Brillouin and Raman scattering in silicon and silicon nitride photonic integrated circuits

Roel Baets
1Photonics Research Group, Ghent University – imec, Ghent, Belgium
2Center for Nano- and Biophotonics, Ghent University, Ghent, Belgium
roel.baets@ugent.be

Abstract—Silicon photonics has gained considerable momentum as a platform for the on-chip integration of advanced photonic functions on the basis of CMOS-technology, especially in the fields of telecom and datacom. Here we report on the use of this platform for photon-phonon interaction in nanophotonic silicon or silicon nitride waveguides. We discuss the first demonstration of Brillouin gain in silicon waveguides as well as Raman spectroscopy taking advantage of silicon nitride photonic circuits.

Keywords: Silicon photonics, silicon nitride, stimulated Brillouin scattering, Raman spectroscopy

REFERENCES