

Press Release

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ORS-Mini: Ultrastable laser system for in-field applications

Menlo Systems, leading supplier of precision photonics instruments, has released the ORS-Mini – an ultrastable laser with less than 2 Hz linewidth. Designed as a compact 19" rack module for field applications, the fractional frequency instability of $<5 \times 10^{-15}$ in 1 s (MADEV) and phase noise of -94 dBc/Hz (at 10 kHz offset) are best in class. The system's centerpiece is a 5 cm high-finesse ULE cavity, which has been licensed from the National Physical Laboratory, Teddington, UK. The cubic cavity design provides the lowest vibration sensitivity reported to date and enables a rigid cavity mounting, allowing for mobile use of the apparatus. The system operates fully autonomously, can be intuitively controlled via touchscreen, and is remotely accessible via a network connection. The laser system is available at 1542 nm and at 1064 nm.

The ORS-Mini has been conceived as an ultrastable optical reference intended for terrestrial use and is ideally suited for applications in quantum computation, as a source of ultralow-noise microwaves for radar systems, as a flywheel in optical clocks, for frequency dissemination via optical fibers, or in spectroscopy experiments.



Figure: ORS-Mini ultrastable laser

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About Menlo Systems:

Precision in Photonics. Together we shape light.

Menlo Systems GmbH is a leading developer and global supplier of instrumentation for high-precision metrology. The company with headquarters in the west of Munich is known for its Nobel Prize winning optical frequency comb technology. With subsidiaries in the US, Japan, and China, and a global distributor network, Menlo Systems is closely connected to its customers from science and industry. The main product lines are optical frequency combs, time and frequency distribution, terahertz systems, ultrafast and ultra-stable lasers, and complete systems for quantum technology applications. Besides standard products, Menlo Systems develops and manufactures tailored solutions for laser-based precision measurements.