

The polarization mode dispersion (PMD) is a difficult phenomenon to compensate in the optical fiber. Its reduction can be achieved by the spinning process that provokes the rotation of the birefringence axes of the fiber inciting a coupling of its modes that is controlled at the time of its manufacture. In this work, the Jones Matrix Eigen-Analysis method (JME) is used to characterize the spun fibers to evaluate their PMD and to prove that it is distinctly lower than the standards fibers PMD. Furthermore, the differential group delays (DGD) of spun fibers is determined using the photon counting optical time-domain reflectometry (C-OTDR) method. The obtained results are compared with those found in the JME method. It is noted that the two methods yield practically identical values. The determination of the beat length and the spin period of spun fibers are carried out using the polarization-sensitive optical frequency-domain reflectometer (POFDR)