M28b PHOTOSPHERIC AND CHROMOSPHERIC MOTIONS AROUND A DARK FILAMENT

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In this poster, we investigate how photospheric and chromospheric materials move around a dark filament. In the photospheric part, we trace granular motions by means of Local Correlation Tracking (LCT) technique to derive horizontal photospheric velocity field, while in the chromospheric part, we use both blueshifted and redshifted Ha images from which we obtain line-of-sight velocity field by subtracting the blueshifted images from the other one. The result shows that a typical value of horizontal photospheric velocity is 1 km/s and its large-scale spatial pattern is maintained during several hours. We also find that there are convergence-dominated regions around a filament channel, which is consistent with the theoretical consideration that converging motions cause the mutual approach between those regions of opposite magnetic polarity, leading to the formation of filament at the middle of these regions. As for chromospheric motions, we find that there are regions of upward motions and of downward motions at the edge of the filament. This implies that mass supplies to the filament as well as mass losses from it occur in these regions, which probably have a close relation to the formation of the so-called prominence feet. In discussion, on the basis of those results we obtained, we consider the effect of photospheric motions on filament dynamics and discuss what kinds of physical processes form filaments.