

---

[EE] Evening Poster | A (Atmospheric and Hydrospheric Sciences) | A-CG Complex & General

## [A-CG36]Satellite Earth Environment Observation

convener:Riko Oki(Japan Aerospace Exploration Agency), Yoshiaki HONDA(Center for Environmental Remote Sensing, Chiba University), Yukari Takayabu(東京大学 大気海洋研究所, 共同), Tsuneo Matsunaga(Center for Global Environmental Research and Satellite Observation Center, National Institute for Environmental Studies)

Thu. May 24, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

In recent years, we cannot avoid facing issues on global environmental changes that occur in various spatiotemporal scales. The earth environmental observation data by satellites became the necessary basic data to tackle and solve those issues. Due to the recent advancement in the observation sensor technique and the data processing technique, the satellite observation has been showing rapid progress, and the time is changing from examining the accuracy of the observation sensor data to the advancement of the data application, leading to broaden potential users. In these days application became synergetic, so we comprehensively pick

up this topic in the Atmospheric and Hydrospheric Sciences Session of this Union Meeting that enables to comprise the atmospheric, oceanic and land sciences; by combining the intelligence and the knowledge of the party, we propose a session that aims to prompt further studies towards the issues on earth environmental change, the advancement in the data application and future plans of Earth Observation missions.

---

## [ACG36-P09]Feasibility study for future space-based Doppler Wind Lidar

\*Shoken Ishii<sup>1</sup>, Kozo OKAMOTO<sup>2</sup>, Takuji Kubota<sup>3</sup>, Philippe Baron<sup>1</sup>, Maokoto Aoki<sup>1</sup>, Atsushi Sato<sup>4</sup>, Toshiyuki ISHIBASHI<sup>2</sup>, Taichu Y Tanaka<sup>2</sup>, Riko Oki<sup>3</sup>, Masaki Satoh<sup>5</sup>, Toshiki Iwasaki<sup>6</sup> (1.National Institute of Information and Communications Technology, 2.Meteorological Research Institute, 3.Japan Aerospace Exploration Agency, 4.Tohoku Institute of Technology, 5.The University of Tokyo, 6.Tohoku University)  
Keywords:Lidar, range-resolved measurement, space-based observation, global wind profiling

Wind is a fundamental meteorological variable describing the atmospheric state as well as pressure, temperature, and humidity. Global wind profile observation is important to significantly improve the initial conditions essential for numerical weather prediction and other meteorological studies. Current space-based wind observing systems have a large coverage area and high temporal and horizontal resolutions but has a low vertical resolution. The World Meteorological Organization wants to develop a global wind profiling system. ‘Light Detection And Ranging (Lidar)’ is an optical active remote sensing technique which can make a range-resolve measurement. A space-based Doppler Wind Lidar (DWL) is one of promising sensors to fill the current gap. We are making feasibility study for the space-based DWL for future global wind profiling. Recent results and progress of the feasibility studies for the future space-based DWL will be presented.