Press Release

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New ICCD System Supports 5-MHz Pixel Digitization

Trenton, NJ — Roper Scientific, Inc. has announced the release of the 5-MHz Princeton Instruments PI•MAX:512 line of intensified CCD systems for high-speed spectroscopy and imaging applications. This product's digitization rate represents a true milestone in ICCD technology. No other ICCD system on the market can boast better than a 1-MHz rate; the new PI•MAX:512, therefore, is a far more versatile solution for gated spectroscopy and imaging.

"There are many 1000-Hz laser systems out in the market that can take advantage of this technology," observes Dr. Leslie M. Tack, spectroscopy product manager at Roper Scientific®. "For the first time, laser spectroscopists will be able to simultaneously image a signal and reference channel onto an ICCD system at a repetition rate of 1000 Hz. This dual-channel capability at high speed will provide unprecedented signal-to-noise ratios for gated spectroscopy applications. The market response has already been astounding and we anticipate wide proliferation of new high-speed spectroscopy applications using the 5-MHz PI•MAX system."

The new PI•MAX:512 models will also facilitate many new imaging applications. "Combustion imaging projects for research and industrial applications will be able to capture events previously missed with slower ICCDs," explains Tack, who worked with colleagues at the Sandia Combustion Research Facility / Livermore over a period of five years while employed as a senior fuels scientist at UNOCAL Corporation. "We fully expect this ICCD system to advance the knowledge base of fuel combustion by providing imaging and spectroscopy data with much greater temporal resolution."

The high-speed PI•MAX:512 includes a built-in HV pulser, while a proprietary gating technique preserves the best combination of quantum efficiency (photocathode QE greater than 45%) and gating speed (gate widths less than 2 ns). Thermoelectric cooling and state-of-the-art electronics maintain low-noise performance. To tailor response to particular wavelengths of interest (UV to NIR), the system is offered with the widest choice of proprietary photocathodes available. Each PI•MAX:512 incorporates a Programmable Timing Generator (PTG™) that allows users to carry out complex gate sequences with ease. Princeton Instruments WinView and WinSpec 32-bit Windows® software packages provide comprehensive acquisition, display, and processing functions.

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