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MICRO-LASERS AND HIGH-SPEED PHOTODETECTORS BY LATERAL III-V GROWTH ON PATTERNED SOI USING MOCVD

ABSTRACT

To efficiently couple light between active and passive components for Si photonics, we developed the lateral aspect ratio trapping (LART) technology to grow lasers and high-speed photodetectors on patterned commercial SOI substrates for integrated Si photonics. Multimode and single-mode lasing from lateral quantum wells (QWs) as the gain media using LART have been achieved in the 1433 -1630 nm band with varying dimensions of micro-ring lasers. High-performance PDs were also constructed on the monolithic InP/SOI platform with laterally grown p-i-n structures and show open eye diagram exceeding 40 Gb/s.

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2:00 PM

LECTURE HALL

