One year results of one minute rainfall rate measurement at Covenant University, Southwest Nigeria

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One year results of one minute rainfall rate measurement at Ota, Southwest, Nigeria (6° 42'N, 3° 14'E) from a wireless Davis Vantage Pro2 Weather Station is presented. The weather station was set at one minute integration time, and the rainfall rate data from the months of April 2012 to March 2013 have been analyzed. One minute rainfall rate at various percentages of time are needed for the modeling and prediction of rain attenuation at microwave frequencies for both terrestrial and earth space links. The measured one-minute rainfall rate events captured by the instrument for the past one year varies between 3 to 141 mm/h from 1% to 0.01% of time in an average year respectively. When the results were compared to the ITU_RP SG3 Digital Map from 1% to 0.01% (3.63 to 62.87 mm/h) the ITU-RP model underestimate rainfall rate at 0.01% exceedance by 55% and over estimate the rainfall rate at 1% exceedance by 3% respectively.

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