Five-level polybinary signaling for 10 Gbps data transmission systems - DTU Orbit

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This paper presents a revitalization effort towards exploiting multilevel polybinary signals for spectral efficient data links. Specifically, we present five level polybinary signaling for 10 Gbps signals. By proper coding to avoid error propagation and degeneracy of the bit error rate performance, a 10Gbps polybinary signal is successfully generated employing a 1.8 GHz Bessel filter with an electrical spectral efficiency of 5.5 bit/s/Hz. The experimental results show bit error rate performances below FEC level for transmission in singlemode and dispersion shifted fibers up to 20 km length.

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