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Review talk on Chromosphere, Spicules and Prominences

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Abstract. Recent observations and models of the magnetized chromosphere are discussed. Solar disk observations in the Ca II H and K lines show bright “network grains” that are continually bright and have symmetrical line profiles, indicating that they are heated by an as-yet-unidentified quasi-steady process. Emanating from these grains are type-II spicules (or “straws”) that extend to heights of several Mm. These spicules are very thin (100 km), have short lifetimes (10-150 s), and seem to be rapidly heated to transition region temperatures, sending material through the atmosphere at speeds of 50-150 km/s. These observations are interpreted in terms of a magnetic model of a network element. A network element consists of a collection of discrete flux tubes that are anchored in intergranular lanes in the photosphere. At chromospheric heights these flux tubes merge to fill the available volume, but interesting physics is likely to occur at the interfaces between these flux tubes. We also review recent observations of solar prominences and discuss the magnetic structure of hedge-row prominences.