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## Observational Detection of Drift Velocity between Ionized and Neutral Species in Solar Prominences

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It has been stated for a long time that the solar atmospheric plasma is not in a neutral state nor in a fully ionized state. The solar plasma is composed of different species, and it can be considered that each of them behaves like a fluid interacting with the rest of the species via collisions. When the collisional coupling is strong, the plasma mostly behaves as a single fluid. If this coupling weakens in certain processes, there might be deviations between the dynamical and thermal properties of the different species. To detect ion-neutral effects, it is necessary to measure as accurately as possible the velocity of different species at the same spatial position and simultaneously. Our aim is the detection of non-ideal ion-neutral effects in the solar plasma. The best candidate targets for this goal are spicules, surges, and the lower part of prominences. For this study, we observed a quiet Sun solar prominence at the east limb in June 2017 with the German Vacuum Tower Telescope. We acquired simultaneous spectra of the Ca II 8542 Å, H $\alpha$  6562.8 Å, and He D3 5875.6 Å lines. The spectroscopic mode of the spectrograph was chosen to ensure the high cadence and signal to noise needed to detect these effects and shed light on the scientific questions proposed.

### Student poster?

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