

Printed active hybrid photonic crystal devices for 3D integrated photonics

(Invited paper)

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ABSTRACT

Free-space coupled membrane photonic devices are highly desirable for 3D integrated photonics, free space communications, imaging, sensing, and ranging applications. [1] Based on transfer printing processes, heterogeneously integrated active photonic crystal devices can be built on the common silicon platform. [2] In this talk, I will review progresses made on photonic crystal based lasers, modulators, and related high quality factor resonant structures. [3-6] The progresses towards emerging low dimensional 2D materials for active devices will also be reported.

Keywords: Lasers, silicon photonics, integrated photonics, optical interconnect, free-space communications, hybrid integration.

Selected references

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