

Title (en)

DIGITAL PRE-DISTORTION FOR COMPLEX MODULATOR BASED-IMDD SYSTEM

Title (de)

DIGITALE VORVERZERRUNG FÜR EIN KOMPLEXES MODULATORBASIERTES IMDD-SYSTEM

Title (fr)

PRÉDISTORSION NUMÉRIQUE DE SYSTÈME IMDD BASÉ SUR UN MODULATEUR COMPLEXE

Publication

EP 3566337 A1 20191113 (EN)

Application

EP 17702358 A 20170130

Priority

EP 2017051928 W 20170130

Abstract (en)

[origin: WO2018137782A1] The present invention relates to a digital signal processing module in a transmitter of an optical transceiver. The digital signal processing module performs a bias-related linear transform in order to align, in a vector plane, the vector of an optical carrier signal with the vector of a modulated optical signal that is modulated by a modulator implemented inside the transmitter, and also performs a digital pre-distortion in order to compensate for the nonlinearity of the modulator. The digital pre-distortion method mainly consists in converting a target signal into a pre-distorted signal by subtracting a signal proportional to the distortion signal from the target signal. The non-orthogonality of the modulator is mitigated by an appropriate bias-related linear transform that is selected as to obtain the best quality performance using a scan method or as to obtain a maximum value of cross-correlation using a pilot tone method.

IPC 8 full level

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Citation (search report)

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