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- (71) **Applicant:** SINGAPORE UNIVERSITY OF TECHNOLOGY AND DESIGN [SG/SG]; 8 Somapah Road, Singapore 487372 (SG).
- (72) **Inventor:** TAN, Dawn; c/o Singapore University of Technology and Design, 8 Somapah Road, Singapore 487372 (SG).
- (74) **Agent:** VIERING, JENTSCHURA & PARTNER LLP; P.O. Box 1088, Rochor Post Office, Rochor Road, Singapore 911833 (SG).

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- (54) **Title:** OPTICAL DEVICE AND METHOD FOR FORMING THE SAME

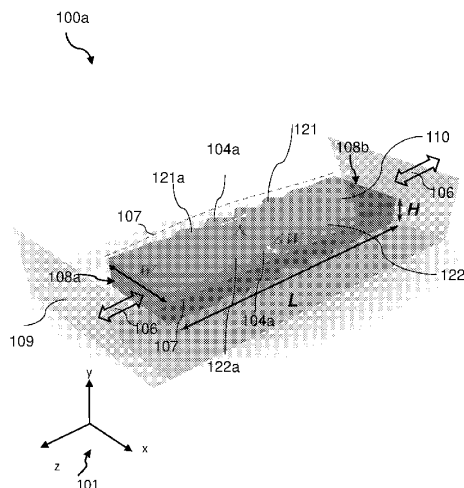


FIG. 1A

(57) **Abstract:** According to embodiments of the present disclosure, an optical device for dispersion compensation is provided. The optical device may include a channel waveguide and two sidewalls coupled to at least a portion of the channel waveguide. The two sidewalls may be respectively arranged at opposing sides of the channel waveguide along a longitudinal axis of the channel waveguide. Each of the two sidewalls may include a plurality of optical elements arranged along the channel waveguide of the waveguide, and the plurality of optical elements may be configured to interact with light propagating in the waveguide so as to compensate dispersion of the light by transmitting the light in a regime close to a stopband of the plurality of optical elements defined by a period of the plurality of optical elements.

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