

## Campus Precipitation Nowcasting using Digital Signage

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Well-developed thunderclouds cause local downpours. They sometimes bring hourly rainfall amounts that reach 100 mm in areas of a few square kilometers and cause flooding of small rivers, lowland inundation, and underpass damage. The Ministry of Land, Infrastructure, Transport and Tourism deployed 38 X-band polarimetric radars in major city areas to monitor localized heavy rainfalls, each with a spatial resolution of 250m and a temporal resolution of 1 minute. The present paper describes the development of very short range nowcasting of localized heavy rainfalls using X-band polarimetric radar. This nowcasting is based on a correlation method that extrapolates rainfall distribution in a 1.8 km square area with a 250m resolution, every minute, and 10 minutes in advance. To assess the usefulness of this extremely short range rainfall forecast, an on-campus survey of faculty and students has been underway since April 2015 at Kagoshima University. In the experiment, 10 minute nowcasting information is distributed via digital signage, PCs, mobile devices, digital terminals, and cell phones to examine the usefulness of each device. In the signage experiments, additional data such as campus information and messages from past large-scale disasters, showing their mechanisms and countermeasures, are displayed automatically in accordance with a pre-set schedule.

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