

Observation of atmospheric gravity waves by lithium release from sounding rocket

Yuki Furuta[1]; Shigeto Watanabe[1]; Takumi Abe[2]; Hiroto Habu[2]; Yoshihiro Kakinami[3]; Masa-yuki Yamamoto[4]
[1] CosmoSciences, Hokkaido Univ.; [2] ISAS/JAXA; [3] Inst. Seismo. Vol., Hokkaido Univ.; [4] Kochi Univ. of Tech.

It is known that the structure of Traveling Ionospheric Disturbances and the seed of Plasma Bubbles are associated with atmospheric gravity waves. However, the in situ observation of small scale gravity waves has not been observed in detail. To investigate neutral wind and gravity wave in the thermosphere, WINDs campaign has been carried out. For the WIND-2, S-520-26 sounding rocket was launched from ISAS/Kagoshima Space Center (131.08E, 31.25N) at 05:51 on January 12, 2012. The rocket installed Lithium Ejection System (LES), which releases the lithium atom in the thermosphere. The lithium cloud was observed from Uchinoura, Sukumo and Muroto stations. We estimated the wind distribution and gravity wave in the lower thermosphere.