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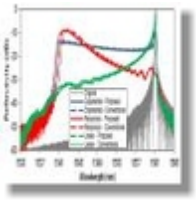

Reflection spectra of etched FBGs under the influence of axial contraction and stress-induced index change

Hang-Zhou Yang, Kok-Sing Lim, Xue-Guang Qiao, Wu-Yi Chong, Yew-Ken Cheong, Weng-Hong Lim, Wei-Sin Lim, and Harith Ahmad »View Author Affiliations

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Abstract

We present a new theoretical model for the broadband reflection spectra of etched FBGs which includes the effects of axial contraction and stress-induced index change. The reflection spectra of the etched FBGs with several different taper profiles are simulated based on the proposed model. In our observation, decaying exponential profile produces a broadband reflection spectrum with good uniformity over the range of 1540-1560 nm. An etched FBG with similar taper profile is fabricated and the experimental result shows good agreement with the theoretical model.

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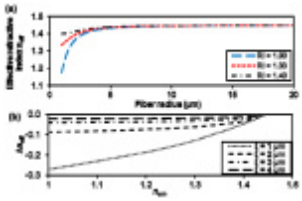
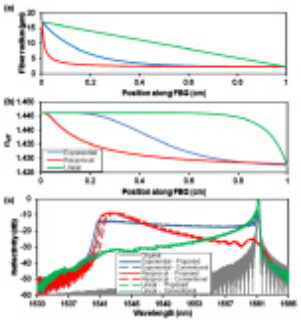
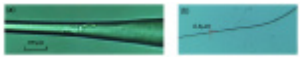
Figures



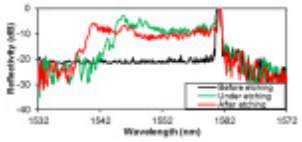
[Fig. 1]



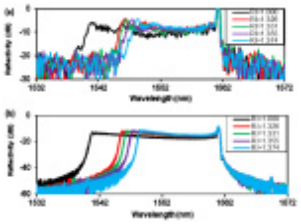
[Fig. 2]



[Fig. 3]



[Fig. 4]



[Fig. 5]

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