

Observation and application of the Phased Array Radar

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The phased array radar system which was installed in 2012 in Osaka University has the unique capability of scanning the whole sky with 100m and 10 to 30 second resolution up to 60 km. The system adopts the digital beam forming technique for elevation scanning and mechanically rotates the array antenna in azimuth direction within 10 to 30 seconds. The radar transmits a broad beam of several degrees with 24 antenna elements and receives the back scattered signal with 128 elements digitizing at each elements. Then by digitally forming the beam in the signal processor, the fast scanning is realized. After the installation of the PAR system in Osaka University, the continuous operation has been done and succeeded in getting several hazardous rain fall events with lightning locations. The data for these events captured by the Phased Array Radar shows the unique capability of the high resolution weather radar. In this presentation, over view of the Phased Array Radar is firstly given, and after that observation results and future direction of the Phased Array Radar Network with polarimetric capability is shown.

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