



# Analyte Excite

## Excimer Laser Ablation System

### Application Areas

Environmental Analysis  
Geological Analysis

- Isotope Ratios
- Transparent glasses
- Geochronology

Forensics  
Isotope Fingerprinting  
Imaging / Mapping  
Depth Profiling  
(Paleo) thermometry

### Example Materials

Calcite / Aragonite  
Transparent Glasses  
Bone / Fossils  
Zircons

Ceramics  
Plastics  
Thin Coatings  
Various Minerals

### About the Analyte Excite

The Analyte Excite offers excimer technology at 193 nm with all the analytical capabilities you require, and a price you can afford. The Excite delivers finely controlled, "homogenized-flat" ablations with high sensitivity and split second response. "Fire-on-the-fly" lasing that is synchronized to the stage motion, combined with fast washout ablation cells, make precision depth profiling of spots, lines and areas possible and enables high spatial resolution elemental mapping. The Excite is equipped with a high definition, color GigE camera on a high magnification, optical zoom, video-microscope capable of resolving 2  $\mu\text{m}$  features. Transmitted, reflective and ring illumination, cross polarizers plus software selectable camera settings give the user enhanced viewing capabilities. The combination of ultra-short pulse length and 193 nm wavelength is unsurpassed in coupling efficiency.

The Excite ablates all materials, from opaque to highly transparent, including delicate powders, hard quartz and resilient carbonates with depth penetration in the tens of nanometers per shot. The beam energy profile is homogenized to ensure uniform ablations across the entire range of spot sizes and on a wide range of materials.

### Key Features

- Best value in excimer laser ablation systems
- Ultra-short 193 nm wavelength
- Ultrashort < 4 ns pulse length
- Surplus fluence ablates all materials
- Sealed gas cabinet
- Optical homogenization of the laser beam for uniform flat ablations
- Synchronized "fire-on-the-fly" lasing for the ultimate depth control during ablation
- 100  $\times$  100 mm stage travel as standard
- Independent video and lasing optical element for optimal viewing and crater quality
- Aperture imaged spots ranging from 2.5  $\mu\text{m}$  to >150  $\mu\text{m}$
- 30 apertures as standard; custom masks available
- HeIEx II active 2-volume ablation cell compatible



CETAC Technologies and Photon Machines joined forces back in June 2010 with a view to advance laser ablation technology for elemental analysis, and to offer a full range of products globally. This collaboration brought together the experience in Photon Machines' design team with the sample introduction expertise of CETAC. This partnership has taken the next natural step and both companies have merged under the Teledyne Instruments banner.

Teledyne Photon Machines, a brand of Teledyne CETAC Technologies, provides laser ablation systems ranging from CO<sub>2</sub> and diode lasers, through 266 nm and 213 nm solid state Nd:YAG, 193 excimer laser systems and femtosecond laser systems. In addition to this, the company provides accessories to enhance the capabilities of laser ablation systems.



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