ON THE SIMULATIONS OF CORRELATED NAKAGAMI-M FADING CHANNELS USING SUM-OF-SINUSOIDS METHOD

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ABSTRACT

This research work discusses the generation of Nakagami-m fading samples from sum-of-sinusoids method in which Nakagami process is generated by taking square root of Gamma process. Gamma process itself can be realized using Gaussian processes. We have used Improved Jake's Model to characterize the low-pass Gaussian Processes. We also studied second order statistics e.g. ensemble autocorrelation of this simulator and essential properties like Level Crossing Rate and Average Fade Duration. It has been found that simulation and theoretical results have very good fit. Furthermore, we extended this methodology to n-branch vector Nakagami-m fading channel for diversity reception. We have found excellent agreement of the simulation results to its theoretical counterparts.