# What silicon photonic modulator

Researchers at Skoltech have developed an ultra-compact electro-optic modulator based on silicon photonics and plasmonics that enables high-efficiency optical signal control within a small ...

This review covers the latest developments in modulator technologies, focusing on mechanisms like the plasma dispersion effect, Pockels effect, Franz-Keldysh effect, quantum confined Stark effect ...

This Review summarizes the techniques used to implement silicon optical modulators, gives an outlook for these devices, and discusses the candidate solutions of the future.

Fig. 1: Schematic of the programmable modulator. The embedded high-speed modula-tor can be travelling wave pn modulator, SiGe EAM modulator, microring modulator, and other modulators

The silicon photonic modulator neuron constitutes the final piece needed to make photonic neural networks fully integrated on currently available silicon photonic platforms.

In this review, we provide a comprehensive overview of various integrated Pockels modulators on the silicon photonics platform, focusing on the principles of the Pockels effect, ...

SiPh has relied on the plasma dispersion effect, either in injection, depletion, or accumulation mode, to demonstrate efficient high-speed modulators. The high-speed plasma dispersion silicon modulators ...

This article explores what silicon photonic modulators are, how they differ from conventional optical modulators, and why they are transforming the optical transceiver landscape.

While modulators generally come in two categories, direct absorption and those relying on embedded phase shifters, the focus of this paper lies on the latter capable of supporting both complex-valued ...

The article below presents a review of current research on silicon photonics. Herein, an overview of current silicon modulator types and modern integration approaches is presented ...

Our study focuses on a high-performance silicon photonic suppressed-carrier single-sideband (SC-SSB) modulator at 1560 nanometers, capable of dynamic frequency shifting within the ...

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