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Volume 9, June 2018, Pages 1685-1687Fibre Bragg grating encapted with no-core fibre sensors for SRI and temperature monitoring (Article) [\(Open Access\)](#)Daud, S.^{cd}, Amiri, I.S.^{ab} [✉](#), Noorden, A.F.A.^e, Ali, J.^c, Yupapin, P.^a [👤](#)^aComputational Optics Research Group, Advanced Institute of Materials Science, Ton Duc Thang University, Ho Chi Minh City, Viet Nam^bFaculty of Applied Sciences, Ton Duc Thang University, Ho Chi Minh City, Viet Nam^cLaser Center, Ibnu Sina Institute for Scientific & Industrial Research, Universiti Teknologi Malaysia, Johor Bahru, Johor, Malaysia^dDepartment of Physics, Faculty of Science, Universiti Teknologi Malaysia, Johor Bahru, Johor, Malaysia^eDepartment of Physics, Kulliyah of Science, International Islamic University Malaysia, Bandar Indera Mahkota, Kuantan, Pahang, Malaysia[Hide additional affiliations](#) [^](#)

Abstract

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In this work, a Fibre Bragg grating (FBG) encapted with no-core fibre (NCF) as surrounding refractive index (SRI) and temperature sensors are practically demonstrated. A FBG with 1550 nm wavelength was attached with 5 cm length of no-core fibre (NCF) is used as SRI and temperature sensing probe. The change of temperature and SRI induced the wavelength shift in FBG. The wavelength shift in FBG reacts directly proportional to the temperature with a sensitivity of while the sensitivity of NCF was measured as 13.13 pm °C⁻¹. © 2018 The Authors

Author keywords

[FBG](#) [No-core fibre \(NCF\)](#) [Sensor](#) [Temperature](#)

Funding details

Funding number	Funding sponsor	Acronym	Funding opportunities
15H52	Universiti Teknologi Malaysia	UTM	

Funding text

Authors like to acknowledge Universiti Teknologi Malaysia for supporting this research through the Tier 1 grant no. 15H52 .

ISSN: 22113797

Source Type: Journal

Original language: English

DOI: 10.1016/j.rinp.2018.05.007

Document Type: Article

Publisher: Elsevier B.V.

References (9)

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- 1 Yao, Q., Meng, H., Wang, W., Xue, H., Xiong, R., Huang, B., Tan, C., (...), Huang, X.
Simultaneous measurement of refractive index and temperature based on a core-offset Mach-Zehnder interferometer combined
- (2014) *Sensors and Actuators, A: Physical*, 209, pp. 73-77. Cited 65 times.
doi: 10.1016/j.sna.2014.01.017
- [View at Publisher](#)
-
- 2 Daud, S., Abd Aziz, M.S., Chaudhary, K.T., Bahadoran, M., Ali, J.
Sensitivity measurement of Fibre Bragg grating sensor
- (2016) *Jurnal Teknologi*, 78 (3), pp. 277-280.
<http://www.jurnalteknologi.utm.my/index.php/jurnalteknologi/article/download/7533/4858>
doi: 10.11113/jt.v78.7533
- [View at Publisher](#)
-
- 3 Lin, G.-R., Fu, M.-Y., Lee, C.-L., Liu, W.-F.
Dual-parameter sensor based on a no-core fiber and fiber Bragg grating
- (2014) *Optical Engineering*, 53 (5), art. no. 050502. Cited 4 times.
<http://www.spie.org/x867.xml>
doi: 10.1117/1.OE.53.5.050502
- [View at Publisher](#)
-
- 4 Li, L., Xia, L., Wuang, Y., Ran, Y., Yang, C., Liu, D.
Novel NCF-FBG interferometer for simultaneous measurement of refractive index and temperature
- (2012) *IEEE Photonics Technology Letters*, 24 (24), art. no. 6359755, pp. 2268-2271. Cited 19 times.
doi: 10.1109/LPT.2012.2226876
- [View at Publisher](#)
-
- 5 Daud, S., Ahmad Noorden, A.F.
Fibre bragg grating sensor system for temperature application
- (2016) *Jurnal Teknologi*, 78 (3), pp. 39-42.
<http://www.jurnalteknologi.utm.my/index.php/jurnalteknologi/article/download/7462/4756>
doi: 10.11113/jt.v78.7462
- [View at Publisher](#)
-
- 6 Krishna, V., Fan, C.H., Longtin, J.P.
Real-time precision concentration measurement for flowing liquid solutions
- (2000) *Review of Scientific Instruments*, 71 (10), pp. 3864-3868. Cited 29 times.
<http://scitation.aip.org/content/aip/journal/rsi>
doi: 10.1063/1.1288236
- [View at Publisher](#)
-
- 7 Antonio-Lopez, J.E., Sanchez-Mondragon, J.J., LiKamWa, P., May-Arrioja, D.A.
Fiber-optic sensor for liquid level measurement
- (2011) *Optics Letters*, 36 (17), pp. 3425-3427. Cited 118 times.
http://www.opticsinfobase.org/view_article.cfm?gotourl=http%3A%2F%2Fwww%2Eopticsinfobase%2Eorg%2FdirectPDFAccess%2F2F8D9CCA%2D9EAB%2DD233%2DC92D7CE9FE3F480E%5F222177%2Epdf
doi: 10.1364/OL.36.003425
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