

Nanophotonic integrated chip fabricated by CMOS technology

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Abstract:

Optical communication is growing exponentially for the past decade. High bandwidth and data rate make fiber optical communication attractive from conventional copper based communication network. Despite its advantages, optical communication links lags all optical function often signal has to be converted to electrical domain for routing and processing. This conversion limits the performance of such network. An optical integrated chip with routing and processing functionality will remove this bottleneck. Using CMOS manufacturing facility, which is a well-established industry for many years we can make such photonic integrated chips. Even though made to make nanometer scale circuits with high throughput the photonic circuit specifications are different from its electronic counterpart. Therefore studying various processes and its compatibility to make cheap and high performance photonic IC's is essential. We have fabricated high quality photonic integrated circuits with CMOS process which demonstrates the mass production and high performance.