

micromesh detectors. This instrument was developed as a facility instrument on the Large Millimeter Telescope (LMT) and operates with a single bandpass centered at either 1.1, 1.4, or 2.1mm (Wilson et al. 2008). We observed blank and biased fields in the sky with AzTEC installed on the James Clerk Maxwell Telescope (JCMT) and searched for candidates of the SMGs. Multi-wavelength follow-up studies of these galaxies suggest that these are massive young galaxies seen during their formation epoch with an inferred star formation rate (SFR) exceeding 1000 Msun per year.

### ■ Session : 초청강연 (IS)

4월 30일(목) 11:30 - 12:30 제1발표장

#### [IS-02] The Sun's Magnetic Field and Activity Sami K. Solanki<sup>1,2</sup>

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<sup>2</sup>*Max Planck Institute for Solar System Research, Germany*

The Sun is a restless star. It shows a wide variety of transient or active phenomena, such as dark sunspots, the continuously changing hot corona, energetic flares and immense coronal mass ejections, together with the associated output of energetic radiation and particles. The single quantity that is responsible for the continuing unrest of the Sun is its tangled and dynamic magnetic field. It produces these and many more fascinating phenomena, including changes in the Sun's radiative output, which has been invoked as a source of solar influence on the Earth's climate.

#### [IS-03] Recent Developments of Space Astronomy and Planetary Missions in Japan Munetaka Ueno

*Institute of Space and Astronautical Science, Japan  
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I will present a current status of ISAS/JAXA missions on space astronomy and planetary science, covering the live missions as well as ongoing projects. ISAS scientific mission has now three categories as L, M, S classes. The former regular missions like AKARI, HINODE, SUZAKU are attributed to the M (middle) size class in the current system. The S (small) class mission is rather new category in Japan. The size of the mission is previous standard one as GINGA, YOHKOH, AKEBONO, all launched by M3-Sil rocket. This Japanese SMEX mission uses a "universal standard satellite bus" to reduce the individual mission cost, and which enables a higher frequency of the mission opportunity. A new solid fuel rocket is developed in JAXA to launch the S

class mission. My talk will focus on the following topics: a brief summary of AKARI observations, and a current status of mission development and scientific goal of PLANET-C/Venus Climate Orbiter scheduled to be launched in 2010, and PRINT-A/EXCEED (the first mission of S-class category) in 2012.

### ■ Session : 태양 및 우주환경 III (SE)

4월 30일(목) 09:00 - 10:45 제2발표장

#### [박SE-13] Observational Studies of Magnetic Reconnection in Solar Preflare Activities

Kim, Sujin<sup>1,2</sup>, Moon, Yong-Jae<sup>2</sup>

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We have studied preflare activities associated with three X-ray flares using multi-wavelength observations, such as soft X-ray, EUV, UV, H $\alpha$ , longitudinal magnetogram, and EUV spectral data with raster scan images. To find the events which show the detail structure and the time sequential evolution of the preflare activity, we examined 242 events associated with flares. First two events showed morphological evolutions during the preflare phase and final one showed spectroscopic properties at the preflare site before the preflare time. In morphological studies, we have found several interesting common features as follows: 1) preflare is cospatial with the main flaring region, 2) there was a sigmoidal structure along the sheared polarity inversion line before the preflare activity, 3) the preflare activity causes a change of field connectivity, 4) the entire flaring process is made of two reconnection steps, and 5) both reconnection steps show the tether-cutting picture. In the spectroscopic study, we examined the physical properties at the preflare site using Hinode/EIS, which was appeared to be a soft X-ray brightening. We found that there was strong nonthermal motion and hot component at the lower temperature atmosphere at the preflare site just before the preflare time. Regarding hot component, we suggest two possibilities: the activity of multi-thermal loops or lower atmospheric heating caused by a small-scale magnetic reconnection process.

#### [SE-14] Are EUV bright points flare loops?

Ryun Young Kwon, Jongchul Chae

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The heights of EUV bright points (hereafter BPs) are measured by a stereoscopic method using SECCHI EUVI