

Suzuki, S.-I., T. Maesaka, K. Iwanami, S. Shimizu, and K. Kieda, 2018: X-band dual-polarization radar observations of the supercell storm that generated an F3 tornado on 6 May 2012 in Ibaraki Prefecture, Japan. *J. Meteor. Soc. Japan*, **96A**, <https://doi.org/10.2151/jmsj.2017-019>.

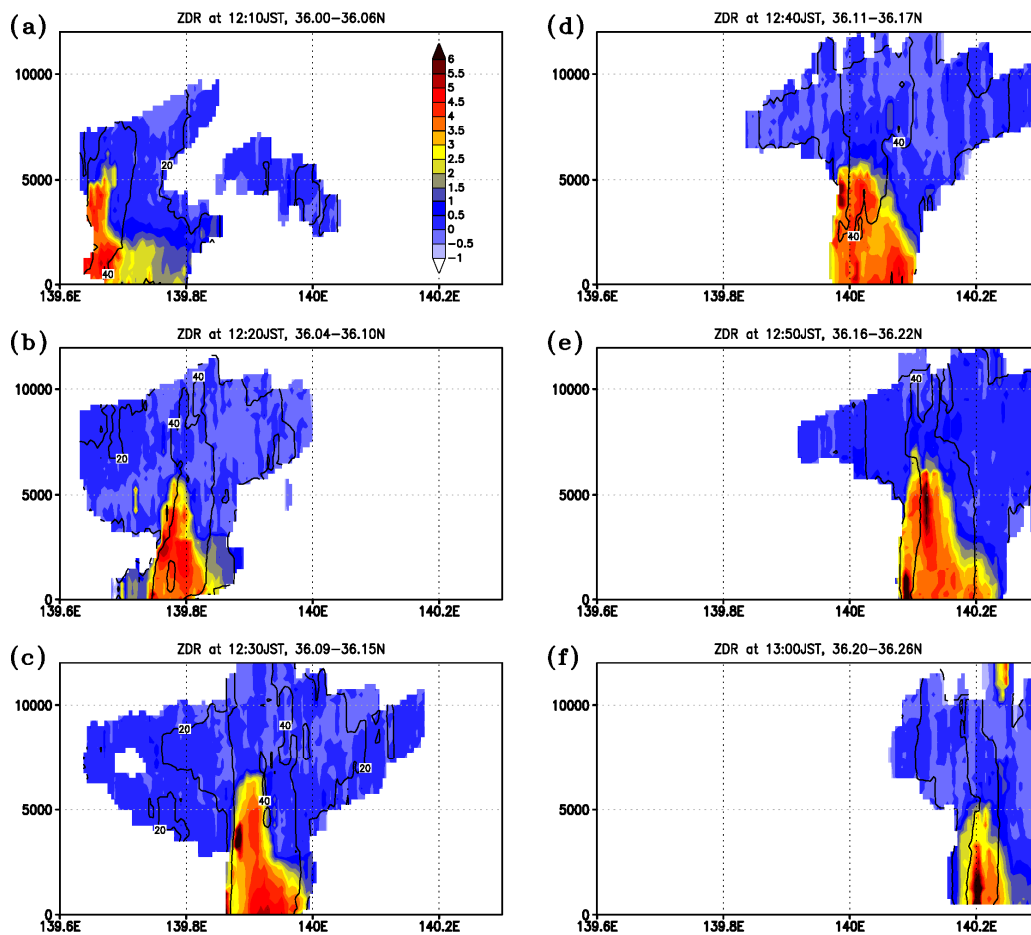


Figure 1. Longitude-height sections of  $Z_{DR}$  (dB, color shading) and  $Z_H$  (contours for 20, 40 and 60 dBZ) from (a) 1210 JST to (f) 1300 JST at 10 min intervals. Maximum values of  $Z_{DR}$  and  $Z_H$  are shown within the latitudinal ranges shown above each panel. Horizontal axes show longitude ( $^{\circ}$ E) and vertical axes show height (m).

- X-band dual-polarization (multi-parameter) radars were used to observe a supercell storm that generated an F3 tornado in Ibaraki Prefecture, Japan on 6 May 2012. The observed data collected for this storm clearly exhibited the typical polarimetric features of a supercell storm, such as the  $Z_{DR}$  (differential reflectivity) arc,  $Z_{DR}$  column, and the  $K_{DP}$  (specific differential phase) column, as well as their time evolution.
- The  $Z_{DR}$  arc emerged at 10 to 15 min before the tornadogenesis. The  $Z_{DR}$  column appeared approximately 1 h before the formation of the  $Z_{DR}$  arc and was intermittent until tornadogenesis. As the  $Z_{DR}$  arc appeared, the column became tall and stable and lasted until the dissipation of the tornado. These  $Z_{DR}$  signatures of the supercell storm persisted for approximately half an hour.