

Title (en)  
ELECTRONIC DISPERSION COMPENSATION SYSTEM AND METHOD

Title (de)  
SYSTEM UND VERFAHREN FÜR ELEKTRONISCHE DISPERSIONSKOMPENSATION

Title (fr)  
SYSTÈME ET PROCÉDÉ DE COMPENSATION DE DISPERSION ÉLECTRONIQUE

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Abstract (en)  
[origin: WO2010149714A2] The invention provides a system and method, for an optical communication network to compensate impairments in the network, using electronic dispersion compensation, said system comprising optical means comprising two or more optical-to-electrical converters for generating at least two electrical signals, comprising amplitude and instantaneous frequency of a received distorted optical signal, and an electrical circuit adapted to perform a full-field reconstruction of the received distorted optical signal using said electrical signals. The system is characterised by a dispersive transmission line circuit with compensation parameters updated at a selected rate to process said full- field reconstructed signal and compensate for coarse chromatic dispersion; and an adaptive electronic equalization circuit with compensation parameters updated at a rate faster than those in the said dispersive transmission line circuit to provide a fine impairment compensation of said reconstructed signals. The system and method of the invention achieves low-cost long-distance transmission, up to 2000km, while maintaining the fast-adaptive compensation capability and provide a method for transparent long-haul and metro-optical networks.

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