



004-LOP

Design 1D Photonic Crystal Bragg Reflector for 1550nm Telecommunication Wavelength using ZEMAX

Omer Ali Yaseen Al-Azzawi

omar.aal84@yahoo.com

Supervisor: Hayfa G. Rashid

hayfa_gh_rasheed@yahoo.com

A theoretical investigation in the field of photonic crystals is presented through the design of "omnidirectional reflector". Quarter wave optical thickness multilayer are well-known idea widely used to design a high reflector and one-dimensional photonic crystal. His idea was developed to establish Distributed Bragg reflector TiO₂ and SiO₂ are chosen as a high and low dielectric materials deposited on BK7 glass. Results indicate that the design and evaluation of wide band omnidirectional reflector from 1D PC can be easily established when ZEMAX follows by Teraplot software operating S-, C- and L-bands for optical telecommunication simply by contiguous superposition of omnidirectional high reflection band edges .