

## Temporal-spatial structure of cumulonimbus of rainband observed by Ku-band radar and surface observation network

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We are operating a Ku-band radar with high temporal-spatial resolution (range: 2.38 m, beam width: 3 deg., 1 volume scan : approximately 1 min.) at Musashino city, Tokyo (SEIKEI Univ.) during the field campaign of the Tokyo Metropolitan Area Convection Study for Extreme Weather Resilient Cities (TOMACS). We present the temporal-spatial structure of cumulonimbus clouds of rain band on November, 20, 2011 based on observation of Ku-band radar, dense surface observation network, and AMeDAS (Automated Meteorological Data Acquisition System).

The Ku-band radar observation clearly shows that new cumulonimbus initiated at leading edge of rain band. Analysis of wind field based on surface observation network and AMeDAS shows that the cumulonimbus generated at convergence field. Using reflectivity of Ku-band radar, development of three-dimensional structure of precipitation core of the cumulonimbus was analyzed. The precipitation core initiated at approximately 4 km height and dropped at surface within 6 min.

Keywords: Cumulonimbus, Ku-band radar, surface observation network