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Abstract: A high performance and miniaturized micro-vibration sensing system is highly desirable for satellite payload platforms. In this paper, a compact micro-vibration sensing system assisted with ...

Imagine a world where the Internet doesn't just connect but senses --detecting earthquakes, monitoring battery health, or safeguarding critical ...

Our system innovatively integrates fiber-optic sensing structures with smart grippers, achieving synergistic integration of microforce sensing and dynamic actuation.

Imagine a world where the Internet doesn't just connect but senses --detecting earthquakes, monitoring battery health, or safeguarding critical infrastructure. This is the power of ...

The article aims to provide a comprehensive reference for researchers and engineers seeking to develop or deploy intensity-based optical sensing systems.

The integration of artificial intelligence (AI) with optical fiber sensing (OFS) is transforming the capabilities of modern sensing systems, enabling ...

FOS technologies hold great promise to form the backbone for next-generation intelligent sensing platforms that offer long-distance, high-accuracy, distributed measurement capabilities and ...

The convergence of Lab-on-Fiber (LoF) technology, microfluidics, and artificial intelligence (AI) is emerging as a new and powerful paradigm for next-generation intelligent sensing systems.

The integration of artificial intelligence (AI) with optical fiber sensing (OFS) is transforming the capabilities of modern sensing systems, enabling smarter, more adaptive, and higher ...

The system has been successfully applied to human joint and muscle motion monitoring, and combined with machine learning to realize the intelligent recognition of human motion state.



Intelligent Fiber Optic Micro-Sensing Technology

ML has demonstrated its effectiveness by mitigating the crosstalk issue to a higher degree and thereby enhancing the sensing performance. This unique technology has affirmed its potential in ...

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