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Fibre bragg grating sensor system for temperature application (Article)

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Abstract

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A practical pass-through type fibre Bragg grating (FBG) temperature sensor system have been designed and experimentally investigated. The performance of FBG was evaluated with the varying of focusing elements in harsh environments, under direct sunlight. The sensor head of FBG was designed to be focused with convex and hand lens. Results shows that the Bragg wavelength shift, $\Delta\lambda_B$ increase proportionally with the temperature for both systems. The sensitivities of FBG were recorded to be 0.0107 and 0.0122 nm °C⁻¹ for the system where convex and hand lens applied to the FBG's sensor head respectively. © 2016 Penerbit UTM Press. All rights reserved.

SciVal Topic Prominence ⓘ

Topic: Fiber Bragg Gratings | Demodulation | Interrogation

Prominence percentile: 88.834 ⓘ

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Fibre bragg grating

Focusing element

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References (11)

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- ☐ 1 Neil, J.G.
(1999) *Development of Temperature Compensated Fiber Optic Strain Sensors Based on Fiber Bragg Gratings*. Cited 3 times.
University of Toronto, Institute for Aerospace Studies

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temperature FBG sensor: Role of
optical fiber type and Cu
sputtered thickness

Koo, K.N. , Ismail, A.F. , Othman,
M.H.D.
(2020) *Physica Scripta*

Temperature Sensing with Fibre
Bragg Grating and No-Core
Fibre

Daud, S. , Rohizad, S.N.A. ,
Noordin, A.F.A.
(2020) *National Academy Science
Letters*

Design of fiber bragg grating
(FBG) temperature sensor based
on optical frequency domain
reflectometer (OFDR)

Naim, N.F. , Maslizan Sudin, S.N.
, Sarnin, S.S.
(2020) *International Journal of
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- 2 Hill, K.O., Fujii, Y., Johnson, D.C., Kawasaki, B.S.
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(1978) *Applied Physics Letters*, 32 (10), pp. 647-649. Cited 1907 times.
doi: 10.1063/1.89881
[View at Publisher](#)
-
- 3 Daud, S., Jalil, M.A., Najmee, S., Saktioto, S., Ali, J., Yupapin, P.P.
Development of FBG sensing system for outdoor temperature environment
([Open Access](#))
(2011) *Procedia Engineering*, 8, pp. 386-392. Cited 13 times.
doi: 10.1016/j.proeng.2011.03.071
[View at Publisher](#)
-
- 4 Daud, S., Ueamanapong, S., Srithanachai, I., Poyai, A., Niemcharoen, S., Ali, J., Yupapin, P.P.
Particle accelerator using optical tweezer for photodetector performance improvement
(2012) *IEEE Transactions on Nanotechnology*, 11 (6), art. no. 6262486, pp. 1087-1092. Cited 7 times.
doi: 10.1109/TNANO.2012.2211890
[View at Publisher](#)
-
- 5 Zhang, B., Kahrizi, M.
High-temperature resistance Fiber Bragg grating temperature sensor fabrication
(2007) *IEEE Sensors Journal*, 7 (4), art. no. 891941, pp. 586-591. Cited 194 times.
<http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=7361>
doi: 10.1109/JSEN.2007.891941
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-
- 6 Xia, M., Jiang, M., Sui, Q., Jia, L.
Theoretical and experimental analysis of interaction from acoustic emission on fiber Bragg grating
(2015) *Optik*, 126 (11-12), pp. 1150-1155. Cited 12 times.
<http://www.elsevier.com/journals/optik/0030-4026>
doi: 10.1016/j.ijleo.2015.03.020
[View at Publisher](#)
-
- 7 Othonos, A., Kalli, K.
Fiber Bragg Grating: Fundamentals and Applications in Telecommunications and Sensing
(1999) *Applied Optics*, 45 (8). Cited 3 times.
-
- 8 Hee, C., Lee, J.
Characteristics of a Fiber Bragg Grating Temperature Sensor Using the Thermal Strain of an External Tube
(2011) *Journal of the Korean Physical Society*, 59 (5), pp. 3188-3191. Cited 24 times.

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(2016) *Jurnal Teknologi*

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(2015) *Journal of Computational and Theoretical Nanoscience*

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(2011) *Procedia Engineering*

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□ 9 Patrick, H.J., Williams, G.M., Kersey, A.D., Pedrazzani, J.R., Vengsarkar, A.M.
Hybrid fiber Bragg grating/long period fiber grating sensor for strain/temperature discrimination
(1996) *IEEE Photonics Technology Letters*, 8 (9), pp. 1223-1225. Cited 496 times.
doi: 10.1109/68.531843
[View at Publisher](#)

□ 10 Jung, J., Nam, H., Lee, B., Byun, J.O., Kim, N.S.
Fiber Bragg grating temperature sensor with controllable sensitivity
(1999) *Applied Optics*, 38 (13), pp. 2752-2754. Cited 136 times.
doi: 10.1364/AO.38.002752
[View at Publisher](#)

□ 11 Zhang, B., Kahrizi, M.
High-temperature resistance Fiber Bragg grating temperature sensor fabrication
(2007) *IEEE Sensors Journal*, 7 (4), art. no. 891941, pp. 586-591. Cited 194 times.
<http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=7361>
doi: 10.1109/JSEN.2007.891941
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