

Status report of AJ1007: Space environmental changes and their effects on the Earth's atmosphere explored from the polar cap region

Ryuho Kataoka¹, Takeshi Sakanoi², Keisuke Hosokawa³, Takeshi Murata⁴, Akira Mizuno⁵, Yoshizumi Miyoshi⁵, Chihiro Kato⁶, Shoko Miyake⁷, Yusuke Ebihara⁸, Shigeru Fujita⁹, Shinya Nakano⁹, Aoi Nakamizo⁴, Hisao Yamagishi¹, Akira Sessai Yukimatu¹, Yoshimasa Tanaka¹, Yasunobu Ogawa¹, Kiyoka Murase¹, Yuki Nakamura¹⁰, Masakazu Watanabe¹¹, Takanori Nishiyama¹, Akira Kadokura¹², and Kazuoki Munakata⁶

¹*National Institute of Polar Research*

²*Tohoku University*

³*UEC*

⁴*NICT*

⁵*ISEE, Nagoya University*

⁶*Shinshu University*

⁷*Ibaraki College*

⁸*RISH, Kyoto University*

⁹*ISM*

¹⁰*The University of Tokyo*

¹¹*Kyushu University*

¹²*PEDSC*

Japanese Antarctic research program AJ1007 (Space environmental changes and their effects on the Earth's atmosphere explored from the polar cap region, 2022-2027), auroraXcosmic project in short, is supported by NIPR/JARE. We are studying space weather and space climate from Antarctica to understand how the Earth system is open to space, focusing on the southern polar cap where the atmosphere is directly affected by various types of energetic particles from space. In this presentation, we would like to share the current status of the project, such as all-sky camera development and the installation plan via the international collaborations, with new model development toward the space weather reanalysis data study.