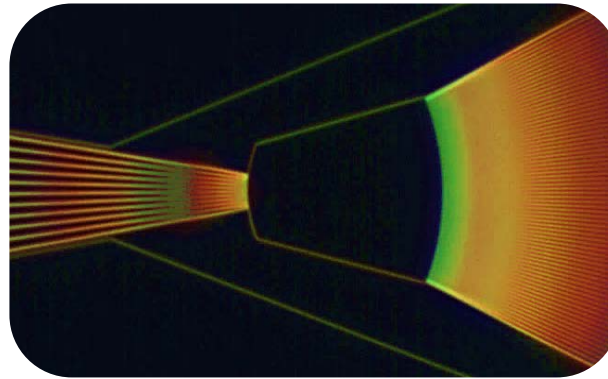


Exceptional service in the national interest



Silicon Photonics Patents

Sandia's National Security Photonics Center (NSPC) has developed a substantial portfolio of intellectual properties in the area of silicon photonics, with 34 issued patents and 10 pending patents that are available for licensing. This portfolio includes several essential technologies for building low-power high-speed optical network and RF photonics systems. Contact Sandia Intellectual Property Licensing office for further information (<https://ip.sandia.gov/>).

US Patent 9759862	Adiabatic / Diabatic Polarization Beam Splitter	(SD 13395.0)
US Patent 9748429	Avalanche Diode Having Reduced Dark Current and Method for Its Manufacture	(SD 12844.0)
US Patent 9740079	Integrated Opt. Transceiver with Electronically Controlled Optical Beamsteering	(SD 13957.0)
US Patent 9696492	On-Chip Photonic-Phononic Emitter-Receiver Apparatus	(SD 13163.0)
US Patent 9612459	Resonant Optical Device with a Microheater	(SD 12821.0)
US Patent 9467233	Power Meter Ratio Methods of Stabilizing a Resonant Modulator	(SD 12707.0)
US Patent 9488854	High-speed optical Phase-shifting Apparatus	(SD 12219.3)
US Patent 9391225	Two-dimensional APDs and SPADs and Related Methods	(SD 12391.0)
US Patent 9366822	Thermo-optically Tuned Photonic Resonators with Concurrent Electrical Connection and Thermal Isolation	(SD 12705.0)
US Patent 9329413	Method and Apparatus of Highly Linear Optical Modulation	(SD 12381.1)
US Patent 9268195	Methods and Apparatus of Entangled Photon Generation Using Four-wave Mixing	(SD 12348.0)
US Patent 9268092	A Guided Wave Opto-acoustic Device	(SD 12417.0)
US Patent 9261647	Methods of Producing Strain in a Semiconductor Waveguide and Related Devices	(SD 12206.0)

US Patent 9239431	Athermalization of Resonant Optical Devices Via Thermo-mechanical Feedback	(SD 11605.0)
US Patent 9235065	Thermally Tuneable Optical Modulator Adapted for Differential Signaling	(SD 12261.0)
US Patent 9128308	Low-voltage Differentially-signaled Modulators	(SD 12152.1)
US Patent 9127983	Systems and Methods for Controlling an Operating Wavelength	(SD 12413.0)
US Patent 9104086	Method and Apparatus of Wide-Angle Optical Beamsteering from a Nanoantenna Phased Array	(SD 12441.0)
US Patent 9083460	Methods and Devices for Optimizing the Operation of a Semiconductor Optical Modulator	(SD 12234.0)
US Patent 9081215	Silicon Photonic Heater-Modulator	(SD 12151.1)
US Patent 9081135	Methods and Devices for Maintaining a Resonant Wavelength of a Photonic Microresonator	(SD 12207.0)
US Patent 9063354	Passive Thermo-Optic Feedback for Robust Athermal Photonic Systems	(SD 11279.0)
US Patent 9052535	Electro-refractive Photonic Device	(SD 12240.2)
US Patent 8947764	High-Speed Photonics Modulator Design	(SD 12219.2)
US Patent 8822959	Method and Apparatus for Optical Phase Error Correction	(SD 12024.0)
US Patent 8625939	Ultralow Loss Cavities and Waveguides Scattering Loss Cancellation	(SD 11631.0)
US Patent 8615173	Systems for Active Control of Integrated Resonant Optical Device Wavelength	(SD 11555.0)
US Patent 8610994	Silicon Photonics Thermal Phase Shifter with Reduced Temperature Range	(SD 11837.0)
US Patent 8600200	Nano-optomechanical Transducer	(SD 11508.1)
US Patent 8027587	Integration Optic Vector-Matrix Multiplier	(SD 10237.1)
US Patent 7983517	Wavelength-Tunable Optical Ring Resonators	(SD 10791.1)
US Patent 7941014	Optical Waveguide Device with an Adiabatically-Varying Width	(SD 11104.0)
US Patent 7667200	Thermal Microphotonic Sensor and Sensor Array	(SD 10128.0)
US Patent 7616850	Wavelength-Tunable Optical Ring Resonators	(SD 10791.0)

