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## A High Bit Rate Half Adder Based on Square Lattice Photonic Crystal

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### Abstract

In this paper an all-optical half adder is proposed that uses the concept of photonic band gap phenomenon of photonic crystal. The point and line defects are introduced in the perfect photonic crystal and the resonant characteristics are measured from output port for Gaussian modulated input signal. The parameter of photonic crystal is so selected that the bandgap of crystal lies near