time- averaged observed profiles of the central self-reversal on the coronal hole sites differ from those remote from the hole: intensities of the  $K_3$ ,  $H_3$  central depressions are increased in cell while unchanged in network; height of the  $K_2$  peaks is reduced in cell and particularly in network; the central self-reversal asymmetry is intensified in network. Distinctions appear at a high significance level. Line wings as well as average characteristics of the infrared line remain practically invariable. We discuss probable causes for the revealed behavior of the lower chromosphere lines at the base of a coronal hole.