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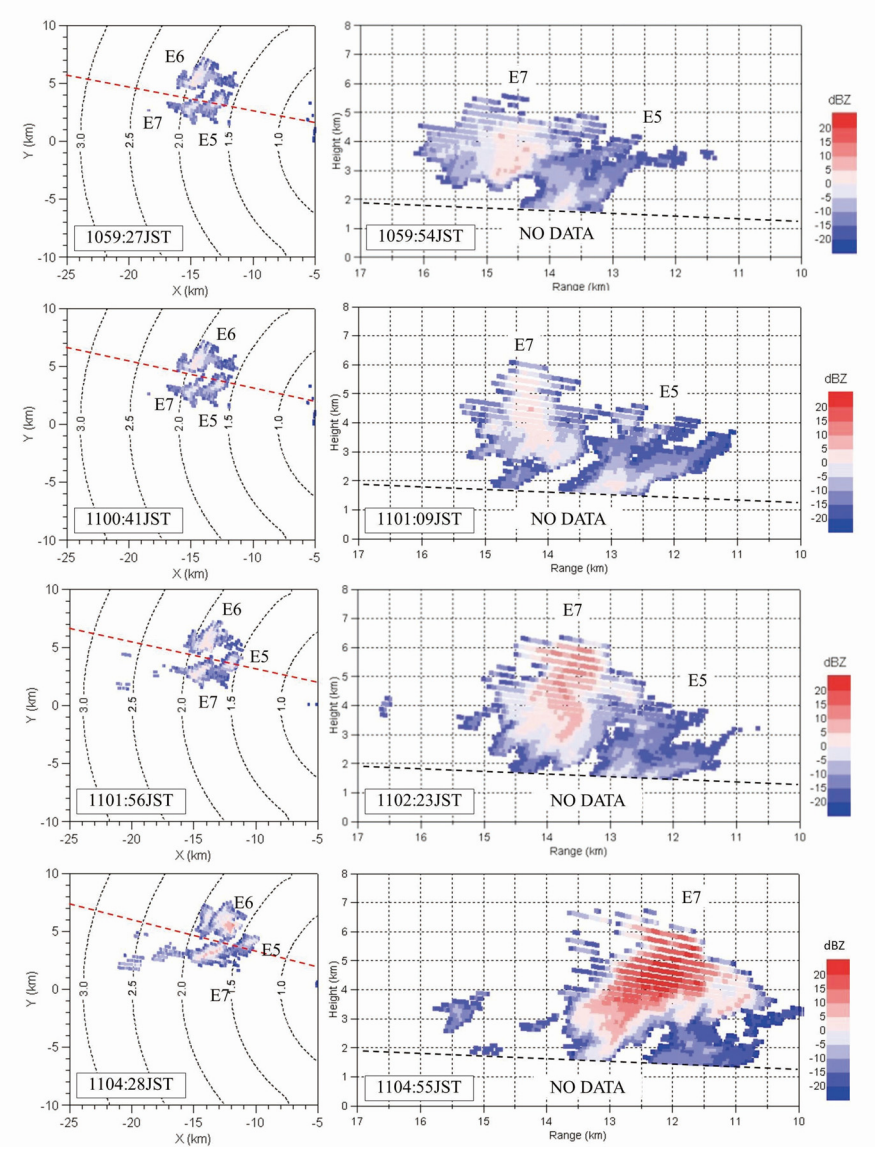

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Figure 13. (Left panels) Sector plan position indicators of reflectivity observed by the Ka-band radar at an elevation angle of 7.1° at 1059:27 JST, 1100:41 JST, 1101:56 JST, and 1104:28 JST on 18 August 2011. Contours indicate altitudes in kilometers. (Right panels) Range-height indicators of reflectivity along the red lines in left panels scanned at 1059:54 JST at an azimuth angle of 283°, 1101:09 JST at an azimuth angle of 285°, 1102:23 JST at an azimuth angle of 285°, and 1104:55 JST at an azimuth angle at 287°.

- Convective storms are frequently initiated over mountains under weak synoptic forcing conditions. However, the initiation process of such convective storms is not well understood due to a lack of observations, especially of the transition process from non-precipitating cumuli to precipitating convective clouds.
- During the transition process, weak radar echoes observed by the Ka-band radar rose to the higher level and radar reflectivity rapidly increased (E7 in Fig. 13). This phenomenon suggests that drizzle particles produced in a pre-existing convective cloud were lifted by a newly developed updraft, and raindrops were formed rapidly by coalescence of the drizzle particles and cloud droplets.