

Filament activities observed with Solar Magnetic Activity Research Telescope (SMART) at Hida Observatory, Kyoto-U.

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We can obtain full-disk high resolution solar images with five wavelength (H-alpha -0.8,-0.5,center,+0.5 +0.8 A) using Solar Magnetic Activity Research Telescope (SMART) at Hida Observatory, Kyoto-U. We open all data on our web-site, <http://www.hida.kyoto-u.ac.jp/SMART>. Data archive is a calendar style and easy to check data-available date. All fits format data, jpeg images (for quick look), and observation log can be downloaded. We are planning to make a SMART event catalog (including flare catalog, filament daily summary, active event list). In this paper, we report some events of filament activities observed with SMART.

We applied Beckers' cloud model (Beckers 1964) to SMART H-alpha data sets and derived the complete 3D velocity field of active filaments. Data sets of previous study of such an application of cloud model for filaments (Morimoto et al. 2003, for Flare Monitoring Telescope at Hida Observatory) are three wavelength (H-alpha -0.8,center,+0.8A). Using SMART five wavelength data sets, we can derive

the velocity field more accurate. We report some events of filament eruptions and surges (e.g. 2006.05.01, 2006.09.23, 2007.05.21).and discuss the application of our method to a space weather forecast.