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Low-polarization dependent thermo-optic phase-shift in slow light Bragg reflector waveguide for beam steering and optical switching

By: **Fuchida, A** (Fuchida, Ayumi)^[1]; **Matsutani, A** (Matsutani, Akihiro)^[2]; **Ahmed, M** (Ahmed, Moustafa)^[3]; **Bakry, A** (Bakry, Ahmed)^[3]; **Koyama, F** (Koyama, Fumio)^[1,3]

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Abstract

We demonstrate an electro-thermally tunable phase-shift in a slow-light Bragg reflector waveguide with large waveguide dispersion. The group index and phase shift are measured from the interference fringe between the reflection of input light and the output light in a 20- μ m-long slow light waveguide. An electro-thermally tunable phase shift is over π in a compact 20- μ m-long waveguide with power consumption below 30 mW. The result shows the low polarization dependence of the phase shift owing to the low polarization dependent group index of the slow-light Bragg reflector waveguide. (C) 2014 The Japan Society of Applied Physics

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Author Information

Reprint Address: Fuchida, A (reprint author)

+ Tokyo Inst Technol, Photon Integrat Syst Res Ctr, Yokohama, Kanagawa 2268503, Japan.

Addresses:

- + [1] Tokyo Inst Technol, Photon Integrat Syst Res Ctr, Yokohama, Kanagawa 2268503, Japan
- + [2] Tokyo Inst Technol, Semicond & MEMS Proc Ctr, Yokohama, Kanagawa 2268503, Japan
- + [3] King Abdulaziz Univ, Fac Sci, Dept Phys, Jeddah 21589, Saudi Arabia

E-mail Addresses: koyama@pi.titech.ac.jp

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