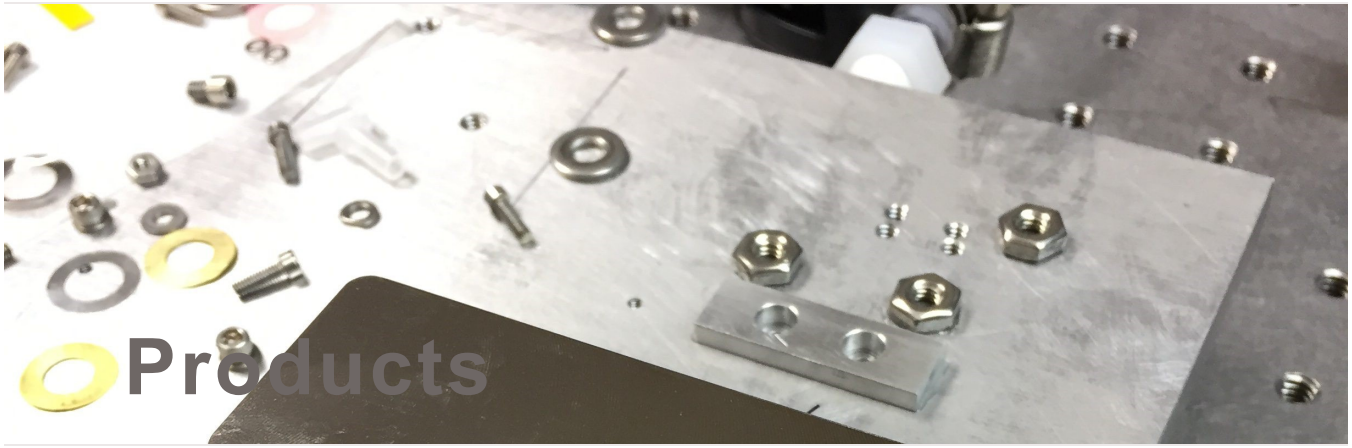
BEYOND Photonics



Products

Beyond Photonics has keen interest in laser and lidar product development, as relevant markets mature and expand. Over the years our team members have taken numerous photonic concepts from the earliest stages of development to hardened products for use in demanding operating environments, including harsh airborne applications. Below you can explore a couple of products that we expect to follow with more extensive offerings in the near future.

C O O L C A R D

phosphor cards do. Featuring the same great performance as its predecessor, the CoolCardTM II now features fast-rechargeable Li-Ion battery operation for more flexibility in the lab or the field (where AC power may not be easily available). The CoolCardTM II is hand-held, or can be post-mounted in two different orientations for “hands-free” use on the optical tabletop. The CoolCard is appropriate for use with:

- CO2 lasers
- Holmium and Thulium Lasers
- IR Diodes (e.g., Quantum Cascade Diode Lasers)
- Far-IR, Terahertz sources
- Nonlinear Sources (OPOs, OPAs)

- 30 W/cm2 damage threshold—simple and inexpensive liquid crystal sensor replacement if damage does occur
- Lightweight, hand-held design; post-mountable in “portrait” & “landscape” orientations for hands-free use
- Same performance as our original CoolCardTM, but with enhanced flexibility for lab, factory floor, or field use

SWIFT CW FREQUENCY-TUNABLE SINGLE-FREQUENCY LASER

The *Swift* is a compact, single-frequency, eye-safe diode-pumped laser optimized for use in coherent and direct detection lidar systems. Exhibiting high output power and < 10 kHz/ms short-term frequency jitter, the *Swift* is ideal for use as a master and local oscillator source in coherent lidar systems. Very fast and broad mode-hop-free frequency tuning enables next-generation spectroscopic applications like pollution monitoring and greenhouse gas measurements using differential absorption lidar techniques. This soon-to-be-released product will initially be offered using Tm,Ho:YLF operating across 2047-2059 nm wavelengths with multi-tens of GHz single-frequency tuning using an integral piezo actuator. The *Swift* capitalizes on Beyond Photonics' decades of experience in the development and perfection of extremely stable single-frequency lasers. Other possible wavelengths include 1.06, 1.32, 1.5, 1.617, 1.645, 2.02, and 2.09 micron, with multi-nm set-ability across each central wavelength case. Please inquire about other wavelengths not listed.

Tm,Ho:YLF Swift Specifications

- 2047-2059 nm factory-set peak wavelength; user-tunable ± 0.14 nm. Other NIR and SWIR wavelengths available upon request
- Integral 60 dB Faraday isolation and single-mode PM fiber coupling
- CW single-frequency output power in excess of 30 mW; higher powers have been demonstrated and are available on request.
- Very compact laser head: 1.2" W x 2.8" L x 1" H; conduction-cooled design
- Fast piezo single-frequency tuning (>20 GHz); also capable of being thermally tuned. Larger piezo tuning range available on request.
- Linewidth less than 10 kHz/ms (dependent on piezo drive characteristics).
- Long-term frequency drift less than 1 GHz/day. Improved linewidth and long-term frequency stability possible by locking to an external reference.
- Linearly polarized output (> 100:1)

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