

Seminar at Foton Laboratory



Optical networks at chip level: from numerical design to experimental characterization

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Abstract:

Nowadays, a strong effort is devoted toward the introduction of photonics in extra short links: at "chip-to-chip" level, or even, at "on-chip" level. The capability to exploit optical devices in networks of a micrometric scale relies upon the technological features provided by the Silicon-on-Insulator (SOI) platform; this because of the deep awareness on silicon fabrication processes and, moreover, in view of a final convergence between photonics and CMOS logics.

In this talk, I will present some outcomes of the activity that I am leading at the University of Ferrara (Italy), on the design of SOI-based Optical Networks-on-Chip (ONoCs). More specifically, my discussion will focus on wavelength-routed switching topologies implemented by means of microring resonators. Issues relevant to numerical simulations, fabrication and experimental characterization will be highlighted and discussed.

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