A Case Study of Precipitation System Observed at Chujado, Korea in 2009

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In summer rainy season, Korean peninsula is influenced by several severe weather phenomena such as Changma-front, typhoon, strong low pressure, and local heavy precipitation. To find out the development mechanism of these phenomena, we have performed intensive field observation experiments in Chujado (33.95°N, 126.28°E) which were located at the southern part of Korea. We analyzed the synoptic condition by using NCEP/NCAR reanalysis data, kinematic characteristics of precipitation system by dual Doppler radar analysis, and vertical thermal condition by sounding data.

In this study, one case was chosen and analyzed. The precipitation was occurred in rear of Chama-front and the rainfall of 72 mm was recorded at Chujado (from 07 LST to 16 LST 15 July 2009). Humid warm air flowed into the southern part of Korea due to strong low pressure located in the East Sea. When the precipitation system was passing through the analysis area, strong wind was showed at all of layers. Some results such as kinematic characteristics, structure, variation, and thermodynamic characteristics of precipitation system will be presented at the conference.

Keywords: Changma-front, Strong low pressure, Heavy precipitation, Kinematic characteristics, Dual Doppler radar analysis