

Cascaded dual drive MZM and dual parallel MZM architecture for optical linearization of MZM nonlinearity

ABSTRACT

A cascaded architecture of Dual Drive Mach Zehnder Modulator (DDMZM) and Dual Parallel Mach Zehnder Modulator (DPMZM) for the reduction of Mach Zehnder Modulator Nonlinearity is proposed in this article. The architecture is analyzed using N-channel HFC CATV system based on Carrier to Carrier Triple Beat (C/CTB) ratio. The architecture in comparison with other proposed architecture namely Dual Cascade MZM and Dual Parallel MZM have shown an improved performance in terms of reduced CTB and increased C/CTB ratio at higher modulation index.

Keyword: Mach Zehnder modulator; MZM nonlinearity; Optical linearization