DYNAMICS OF QUIESCENT PROMINENCES

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We review the state-of-the-art of the observations and modeling of prominence fine structures, with special emphasis on the dynamics. Fine structures of quiescent prominences have been recently observed by Hinode/SOT and these observations revealed a rather complex dynamics of bright threads and blobs and of dark plumes originating from large prominence bubbles. SOHO/SUMER spectra of hydrogen Lyman lines, together with H-alpha observations from MSDP, provide us with constraints on the dynamics of cool fine structures. 2D non-LTE modeling is used for analysis of the line profiles and their asymmetries. On the contrary, the SDO/AIA images, together with RHD modeling of dipped magnetic loops, lead to a better understanding of the dynamics and energetics of hotter prominence plasmas. Finally, some more global dynamics is revealed by the spectroscopic detection of quiescent prominence oscillations. We show recent results of such observations and new radiative-transfer modeling.