Title (en)

CIRCULARLY POLARIZED FIBER IN OPTICAL CIRCUITS

Title (de)

ZIRKULAR POLARISIERTE LICHTLEITFASER IN OPTISCHEN SCHALTUNGEN

Title (fr)

FIBRE A POLARISATION CIRCULAIRE POUR CIRCUITS OPTIQUES

Publication

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Application

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Abstract (en)

[origin: WO0016139A2] The invention is directed to circularly polarized single mode waveguide fiber and to high data rate, multiplexed transmission systems that employ this fiber. The circularly polarized waveguide fiber attenuates the non-linear effects present in such high performance transmission links. In particular, self phase modulation is attenuated by more than 30 % and four wave mixing is essentially eliminated. This latter effect occurs because four wave mixing does not occur when a multiplexed link is made of a plurality of circularly polarized waveguide fibers which are arranged so that adjacent fibers have opposite circular polarization. The circularly polarized fiber enhances the non-linear effect of cross phase modulation, a feature that can be used in optical switching components associated with the transmission link. In addition, the strength of the XPM in CPF is independent of the relative polarization states of the signal and control pulses.

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