Solar Prominences - Structure and Origins

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Abstract

Solar prominences (also known as filaments) are relatively high density, low temperature structures suspended in the much hotter, more rarefied corona. They form over extended, sheared magnetic neutral lines and are known to erupt as parts of coronal mass ejections (CMEs). Although a long-observed feature of the corona, they are still incompletely understood. I will review observations and models regarding the structure and origins of prominences. This will include discussions of the prominence magnetic field and its relation to the larger scale prominence channel and cavity, the nature of prominence barbs, and the origins of prominence plasma.