Decimal convertor application for optical wireless communication by generating of dark and bright signals of soliton

Abstract :

Two systems consist of microring resonators (MRRs) and an add/drop filter are used to generate signals as localized multi wavelengths. Quantum dense encoding can be performed by output signals of selected wavelengths incorporated to a polarization control system. Therefore dark and bright optical soliton pulses with different time slot are generated. They can be converted into digital logic quantum codes using a decimal convertor system propagating along a wireless networks. Results show that multi soliton wavelength, ranged from 1.55m to 1.56m with FWHM and FSR of 10 pm and 600 pm can be generated respectively. Keywords- Micro Ring Resonator, Quantum Dense Coding (QDC), Wireless network communication system generated by a MRR system in a nonlinear medium with given input power and selected parameters [5, 6]. Amiri et al have proposed a technique, which can be used to communication security via the chaotic signals and up and down links of optical soliton pulses in which the use of quantum encoding of output signals is applicable [7]. Amiri et al have projected the use of secured codes applicable in quantum router and network system [8]. We have used a nonlinear MRR system to form the multi wavelength, applicable for quantum codes generation used in wireless network system.