

# Abstract

**Moustafa Hussein Aly**

## **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,  $L_{\text{eff}}$ , of 3 cm) to -0.62 ps/nm<sup>2</sup> (at strain 1%,  $L_{\text{eff}} = 1$  cm).