Abstract
This work reviews the fundamental concepts of polarization mode dispersion (PMD) occurring in optical bers. PMD broadens optical pulses transmitted through an optical ber at random and its effect is significant for bit rates equal or exceeding 10 Gbps. The theory of PMD and relevance of characterizing this phenomenon in optical ber transmission is presented, concluding with a simulation model of the optical pulse propagation, subject to PMD. This provides a starting point for further analysis of the effects of PMD in transmission systems and how to measure and compensate these.

Keywords
Optical ber communications, polarization mode dispersion (PMD), pulses propagation.