

عنوان مقاله:

Analysis of InGaAsP-InP Double Microring Resonator using Signal Flow Graph Method

محل انتشار:

مجله نانو ساختارهای اپتوالکترونیکال, دوره 3, شماره 2 (سال: 1397)

تعداد صفحات اصل مقاله: 12

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خلاصه مقاله:

The buried hetero-structure (BH) InGaAsP-InP waveguide is used for a system of double microring resonators (DMR). The light transmission and location of resonant peaks are determined for six different sets of ring radii with different order mode numbers. The effect of changing middle coupling coefficient on the box like response is studied. It is found that the surge of coupling coefficient to the lower values makes the through port resonance peaks sharper and for a larger amount of middle coupling values, the transmission decreases according to the order mode numbers. The DMR design with a small middle coupling and close values for rings perimeters can generate practical pass bandwidth of the resonant transmission peak. Moreover, any modification in resonant mode numbers and middle coupling coefficient can change the width and height of the box like response. A DMR simulated results with the free spectral range (FSR) of ۱۰.۲ nm is validated by comparing with the experimental data. Achieved results are practical in the filtering process of optical communication.

کلمات کلیدی:

Double Ring Resonator, Microring Resonator, Signal Flow Graph, Optical Filter

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