World Academy of Science, Engineering and Technology
International Journal of Electronics and Communication Engineering
Vol:11, No:03, 2017

Measurement of Temperature, Humidity and Strain Variation Using Bragg Sensor

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Abstract : Measurement and monitoring of temperature, humidity and strain variation are very requested in great fields and areas such as structural health monitoring (SHM) systems. Currently, the use of fiber Bragg grating sensors (FBGS) is very recommended in SHM systems due to the specifications of these sensors. In this paper, we present the theory of Bragg sensor, therefore we try to measure the efficient variation of strain, temperature and humidity (SV, ST, SH) using Bragg sensor. Thus, we can deduce the fundamental relation between these parameters and the wavelength of Bragg sensor.

Keywords : Fiber Bragg Grating Sensors (FBGS), strain, temperature, humidity, structural health monitoring (SHM)
Conference Title : ICOFS 2017 : International Conference on Optical Fiber Sensors
Conference Location : Paris, France
Conference Dates : March 29-30, 2017