

A study on winter thunderstorm and lightning discharges with Non Hydrostatic Model

Masaki Ando[1]; Satoru Yoshida[1]; Syugo Hayashi[2]; Takeshi Morimoto[1]; Tomoo Ushio[1]; Zen Kawasaki[3]

[1] Osaka Univ.; [2] MRI/JMA; [3] Dept. of EEI. Eng. Osaka Univ.

Thunderstorm forecasting is strongly expected from the aspects of lightning protection, human safety, aerospace and marine industry, and so forth. Current forecasting depends on empirical rules without numerical weather prediction model. That is why we plan to forecast lightning discharge based on meteorological parameters such as updraft velocity, the amount of graupels and storm height estimated from numerical weather prediction model. In this paper, as a first step we examine the relationship between the reproduced thunderstorms and the actual locations of lightning discharge in Hokuriku during winter thunderstorm season obtained from Non Hydrostatic Model (NHM), which is employed in Japan Meteorological Agency, and the VHF broadband digital interferometer, respectively.