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Nota di contenuto	Introduction -- Polarization Error Compensation in Dual-Polarization IFOGs -- Theory Study of Optically Compensated Dual-Polarization IFOGs -- Output Properties of Dual-Polarization IFOGs -- Multi-Channel Signal Processing Methods for IFOGs -- Preliminary Test on an Engineering Prototype of Dual-Polarization IFOG -- Conclusions and Outlook.
Sommario/riassunto	This thesis demonstrates and investigates novel dual-polarization interferometric fiber-optic gyroscope (IFOG) configurations, which utilize optical compensation between two orthogonal polarizations to suppress errors caused by polarization nonreciprocity. Further, it provides a scheme for dual-polarization two-port IFOGs and details

their unique benefits. Dual-polarization IFOGs break through the restriction of the "minimal scheme," which conventional IFOGs are based on. These innovative new IFOGs have unique properties: They require no polarizer and have two ports available for signal detection. As such, they open new avenues for IFOGs to achieve lower costs and higher sensitivity.