

Abstract

Different Pump Configurations for Discrete Raman Amplifier

In a discrete Raman fiber amplifier, the gain depends strongly on the difference between the pump and signal wavelengths. One of the major attractive characteristics of Raman amplification is that, it can be used over a very wide wavelength range by multiplexing different wavelengths together. This paper describes the net gain of the discrete Raman amplifier (DRA) as a function of the fiber length at different pump configurations: forward pumping (co-pumping), backward pumping (counter-pumping) and bidirectional pumping. Also, input pump power as function of span length is presented. The signal and pump wavelengths are, respectively, 1550 nm and 1450 nm.