Vol. 24, No.1 February 2017 pp. 29-38

Recent Progress of Photonic Crystal for Bio-sensing Application

C S MISHRA¹, S K TRIPATHY², G PALAI^{1*}

Received: 2.11.2016; Revised: 22.12.2016; Accepted: 5.1.2017

Abstract. New-fangled applications of photonic crystal structure are reviewed in this paper. Different type's bio-sensing mechanism using 2D and 3D photonics crystal is envisaged with help of powerful numerical technique. Present review research divulged a novel technique to investigate the components of biomaterial using plane wave expansion method. The principle of investigation of bio-components is based on linear variation of photonic band gap of crystal structure pertaining to the amount of bio-elements

Keywords: Photonic crystal, plane wave expansion method, photonic band gap, Biomaterials

PACS numbers: 42.70, 42.55.Tv, 87.84 Cc

[Full Paper]

¹ Department of electronics and communication engineering (ECE) Gandhi Institute for Technological Advancement, Bhubaneswar

² P.G. Department of Physics, Berhampur University, Bhanja Bihar, Odisha

^{*}corresponding author gpalai28@gmail.com