SPACEWIRE APPLICATION FOR THE X-RAY CCD CAMERA ONBOARD THE ASTRO-H SATELLITE - THE BBM DEVELOPMENT AND THE EM DESIGN -

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Short Paper

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ABSTRACT

Soft X-ray Imager (SXI) is an X-ray CCD camera system onboard the Japanese 6th X-ray astronomical satellite, ASTRO-H, scheduled to be launched in 2014. The ASTRO-H satellite employs SpaceWire(SpW)-based information network system, and the on-board equipments are communicated with it each other. Thus, the SpW interface is also implemented in the SXI digital electronics, which consists of an FPGA-based processing unit (SXI-PE) and a CPU-based processing unit (SXI-DE). In order to reduce the costs, shorten the development period, and improve the reliability, these two SpW devices have been designed and developed as a common hardware among observational instruments of the ASTRO-H mission. We have manufactured the bread board model (BBM) of the SpW-based SXI system and installed in a laboratory (The DAQ system of the SXI BBM is described in Fujinaga et al. in this conference). And we are currently designing the SpW/RMAP-based architecture of CCD driving and data handling using the SXI-PE and the SXI-DE.

In this paper, we present progress in evaluation tests of prototype CCDs with the BBM system and the engineering model design of the SXI digital electronics.