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Title:Parametric tunable dispersion compensation for the transmission of sub-picosecond pulses

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Abstract:Parametric tunable dispersion compensator (P-TDC), which allows format-independent operation owing to seamlessly wide bandwidth, is expected to be one of the key building blocks of the future ultra-high speed optical network. In this paper, a design of ultra-wide band P-TDC is presented showing that bandwidth over 2.5 THz can be achieved by compensating the chromatic dispersion up to the 4th order without employing additional method. In order to demonstrate the potential application of P-TDC in the Tbit/s optical time division multiplexing transmissions, 400 fs optical pulses were successfully transmitted through a dispersion managed 6-km DSF fiber span. © 2011 Optical Society of America.