

Double-pass chirped Bragg grating erbium-doped fiber amplifier: improved transmission distance

ABSTRACT

The paper discussed on experimental result that improve the transmission distance by use of an integrated dispersion compensated double-pass erbium-doped fiber amplifier (DPC-EDFA). The chromatic dispersion compensation is achieved using chirped fiber Bragg grating as part of the EDFA design. The eye-pattern, eye-opening and timing jitter obtained using this technique shows an improvement equivalent to the distance of about 50km compared with the conventional double-pass EDFA (DP-EDFA).

Keyword: Timing jitter; Eye-opening; Chromatic dispersion; Chirp FBG; Double-pass amplifier