

[< back](#)

Mu-eta Fusion Experimental Investigation of Wireless System Performance in Weibull Fading and Correlated Interference Scenarios

Deepak Upadhyay, Gunjan Chhabra, Keshav Kaushik, Achyut Shankar, and Prasanalakshmi Balaji

<https://doi.org/10.1142/S0218126626500659> | Cited by: 0 (Source: Crossref)

[< Previous](#)[Next >](#)

 [View Article](#)

Abstract

In this paper, we have introduced the Mu-Eta fusion to compute wireless communication performance over Weibull fading and correlated interference. In contrast to typical fading models, the Weibull distribution provides adjustable parameters to represent various NLOS environments. Correlated interference, typical in high-density environments, has a severe influence on system reliability. Transmission performance analysis is presented in terms of throughput, BER, energy efficiency and secrecy capacity in an exact closed form. The robustness of the presented model is confirmed by simulation and SDR results. Results indicate that Mu-Eta can achieve significantly higher throughput than the conventional schemes and the achieved throughput can be substantially superior, with up to 36 % higher throughput and 35 % lower BER under high interference correlation. The framework is especially relevant to urban wireless systems, vehicular networks and the future 5G/6G generations.

Keywords: [Weibull fading](#) ▪ [CCI](#) ▪ [correlated interference](#) ▪ [wireless system](#) ▪ [performance](#) ▪ [fading](#)

[View full text](#) | [Download PDF](#)

[< back](#)



Privacy policy

© 2026 World Scientific Publishing Co Pte Ltd

Powered by Atypon® Literatum