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Group Delay Ripple Measurement Method for Tunable Dispersion Compensators—  
Technical Paper

Summary

This technical report describes the measurement results of group delay ripple (GDR) for four types of tunable dispersion compensators (TDCs) of Virtual Imaged Phased Array (VIPA), Fiber Bragg Grating (FBG), Planar Waveguide Circuit (PLC) and Etalon. Additionally, analyzing the measurement data and the study of phase ripple were included. As a result of measurements, it was found the characteristics of GDRs (amplitude and period) for four TDCs were different. Four measurement techniques of Modulation Phase Shift (MPS), MPS-Mueller, Polarization Phase Shift (PPS) and Swept Wavelength Interferometry were used. It was clarified the suitable Resolution Band Width (RBW) to measure GDR for TDCs. It was found there was no big differences of measurement result among these four measurement methods.