

SPACEWIRE APPLICATION FOR THE X-RAY MICROCALORIMETER INSTRUMENT ONBOARD THE ASTRO-H MISSION

Session: Missions & Applications

Short Paper

Yuichiro Ezoe¹, Yoshitak Ishisaki¹, Takaya Ohashi¹, Keisuke Shinozaki², Yoh Takei², Noriko Y. Yamasaki², Kazuhisa Mitsuda², Kosuke Sato³, Ryuichi Fujimoto³, Yukikatsu Terada⁴, Makoto Tashiro⁴, Richard L. Kelley⁵, Jan-Willem den Herder⁶

¹ Tokyo Metropolitan University, 1-1 Minami-Osawa, Hachioji, Tokyo, Japan

² ISAS/JAXA, 3-1-1 Yoshinodai, Sagamihara, Kanagawa, Japan

³ Kanazawa University, Kakuma-machi, Kanazawa, Ishikawa, Japan

⁴ Saitama University, 255 Shimookubo, Sakura, Saitama, Japan

⁵ NASA/GSFC, Greenbelt, MD 20771, USA

⁶ SRON, Sorbonnelaan 2, 2584 CA, Utrecht, Netherlands

E-mail: ezoe@phys.metro-u.ac.jp, ishisaki@phys.metro-u.ac.jp,
ohashi@phys.metro-u.ac.jp, shinozaki@astro.isas.jaxa.jp, takei@astro.isas.jaxa.jp;
yamasaki@astro.isas.jaxa.jp, mitsuda@astro.isas.jaxa.jp,
ksato@astro.s.kanazawa-u.ac.jp, fujimoto@astro.s.kanazawa-u.ac.jp,
terada@phy.saitama-u.ac.jp, tashiro@phy.saitama-u.ac.jp,
Richard.L.Kelley@nasa.gov, J.W.A.den.Herder@sron.nl

ABSTRACT

SpaceWire application for the X-ray microcalorimeter instrument onboard the Japanese Astro-H Mission (2013) is presented. The instrument, Astro-H SXS (Soft X-ray Spectrometer), will be the first satellite-borne microcalorimeter experiment, and will investigate the hot-gas dynamics in galaxies and in clusters of galaxies with >20 times better energy resolution of <7 eV (FWHM) at 5.9 keV than the previous experiments. The Astro-H SXS will make use of SpaceWire as high speed data and command interfaces. In this paper, we present the data network architecture and the development status.