24th IAA SYMPOSIUM ON SMALL SATELLITE MISSIONS (B4)
Small Space Science Missions (2)

Author: Dr. Ikuyuki Mitsuishi
Nagoya University, Japan

Mr. Kazuki Sugimoto
Japan
Mr. Shinya Nakano
Japan
Mr. Masashi Ishihara
Japan
Dr. Keisuke Tamura
Japan
Dr. Kikuko Miyata
Nagoya University, Japan
Prof. Yuzuru Tawara
Japan
Mr. Koji Matsushita
Japan
Mr. Kazushi Tachibana
Japan
Prof. Kaaret Philip
University of Iowa, United States
Mr. Donald Kirchner
United States
Mr. William Robison
United States
Dr. Anna Zajczyk
United States
Ms. Daniel LaRocca
United States
Mr. William Fuelberth
United States
Mr. Ross McCurdy
United States
Mr. Keith White
United States
Dr. Keith Jahoda
United States
Dr. Thomas Johnson
United States
Dr. Luis Santos
United States
Dr. Michael Matthews

United States
Dr. Kip Kuntz
United States

HALOSAT - SOFT X-RAY SURVEOR -

Abstract

HaloSat is NASA funded 6U CubeSat mission which will be launched in 2018. HaloSat will conduct a spectroscopic survey in a soft X-ray energy band of 0.4 – 2.0 keV for the first time in order to draw intensity and temperature maps, and finally extract total mass of the hot gas associated with the X-ray Milky Way halo. Approximately half of predicted baryonic matter in the Universe remains undiscovered and the extended X-ray Galactic halo is considered to be a candidate of the location of this missing matter. Thus, to constrain the mass of the X-ray Galactic halo is cosmologically important from both observational and theoretical points of view to solve the missing baryon problem. Additionally, HaloSat will observe the whole soft X-ray sky including other interesting targets, e.g., Cygnus superbubble, north polar spur, geocoronal and heliospheric solar wind charge exchange, and local hot bubble, which provides us with hints also in terms of galactic formation. HaloSat will perform the survey using three co-aligned SDD detectors in one instrument enclosure with the field of view of \sim10 degrees. In this conference, we will report the recent status of the mission, e.g., developments of both EM and FM instruments, instrument/payload integration, and environmental tests.