

## **CURRENT SHEETS IN THE SOLAR ATMOSPHERE**

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Direct or indirect evidence of magnetic reconnection has been found in a variety of astrophysical objects that include, e.g., galactic nuclei, interstellar medium, galactic halos and the Sun. The process of magnetic reconnection, where magnetic energy is converted into other forms of energy, typically occurs in thin regions such as quasi-separatrix layers and current sheets (CSs). Here we focus on the solar atmosphere, where current sheets have been ubiquitously identified and appear to play a major role in solar coronal heating as well as in transient phenomena like jets, flares and Coronal Mass Ejections (CMEs). After reviewing the observational evidence of CSs throughout the solar atmosphere, techniques which allow us to infer the properties of coronal CSs from White Light and UV data will be illustrated. CS densities, electron and kinetic temperatures in the low corona are discussed together with inferences on CS electrical resistivity. We will also describe transient white light brightenings, usually referred to as "blobs", that propagate along CSs and have been traditionally interpreted in terms of Petschek-type reconnection or as the result of tearing mode instability. Transient brightenings recently detected in UV lines may be suggestive of plasmoids in a filamentary CS structure, possibly analogous to what observed in the terrestrial magnetosphere.

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