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عنوان مقاله:

Wavelength Division Demultiplexer for Optical Communication Applications Based on Photonic Crystals

محل انتشار:

پنجمین کنفرانس بین المللی پیشرفت های علوم و تکنولوژی (سال: 1390)

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خلاصه مقاله:

We propose a novel structure to separate the desired wavelengths for optical communication applications by introducing resonance cavity in the 2D photonic crystal structure. We know that with considering cavity type and alignment of the suitable defects, resonance wavelength can be tuned. Therefore, we design and simulate the desired cavities based on photonic crystal to separate two wavelengths with 5.8 nm channel spacing, 12.7dB crosstalk, acceptable quality factor and efficiency. Also this structure can be fabricated and integrated easily based on planar technology. All Simulation results are based on Finite Difference Time Domain (FDTD) method. Due to its very small cross section, the proposed structure is suitable candidate for very large scale integrated circuits in full optical .systems

کلمات کلیدی:

Demultiplexer, Communication, Wavelength, Photonic Crystal, FDTD

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