

VLF帯電界計測に基づいた関東圏落雷観測網の性能評価

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Evaluation on specification of lightning observation network in Kanto region based on electric measurement in VLF range

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Establishment of monitoring method for thunderstorm activity in urban region is necessary to reduce flood damage caused by heavy rain and take measures for power outage by lightning. In the previous studies, lightning occurrence data was used as a proxy for the presence or absence of vertical atmospheric convection that causes generation of thunderstorm. Recently, lightning observation is focused on as an efficient way to monitor cumulonimbus cloud.

Purpose of this study is a quantitative evaluation of lightning activity and nowcast of thunderstorm activity in the Kanto region. We have already constructed observation network based on electric measurement to monitor lightning activity in the Kanto region and started the observation from 2013. This network consisted of six receivers installed at Hachioji-shi (Tokyo), Yokosuka-shi (Kanagawa), Koto-ku (Tokyo), Kofu-shi (Yamanashi), Ohamishirasato-shi (Chiba), and Maebashi-shi (Gunma). Frequency range in electric measurement is 1-40kHz. Data obtained by multipoint observation is synchronized by GPS receiver installed at each station.

From July 2015, observation systems of all stations are revised. In this presentation, we report the details of new system and summarized the specification (accuracy of geolocation and detection efficiency) for new system.