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[53] BTO-enhanced silicon photonics –a scalable PIC platform based on Pockels modulation

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Controlling light with electrical signals is one of the most critical functions in a photonic integrated circuit for optical communication, sensing, and switching. Lumiphase develops and manufactures photonic chips powered by a unique BTO Pockels technology. The BTO material properties translate into electro-optical modulation functionalities with benefits in cost, speed, transparency, power-consumption, and footprint compared to standard silicon solutions. The Pockels-enhanced chips enable next-generation transceivers and a wide range of other photonic applications ranging from sensing, over data processing to switching, where large numbers of ultra-efficient, integrated phase shifters are needed.

Theoretical Work

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