

Modal Analysis and Design of Silicon Nitride Rib Waveguides for Evanescent-wave Bimodal Biosensors : Retraction

Hongsik Jung*

Department of Electronic and Electrical Fusion Engineering, Hongik University, Sejong 30016, Korea

*Corresponding author: hsjung@hongik.ac.kr

(Received June 28, 2019 : revised July 23, 2019 : accepted August 8, 2019)

Keywords : Integrated-optic photonic biosensor, Si₃N₄ rib optical waveguide, Two-mode interference, Evanescent wave, Film mode-matching analysis
OCIS codes : (040.5160) Photodetectors; (040.6040) Silicon; (060.0060) Fiber optics and optical communications; (060.4510) Optical communication

The referenced paper [Curr. Opt. Photon. 3, 382-389 (2019)] has been retracted. © 2019 Optical Society of Korea
<https://doi.org/10.3807/COPP.2019.3.5.382>

This article [1] has been retracted by the Code of Research Ethics of the Optical Society of Korea (OSK) after the review of Research Ethics Committee.

On Nov. 10, 2019, the Editorial Board of the Current Optics and Photonics learned that this article does not properly cite the original research work of Prof. Laura M. Lechuga's group in the Castalan Institute of Nanoscience and Nanotechnology, Spain. Some descriptions in Introduction could mislead the readership that the bimodal waveguide interferometer device that was originally proposed and has been studied by Prof. Laura M. Lechuga's group is newly proposed by the author in this article, although 3 reference articles (Refs. 4, 15, and 16 in [1]) of Prof. Laura Lechuga's group are cited in this article. Table 1 and Figs. 6 and 9 are also taken from Prof. Laura M. Lechuga's group's work [2, 3] and used in this article without explicit citation or permission. After careful review, the Research Ethics Committee of the OSK has determined the retraction of this article due to the violation of the Research Ethics. The author of this article has also admitted inadequate description and citation, expressing his apologies to Prof. Laura M. Lechuga's group and the readership for any misunderstanding it might have caused.

The original article [1] published on 25 October 2019 was retracted on 25 February 2020.

REFERENCES

1. H. Jung, "Modal analysis and design of silicon nitride rib waveguides for evanescent-wave bimodal biosensors," *Curr. Opt. Photon.* **3**, 382-389 (2019).
2. A. B. González Guerrero, "Bimodal waveguide interferometer device based on silicon photonics technology for label-free and high sensitive biosensing," Ph. D. *Thesis*, Universitat Autònoma de Barcelona, Barcelona, Spain (2012).
3. D. Grajales García, "Lab-on-chip integration of the bimodal waveguide nanointerferometric biosensor," Ph. D. *Thesis*, Universitat Autònoma de Barcelona, Barcelona, Spain (2018).