Regeneration of Differential Phase-Shift-Key Optical Modulated Signals

UCF scientists have developed an all-optical regenerator. It is capable of simultaneously restoring the optical phase of a Differential Phase-Shift-Key (DPSK) signal, providing signal amplification and reducing noise. This system uses phase sensitive amplifiers (PSA), for simultaneous regeneration of both amplitude and phase. The technology also has the added advantage of being able to operate in one of three modes: restoring only the original phase shift, restoring phase shift while at the same time limiting amplitude, or performing simultaneous phase and amplitude regeneration.

Benefits

- Reduces both linear and non-linear noise
- Regenerates both phase and amplitude of degraded differential phase-shift-key optical signals

Applications

- Long-haul transmission of optical phase modulator signals
- Optical communication systems

Technology #30283

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