

Development of a 10 Gb/s Optical Soliton Source.

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Abstract: The chromatic dispersion in standard single mode fibre impose a fundamental limit to the transmission distance in high bit rate optical communications systems working at 1550 nm. We demonstrate a optical soliton source for 1550 nm based on the gain switching of a DFB laser, operating at a bit rate of 2.5 Gb/s and 10 Gb/s, using 20 ps pulses. We also demonstrate the soliton transmission on 75 Km standard single mode fibre. The stability and easy assembly of this source make it applicable for upgrading the transmission capacity in dispersion limited communication systems and to be used in WDM systems.

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