عنوان مقاله:

Optical Soliton Amplification Using Nano Fiber Ring

محل انتشار:

دومین همایش بین المللی علوم و فناوری نانو دانشگاه تهران (سال: 1400)

تعداد صفحات اصل مقاله: 13

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خلاصه مقاله:

We propose two designed systems consist of series of nano ring resonator (NRR) in which the optical dark and bright soliton pulses propagating through the nonlinear waveguides can be amplified .This proposed system can be used in long communication system. The dark or bright soliton is input into designed systems and travels within the waveguide. The nonlinear effect which is known as chaos contributes to segregation of continuous soliton pulse into smaller pulses. In this way large bandwidth of optical signals can be obtained. The power amplification occurs when the soliton propagates along the NRRs systems. In this research we have focused on the generation of amplified pulse of optical dark and bright soliton when they propagating inside single systems or when they interact and collide while propagating inside NRR device. In the other hand collision of two types of soliton i.e., dark and bright soliton, in a same system can amplify soliton pulse. In this study, the amplification rate of ۱۸ and ۱۶ times is obtained for the input bright and dark soliton. Amplified dark or bright soliton can be used to perform the long distance link

کلمات کلیدی: