

*Hinode-3: 3rd Hinode Science Meeting
Hitotsubashi Memorial Hall, Tokyo
1-4 December, 2009*

Solar spicules near and at the limb, observed from Hinode

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Abstract. Solar spicules appear as narrow jets emanating from the chromosphere and extending into the corona. They have been observed for over a hundred years, mainly in chromospheric spectral lines such as H-alpha. Because they are at the limit of visibility of ground-based instruments, their nature has long been a puzzle (Beckers 1968, 1972; Sterling 2000). In recent years however, vast progress has been made in understanding them both theoretically and observationally, as spicule studies have undergone a revolution because of the superior resolution and time cadence of ground-based and space-based instruments (e.g., De Pontieu et al. 2004). Even more rapid progress is currently underway, due to the Solar Optical Telescope (SOT) instrument on the Hinode spacecraft (e.g., De Pontieu et al. 2007a, 2007b). Here we present observations of spicules from Hinode SOT, as seen near the limb with the Ca II filtergraph. NASA supported this work through its Living with a Star program.