

Dispersion supported BB84 quantum key distribution using phase modulated light

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We propose and experimentally demonstrate that, contrary to what it was thought up to now, BB84 operation is feasible using the double phase modulator (PM-PM) configuration in frequency coded systems. This is achieved by exploiting the phase to intensity conversion due to the chromatic dispersion provided by the fiber linking Alice and Bob. Thus, we refer to this system as dispersion supported or DS BB84 PM-PM configuration.

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