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## **ARP will demo TeraSpectra at the 2009 Eastern Analytical Symposium and Exposition**

**Garden State Exhibit Center Somerset, New Jersey,  
November 16-19, 2009**

Harrisburg, PA, September 27, 2009: Applied Research and Photonics (ARP) will conduct a live demo of its newly announced terahertz spectrometer, **TERASPECTRA**, at the [Eastern Analytical Symposium and Exhibition](#) Garden State Exhibit Center Somerset, New Jersey, November 16-19, 2009. TeraSpectra has many important applications in chemical, biological, biomedical, pharmaceutical, and life sciences areas. Terahertz technology provides the next generation capabilities, overcoming the so-called terahertz gap, with new applications in this spectrum range. ARP received the prestigious NASA TechBrief's nano-50 award for its dendrimer based terahertz product.

ARP uses dendrimer based terahertz radiation generated by difference frequency technique. This is different than the so called photo-mixing where one laser is kept fixed and another laser is temperature tuned to vary the mixing wavelengths. ARP uses a dendrimer based high power source pumped by two lasers where the beam is split into two arms: one arm remains stationary while the other arm scans the stationary beam. The resulting intensity distribution produces an interferogram, characteristic of the specimen-THz interaction. Up to 20 THz can be generated by ARP method with an average power of ~3-4 mW.

ARP's **TERASPECTRA** is a turn key spectrometer. Time domain measurement is conducted over a time span of sub-Pico seconds to a few tens of Pico-seconds with a resolution of <100 fs. This wide range allows characterizing a number of molecular events important for biological, chemical and materials research. The spectrometer can also be used as a high sensitivity trace analysis tool with a sensitivity of parts per trillion. Other applications may be developed in diagnostics, pharmaceutical, and related areas. The main features are:

- **TERASPECTRA** is cost-effective with higher performance because of its next generation technology.
- A high power source enables probing of a wide variety of specimens thus expanding the scope of the spectrometer.
- High Signal to Noise Ratio (>2000).

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- Room temperature operation
- High sensitivity: < 100 femtomol.

Applied Research and Photonics (ARP) announced the **TERASPECTRA**, at the 2009 CLEO/photonXpo held at the Baltimore Convention Center from June 2-4, 2009. For more information contact ARP at above address or by email: [info@arphotonics.net](mailto:info@arphotonics.net). Additional information is available at <http://arphotonics.net/technicalnotes.htm>.

**For more information please contact at the above address.**