

Spatial Domain Modeling Of Microcellular Systems Operating In Multipath Nakagami Channels

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Summary

In conventional channel models, the AoA's at the BS, are assumed to be uniformly distributed. However, measurements in urban areas have shown non-uniform AoA distributions. In this paper, the spatial characterization of wideband urban mobile radio channels is investigated and the resulting and spatial correlations at the BS receiver are computed. A geometrically based modeling is used to spatially characterize both TU and BU environments. The clustered scatterers are assumed to have bivariate Gaussian densities. The AoA pdf's are derived. The spatial correlations are computed for tooth environments and the effects of the channel parameters such as the scatterer's variance, the BS-MS distance, the mean angle of arrival on these correlations are investigated.

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