
Ge Photodetectors for Si Microphotonic Circuits

Personnel

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Sponsorship

SRC, Pirelli Labs, and Analog Devices, Inc.

Our Germanium related research is currently focused in three areas: photodiodes, modulators, and an upgrade to six inch processing.

Photodiode research: We are focusing on the eventual integration of Ge photodiodes with waveguides using a CMOS compatible process. As a first step, we are currently processing diodes here at MIT that will be coupled to a fiber.

Electro-optic modulator: We have begun designing an electro-optic modulator in the SiGe materials system that will utilize the Franz-Keldysh effect to achieve modulation. Intellectual property has been filed and materials research is underway. The first high Ge content SiGe films grown directly on a Si substrate have been demonstrated.

Six inch upgrade: A six inch UHV/CVD reactor has been purchased and is being prepared for installation. The ability to process larger wafers will increase our compatibility with industrial fabs.
