**Clipping Noise Mitigation in Optical OFDM Systems**

**ABSTRACT**

This letter describes a new non-linear algorithm for clipping noise mitigation in intensity modulation/direct detection (IM/DD) DC biased optical orthogonal frequency division multiplexing (DCO-OFDM) systems. Clipping noise is often the major limitation in DCO-OFDM. In this letter we show that extra information about the clipped signal can be extracted using a nonlinear process and then used to mitigate the clipping noise. The effectiveness of the new algorithm is demonstrated by simulation and in an optical wireless experiment.

***Index Terms—***intensity modulation/direct detection (IM/DD), Optical OFDM, Clipping noise