

## Solar-C (EUVST)/The Solar Spectral Irradiance Monitor (SoSpIM) による宇宙天気研究

#渡邊 恭子<sup>1)</sup>, Harra Louise<sup>2)</sup>, Alberti Andrea<sup>2)</sup>, 今田 晋亮<sup>3)</sup>, 原 弘久<sup>4)</sup>, 清水 敏文<sup>5)</sup>, 川手 朋子<sup>6)</sup>, 三好 由純<sup>7)</sup>, 西谷 望<sup>7)</sup>, 堀 智昭<sup>7)</sup>, 陣 英克<sup>8)</sup>, 埜 千尋<sup>8)</sup>

(<sup>1)</sup>防衛大, (<sup>2</sup>)PMOD/WRC, (<sup>3</sup>)東大, (<sup>4</sup>)国立天文台, (<sup>5</sup>)宇宙研, (<sup>6</sup>)核融合研, (<sup>7</sup>)名大 ISEE, (<sup>8</sup>)情報通信研究機構

## Space weather research with Solar-C (EUVST)/The Solar Spectral Irradiance Monitor (SoSpIM)

#Kyoko Watanabe<sup>1)</sup>, Louise Harra<sup>2)</sup>, Andrea Alberti<sup>2)</sup>, Shinsuke Imada<sup>3)</sup>, Hirohisa Hara<sup>4)</sup>, Toshifumi Shimizu<sup>5)</sup>, Tomoko Kawate<sup>6)</sup>, Yoshizumi Miyoshi<sup>7)</sup>, Nozomu Nishitani<sup>7)</sup>, Tomoaki Hori<sup>7)</sup>, Hidekatsu Jin<sup>8)</sup>, Chihiro Tao<sup>8)</sup>

(<sup>1</sup>)NDA, (<sup>2</sup>)PMOD/WRC, (<sup>3</sup>)The Univ. of Tokyo, (<sup>4</sup>)NAOJ, (<sup>5</sup>)ISAS/JAXA, (<sup>6</sup>)NIFS, (<sup>7</sup>)ISEE, Nagoya Univ., (<sup>8</sup>)NICT

The Solar Spectral Irradiance Monitor (SoSpIM) has been developed by the Physical Meteorological Observatory in Davos World Radiation Center (PMOD/WRC) in Switzerland to be installed on the Solar-C (EUVST), the next solar observation satellite.

SoSpIM has two observation wavelength bands (170-215A, 1115-1275A) that are also covered by Solar-C(EUVST). By having a redundant system with three independent channels for each wavelength band, the instrument can monitor the degradation and contamination of Solar-C(EUVST). SoSpIM is expected to be used for calibration of the Solar-C(EUVST).

The extreme ultraviolet (EUV) emissions observed by SoSpIM play a main role in controlling the composition of the Earth's upper atmosphere. Both wavelength bands are mainly absorbed in the thermosphere and ionosphere, which are usually formed at altitudes >80 km, and are thought to change the composition of the Earth's atmosphere around this altitude. In particular, it is known that sudden fluctuations in EUV emissions due to solar flares greatly change the composition and height profile of the ionosphere, causing space weather phenomena such as communication failures. Therefore, we set up the international SoSpIM science team to study not only solar flare physics, but also discuss what kind of space weather research is feasible using SoSpIM data. In particular, the Japanese members are expected to study the effects of solar emissions on the Earth's ionosphere by comparing the data with observations (e.g. SuperDARN) and model calculations (GAIA) of the Earth's ionosphere.

In this presentation, we will report on the current development status of SoSpIM and the scientific topics considered to be contributed by SoSpIM data.