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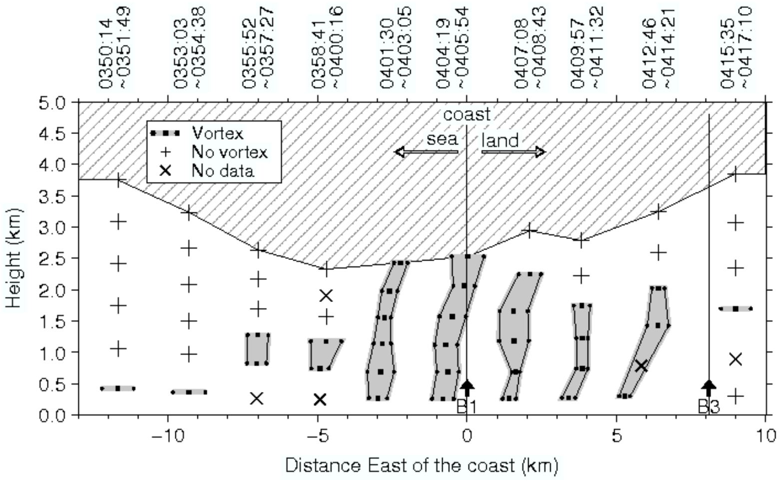
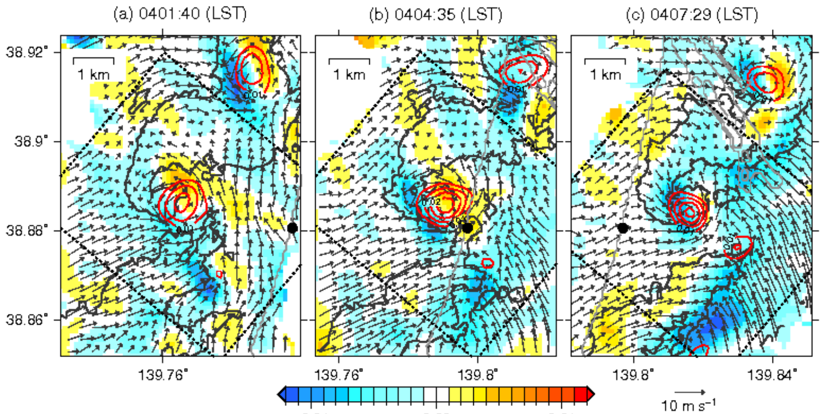


←Figure 1. Range-height plots of the vertical section of vortex 4 (gray shading with solid lines and dots) along the moving direction. The distance between two dots (core diameter) is shown by the half of actual length. Solid squares are the vortex center positions at each height.



← Figure 2. Horizontal cross -section of divergence (shade), vertical vorticity (red contour, outermost contour is 1.0× 10^{-2} s^{-1}, incremented by 0.5×10^{-2} s^{-1}), and vortex-relative horizontal wind vectors at 400 m ASL. Radar reflectivity of the JR-E radar is shown by the black contour.

- The structure and temporal evolution of the misovortices within a convective snowband during landfall were investigated using high-resolution data obtained from two X-band Doppler radars in the Japan Sea coastal region.
- The vortices developed along a low-level convergence line with horizontal shear, suggesting that horizontal shearing instability was responsible for their initial development.
- The vortex extended upward with time as it approached the coast. During landfall, its core diameter contracted markedly and its peak tangential velocity and vertical vorticity increased at lower altitudes (Fig.1).
- Such a temporal change of low-level vortex was associated with an intensification of low-level convergence around the vortex and the convergence line, suggesting that stretching of the low-level vortex was responsible for it (Fig.2).