Comparison of low-noise bandwidth and landed price in optoelectronic integration

A theoretical model based on the control theory is detailed to assess the single sideband (SSB) phase noise performance of the dual-loop OEO. The laser frequency noise under small-signal ...

This study elucidates the optoelectronic mixing principles of the uni-traveling carrier photodiode (UTC-PD) and design a structure with high modulation bandwidth and low conversion loss.

The predicted results agree well with the simulation results, offering valuable interpretations and conclusions that reveal the inherent tradeoffs among noise, data rate, and power ...

Here we address these shortcomings with a hybrid optoelectronic approach that combines simplified optical frequency division with direct digital ...

Here we address these shortcomings with a hybrid optoelectronic approach that combines simplified optical frequency division with direct digital synthesis to produce tunable low ...

The familiar concerns about limited bandwidth and fading signal quality arising from modal dispersion can be neglected as long as the board stays within common PCB dimensions.

In this paper, we introduce MOSAIC, a novel optical link technology that breaks the optics versus copper trade-off, enabling long reach, low power, and high reliability simulta-neously.

In this paper, we demonstrate several new capabilities and extreme noise suppression with an OEO laser lock to a sub-1 mL volume FP resonator that make significant advances towards integrated ...

We compare the OEO lock to the standard Pound-Drever-Hall method, demonstrating several new aspects and advantages of the OEO lock in attaining low phase noise from noisy lasers, ...

In this review, the theoretical models of noise in mode-locked lasers are first described. Then, the recent techniques for timing jitter, carrier-envelope phase noise, and comb-line noise ...

To overcome these limitations, this paper introduces a novel Multi-stage Collaborative Filtering Chain (MCFC) framework specifically designed for robust processing of weak photoelectric signals from the ...

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