

New Materials for Modulators and Switches in Silicon Photonics

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Abstract

In this presentation we will report on our recent work on new materials that can be monolithically integrated on high-index contrast silicon or silicon nitride photonic ICs to enhance their functionality. This includes graphene and other 2D-materials for realizing compact electro-absorption modulators and non-linear devices, ferroelectric materials for realizing phase modulators and adiabatic couplers for realizing bistable switches.