

# Abstract

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## **Tunable Third Order Dispersion Compensator Using Nonlinearly Chirped Polymer Fiber Bragg Grating**

We propose a design method for tunable third-order dispersion compensation using nonlinearly chirped polymer fiber Bragg grating (FBG) made in fiber tapers. Simulation provides a very large dispersion tuning range from -185.5 ps/nm<sup>2</sup> (at strain 0.1% and effective grating length,  $L_{eff}$ , of 3 cm) to -0.62 ps/nm<sup>2</sup> (at strain 1%,  $L_{eff}$  = 1 cm).