

# The First MAXI/GSC View of Galactic Magnetars

Yujin E. Nakagawa<sup>1</sup>, Tatehiro Mihara<sup>1</sup>, Mutsumi Sugizaki<sup>1</sup>, Mitsuhiro Kohama<sup>1</sup>, Takayuki Yamamoto<sup>1</sup>, Motoko Suzuki<sup>1</sup>, Masaru Matsuoka<sup>1</sup>, Nobuyuki Kawai<sup>2</sup>, Mikio Morii<sup>2</sup>, Ryuichi Usui<sup>2</sup>, Kohsuke Sugimori<sup>2</sup>, Atsumasa Yoshida<sup>3</sup>, Kazutaka Yamaoka<sup>3</sup>, Satoshi Nakahira<sup>3</sup>, Hitoshi Negoro<sup>4</sup>, Motoki Nakajima<sup>4</sup>, Naoki Isobe<sup>5</sup> and MAXI Team

<sup>1</sup> Institute of Physical and Chemical Research (RIKEN)

<sup>2</sup> Tokyo Institute of Technology

<sup>3</sup> Aoyama Gakuin University

<sup>4</sup> Nihon University

<sup>5</sup> Kyoto University

*E-mail(NY): yujin@crab.riken.jp*

ABSTRACT

Magnetars are strongly magnetized neutron stars with surface magnetic fields of  $\sim 10^{14}$  G. Based on observational and theoretical studies, 5 soft gamma repeaters and 9 anomalous X-ray pulsars are generally known as the galactic magnetars. Their quiescent emission consists of a thermal component ( $<10$  keV), and a hard power law component with a very hard index of 1 ( $> 10$  keV; e.g., Enoto et al. 2010). Some of them presented a flux increasing by a factor of 2-3 accompanied by high burst activities and/or enhanced emission with unusual spectral properties (e.g., Kaneko et al. 2010). Their continuous monitoring is crucial, since comparisons of properties between low and high flux phases give useful information in order to reveal radiation mechanisms. Thanks to a wide field of view and a better sensitivity than RXTE by a factor of a few in a 2-30 keV range of the MAXI/GSC, it is suitable for this purpose. We analyzed the galactic magnetars, and detected at least AXP 4U 0142+614 ( $\sim 3$  mCrab;  $>10$  sigma) and AXP 1E 1547-5408 ( $\sim 1.5$  mCrab;  $>14$  sigma) using 1 and 4 week data, respectively. In this talk, we will report the first MAXI/GSC view of the galactic magnetars on long-term variability.