Abstracts

An Electric Field Sensor Utilizing a Piezoelectric Polyvinylidene Fluoride (PVF/sub 2/) Film in a Single-Mode Fiber Interferometer

K.P. Koo and G.H. Sigel, Jr.. "An Electric Field Sensor Utilizing a Piezoelectric Polyvinylidene Fluoride (PVF/sub 2/) Film in a Single-Mode Fiber Interferometer." 1982 Transactions on Microwave Theory and Techniques 30.4 (Apr. 1982 [T-MTT] (Joint Special Issue on Optical Guided Wave Technology)): 516-521.

A polyvinylidene fluoride (PVF/sub 2/) phase shifter is characterized in terms of amplitude response uniformity, frequency response uniformity, and ultimate sensitivity to electric field. Phase-drift compensation with this PVF/sub 2/ device is demonstrated in a Mach-Zehnder fiber interferometer. The compensator can be operated at the pi/2-phase mode for maximum sensitivity in detection applications, or the pi-phase mode for maximum frequency mixing efficiency.

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