

Abstract

Self-Phase Modulation Based Wavelength Conversion using Different Types of Fibers

We demonstrate Self-Phase Modulation (SPM) based wavelength conversion at 1.55 μm using three different commercial types of optical fibers. A numerical simulation is used to predict the performance of each type of fibers to address the potential of each fiber type in wavelength conversion applications utilizing self-phase modulation. It is shown that a wavelength conversion over ± 5 nm can be achieved with around 30 mW output peak signal power leading to a remarkable better performance.