Qatar Silicon Photonics Technology Low Noise

In this paper, we review the impact of silicon photonic chips on dramatically improving the tuning range and the noise characteristics. Two different types of technologies are reviewed-- ...

Quantum dot (QD) lasers enable intrinsically feedback-tolerant, isolator-free silicon photonic integrated circuits (PICs), eliminating the bulky optical isolators traditionally required to ...

This paper presents a robust and straightforward approach to reducing the spectral linewidth and RIN of silicon-based QD lasers under optical injection locking by mitigating external ...

gnificantly, allowing for high-power amplification with watt-level output power directly from the chip. In this work we demonstrate that a single integrated LMA amplifier is capable of both high-power ...

This paper presents noise measurement methods, analyses of the mechanisms for noise suppression, and recent research progress in low-noise semiconductor lasers, focusing on material ...

Their innovation allows a lidar chip to scan a wider field of view while maintaining low-noise operation compared to other silicon-photonics-based approaches.

To this end, in this work we demonstrate such a technology, and show a very high-power tunable laser with the help of a silicon photonics based LMA power amplifier.

Optical technologies like PCSELs, silicon-photonics lidar, and low-power photonic chips are poised to play a growing role in data center, automotive, and sensing markets.

Our Silicon Photonics technology communicates and processes information by light even deep inside the data center, will drastically reduce the power consumption of data centers and ease bottlenecks ...

MIT researchers developed a silicon-photonics lidar chip that widens scanning angles while reducing signal noise.

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