

## Descending reflectivity core analysis by Ku-band radar

SATO, Eiichi<sup>1\*</sup> ; KUSUNOKI, Kenichi<sup>1</sup> ; FUJIWARA, Chusei<sup>1</sup> ; SAITO, Sadao<sup>1</sup> ; SHOJI, Yoshinori<sup>1</sup>

<sup>1</sup>Meteorological Research Institute

In order to observe extreme weather such as localized heavy rainfall, tornado etc., we installed a Ku-band radar in Musashino-shi, Tokyo in 2011. Since the radar can create a 3D volume scan per minute, we expect that the data observed by the radar will contribute to understanding mechanisms of such phenomena.

In our research, we defined a cell as an area whose reflectivity is  $\geq 25$ dBZ, and a core as a reflectivity peak in the cell. The procedures of the cell/core detection are as follows: 1) conversion from  $r\theta$  data to xyz data, 2) cell detection by binarization and labeling, and 3) core detection by method of steepest descent(ascent).

In this presentation, results of an automatic cell/core detection algorithm will be shown.

Keywords: descending reflectivity core, Ku-band radar, fast scan radar, extreme weather