

Interactive comment on “Exploring the potential of utilizing high resolution X-band radar for urban rainfall estimation” by Wen-Yu Yang et al.

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In general, there are several ways that can measure rainfall such as rain gauge, radar, satellite, and so on. The standard way of measuring rainfall is rain gauge which measure rainfall at or near the ground. It can accurately measure the total rainfall in a certain interval of time. However, rain gauge is point scale measurement which means it cannot effectively describe the spatial variability of rainfall.

Weather radar measures the energy returned from a precipitation target and then transform it into rain rate. Compared with rain gauges, weather radars can do continuous measurements and provide high spatiotemporal resolution (e.g. 1 km/5–10 min) rainfall data that allow hydrological simulation to be conducted at very fine scales. Moreover, the spatial resolution of X-band radar can be as fine as ~ 100 m, which makes X-band

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radar more suitable to monitor the highly heterogeneous rainfall in urban area.

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