Title:	Solitonic pulse generation for optical wireless communication using microring resonator
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Abstract:	In this paper, a system of microring resonator (MRR) is presented to generate picosecond solitonic pulse for optical wireless communication. When a Gaussian pulse is circulated inside the first ring in the proposed system, chaotic signals are generated because of the nonlinear Kerr effect. Then next MRR in the system filters the chaotic signals and the solitonic pulse shape is generated. Then an add/drop filter is used to tune soliton pulses where the accurate FWHM of 130 ps and FSR of 3.7 ns with power of 2.45 W will be filtered. The performance of the proposed solitonic pulse shape is analysed in terms of bit error rate (BER). During the analysis, the proposed pulse shape is compared against the conventional rectangular and Gaussian pulse shapes in an optical wireless communication system (OWC) with an additive white Gaussian noise (AWGN) channel. Results show the superiority of the proposed solitonic pulse shape for OWC.