



## Séminaire organisé par

**LFEMI Group Seminar: Open to All**



### **AKARI INFRARED SATELLITE AND ITS LARGE MAGELLANIC SURVEY AND BEYOND**

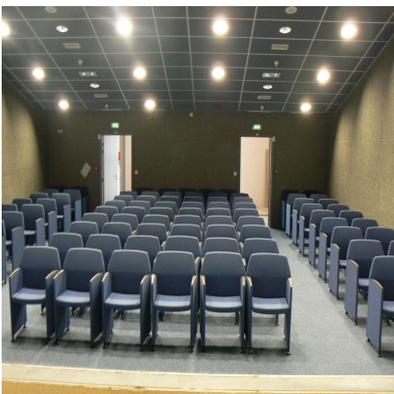
**TAKASHI ONAKA**

(Tokyo University)

AKARI is the Japanese infrared astronomical satellite, developed and managed by JAXA/ISAS with the participation of ESA. AKARI has a 68.5 cm cooled telescope and two on-board instruments, the Far-infrared Surveyor (FIS) and the Infrared Camera (IRC). Here, among the observations with AKARI, we introduce the wealth of the IRC slit spectroscopy. The IRC covers near to mid-infrared wavelengths (after the exhaustion of liquid helium, only NIR) and carries out spectroscopy with gratings and prism. The wavelength coverage of 2--5 $\mu$ m is one of the unique characteristics of the IRC spectroscopy. It includes a number of emission and absorption features related to various kinds of gaseous and solid materials in the ISM and tells us significant pieces of information about the interstellar environment and the evolution of cosmic material. As an example, combined with the MIR features, the 3.3 $\mu$ m PAH features can probe the PAH size distribution. From 2.5--13.4 $\mu$ m spectroscopic observations of the Large Magellanic Cloud, we find the paucity of small-sized band carriers in HII regions relative to PDRs. The aliphatic to aromatic ratio of I(3.4)/I(3.3) can also tell us PAH alteration, which is studied with observations of Galactic HII regions. Besides, with the NIR IRC spectroscopy, we can investigate the abundance of major ice species together (e.g., H<sub>2</sub>O absorption at 3.05 $\mu$ m, CO<sub>2</sub> at 4.25 $\mu$ m, XCN at 4.62 $\mu$ m, and CO at 4.67 $\mu$ m). In this talk I will give a summary of these results.

**mardi 22 octobre 2013**

**10h00 Salle Galilée bât 713 C - Orme des Merisiers**



**Le petit-déjeuner précèdera le séminaire**

Pascale Chavegrand - secrétariat Irfu/SAp 01.69.08.78.27 [chavegrand@cea.fr](mailto:chavegrand@cea.fr)