Test & Measurement Tech Pulse

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THE PULSE OF THE INDUSTRY

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Accurate Low-Energy Measurement Enhances Photonic Devices

Time-to-digital converters (TDCs) can directly measure the change of a quantity over time in exceedingly small increments, with accuracy in the picosecond range. The devices provide the advantages of direct digital data with adjustable resolution and operation modes for a broad range of photonics applications.

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THz Technologies Offer Varied Options for Industry

Emerging terahertz technologies have been used for paper-thickness measurements and analysis as well as at-line nondestructive testing of composites and powders. The reinforcement of regulations will open applications such as quality control of food or pharmaceuticals.

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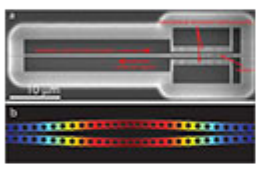
On-Chip Squeezed Light Could Improve Sensors



A microchip-based way to create squeezed light could assist a range of precision measurements and provide a viable route toward real-world on-chip sensor applications and technology.

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Sensor Advances Help the Bottom Line

Getting a better sense of a situation can make cents – and even dollars. To that end, industrial sensors are expanding their spectral coverage, adding 3-D capabilities, becoming less expensive, and enhancing their ability to work in harsh environments. For end users, the result could be a better ability to spot problems, produce products and make decisions.

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NIR Helps Lower Costs, Optimize Processes

Economic volatility continues to put pressure on manufacturers, increasing the focus on cost reduction and process optimization across applications. To make improvements in these areas, a solid understanding of the materials and overall process is required through decisive metrics. Generally, increased data comes at a higher cost, at least when considering standard chemical analyses. To decouple this trend, many companies are turning to near-infrared (NIR) spectroscopy to provide the real-time data needed to optimize their processes at a lower cost.

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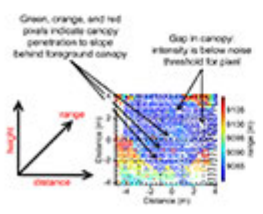
Long-Range 3-D Lidar May Enhance Military Operations



Advancement of 3-D imaging and lidar technologies could spell significant enhancement for target identification, tracking and surveillance, namely in military operations.

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