

Retrieval of buoyancy in thunderstorm from dual-Doppler radar wind with high temporal resolution

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We developed thermodynamical retrieval algorithm using sector volume scanning observation with high temporal resolution.

The algorithm was applied to severe storm observed around 13 LST on 3 August 2011. It was found that the relationship between potential temperature and rapid development of updraft. The estimated perturbation of potential temperature will be used for initialization of numerical simulation by 3DVAR.

Keywords: Retrieval of thermodynamic variable, High-temporal-resolution sector scan