

Vibrometer

The First Quantum-Accelerated
Photonics Vibrometer

Summary

Unlock the future of non-contact material detection with our minimal energy/optical power Quantum Photonic Vibrometer. Proven to the US Department of Defense, it leverages quantum mechanics to detect and inspect highly obscured objects at great distances, and opens new frontiers in remote sensing.

Specifications

Weight	13.4 pounds
Size	14 x 14 x 6 inches
Power supply	120 V/AC or 12 V/DC
Operating temperature	0 - 70 °C / 32 - 158 °F
Frequency range	30 - 25,000 hertz
Working distance	Upon request
Minimum detectable vibration amplitude	Upon request

Details

Quantum Sensitivity

The Quantum Photonic Vibrometer delivers unparalleled detection accuracy at the single photon level, outperforming traditional vibrometers. Line of sight is not needed, enabling detection around corners.

Quantum Speed

Our quantum-accelerated photon detection measurement means unmatched speed in data collection and processing.

Quantum Resolution

Only quantum-aided remote sensing can achieve the granular observations needed to distinguish between the target object and its environment.

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Applications

Humane Landmine Identification

Our Quantum Photonic Vibrometer can be used to remotely detect objects buried deep in the ground such as landmines, without the need for physical proximity.

Quantum Voice Detection

The Quantum Photonic Vibrometer can isolate and detect non-visual conversations and in 'noisy' environments with numerous data inputs by sensing micro-vibrations from membranes to recreate voices.

Improved Non-Destructive Evaluation Testing

Our Quantum Photonic Vibrometer can provide rapid and comprehensive monitoring of stress, strain, and fatigue in objects, such as evaluating the condition of bridges and other infrastructure, enhancing preventive industrial maintenance, and real-time detection of material degradation.

Safer Surveillance & Detection

Utilizing quantum technology, the vibrometer can be customized to perform reconnaissance and detection applications in dense foliage, cave systems, or the deep sea.

Mastering Material Recognition

With our Quantum Photonic Vibrometer, businesses can make informed decisions based on precise and reliable material recognition, unlocking new possibilities for resource exploration, industrial quality control, and sustainable waste management practices.

Future Plans

- A significantly extended detection range
- Installation on an advanced semiconductor chip for extreme size and weight advantages
- The ability to be affixed to a drone
- Operation in extreme environmental conditions, such as space

How It Works

QCI's quantum-accelerated Quantum Photonic Vibrometer detects single photons at a megahertz rate, measuring the changes in the number of photons as the target surface is slightly moved or tilted. By using pulses of light, variations in photon counts are measured over a certain time period. This data is processed into a time-series of photon counts that is aggregated into detailed insights.