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Wavelet Based Residual Method of Detecting GSM Signal Strength Fading

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Abstract : In this paper, GSM signal strength was measured in order to detect the type of the signal fading phenomenon using one-dimensional multilevel wavelet residual method and neural network clustering to determine the average GSM signal strength received in the study area. The wavelet residual method predicted that the GSM signal experienced slow fading and attenuated with MSE of 3.875dB. The neural network clustering revealed that mostly -75dB, -85dB and -95dB were received. This means that the signal strength received in the study is a weak signal.

Keywords : one-dimensional multilevel wavelets, path loss, GSM signal strength, propagation, urban environment
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