

## Frequency Offset Estimation Schemes Based on ML for OFDM Systems in Non-Gaussian Noise Environments

**Authors :** Keunhong Chae, Seokho Yoon

**Abstract :** In this paper, frequency offset (FO) estimation schemes robust to the non-Gaussian noise environments are proposed for orthogonal frequency division multiplexing (OFDM) systems. First, a maximum-likelihood (ML) estimation scheme in non-Gaussian noise environments is proposed, and then, the complexity of the ML estimation scheme is reduced by employing a reduced set of candidate values. In numerical results, it is demonstrated that the proposed schemes provide a significant performance improvement over the conventional estimation scheme in non-Gaussian noise environments while maintaining the performance similar to the estimation performance in Gaussian noise environments.

**Keywords :** frequency offset estimation, maximum-likelihood, non-Gaussian noise environment, OFDM, training symbol

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