

## **Abstract**

Orthogonal frequency division multiplexing (OFDM) schemes have high envelope fluctuations and peak-to-average power ratio (PAPR), making them very prone to nonlinear distortion effects, which can affect significantly the performance when conventional receivers are employed. However, it was recently shown that strong nonlinear distortion effects on OFDM signals do not necessarily lead to performance degradation. In fact, Nonlinear OFDM schemes can outperform linear ones when optimum maximum likelihood (ML) receivers are employed. In this paper, we considered OFDM schemes with strong nonlinear distortion effects and we proposed a low-complexity detection scheme able to approach the optimum ML performance. Our technique is based on the fireworks algorithm (FWA) and allows excellent trade-offs between performance and complexity.