

Documents

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Exploring magnetic fluid sensor using dual circular core elliptical cladding photonic crystal fiber

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Abstract

The work deals the sensing mechanism of magnetic fluid for various magnetic field strength (Oe). The sensing medium is infiltrated in the given hollow circular hollow channel of photonic crystal fiber(PCF). Using finite element method (FEM), the light interaction between magnetic fluid and silica glass is numerically investigated. By calculating the spectral shift of resonance wavelength for 100 Oe, 120 Oe, 140 Oe and 160 Oe, the sensitivity of the proposed design is achieved. © 2019

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