

Abstract

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Dispersion Compensation in Transmission Using AFBG Chirped with Two Beam Interference Fringe Spacing

The dispersion characteristics of linearly chirped apodized fiber Bragg gratings (AFBGs) have been modelled and investigated. The chirping is made using the two beam interference fringe spacing method and its potential as a dispersion compensator in transmission. Eight different apodization profiles are studied including their effects on the performance of the compensator. The positive hyperbolic tangent profile results in an overall superior performance, as it provides a maximum bandwidth and a minimum transmission penalty.