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Horizontal structure of rain derived from rain gauges and adjusted radar data

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The Institute of Atmospheric Physics Prague measures rain rates using the Tipping-bucket rain gauges at six places over the Czech territory. The resolution of used rain gauges is 0.2 mm/tip and data are stored with the one second accuracy. All sites are sited in the 'H' ITU-R rain zone. There are also radar data at disposal (at the 1 x 1 km grid with the 10 minute resolution). As it is known the rain rates derived from radar measurements is quite different from rain rates measured by rain gauges. That's why the radar data are converted by rain gauge measurement. The corrected data are used to estimate the horizontal structure of rain cells. The results are compared with the horizontal structure of rain cells obtained by raw radar data. The knowledge of the horizontal rain structure is important, for instance, to predict rain attenuation at point to multipoint radio communication links.