Abstract

In the present work, we investigate the impact of active length variation of Semiconductor Optical Amplifier (SOA) on the performance of wavelength converter based on cross-gain modulation (XGM) for different SOA active length up to 0.0004m. The system performance has been analyzed by varying input power from -9 to 10 dBM. It is found that the system gives optimum performance at SOA active length of 0.0003m when input power is of 0 dBM beyond which it degrades. Further, the fuzzy model of the system is developed using ANFIS (Adaptive Neuro-Fuzzy Inference System), for varying input power and performance is evaluated by comparing simulated results with fuzzy model and good correlation is achieved between them.
References


Index Terms

Computer Science

Emerging Trends in Technology

Keywords

Xgm  Soa  Fuzzy Logic  Anfis