Silicon photonics and its applications in communications and in sensing

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Silicon photonics is rapidly emerging as a mature technology platform for the fabrication of photonic integrated circuits. It builds on the technology base of the CMOS-world and allows to implement advanced photonic functions on a small footprint chip with high accuracy and yield. The main driver for silicon photonics is the implementation of high speed optical transceivers for the telecom and datacom field, but there is also a rapid emergence of applications in sensing, especially in a life science context. The combination of silicon photonics with liquid crystals holds considerable value since it allows to implement integrated optical phase modulators with low footprint and very low power consumption.



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