



Excite Pharos

Femtosecond Laser Ablation System

Application Areas

Fundamental Research Semiconductor Analysis
Geological Analysis Isotope Ratio Studies

Example Materials

Semiconductor Materials Quartz
Transparent Glasses Metallic Matrices

About the Excite Pharos

The Excite Pharos is the most user-friendly femtosecond laser ablation system on the market, featuring a compact, fully sealed and factory aligned laser head that does not need routine adjustment or cleaning. The system can be configured for 1028 nm, 257 nm or 206 nm, or configured for a switchable system if desired. An energy density of 10 J/cm² (1028nm), 5 J/cm² (257nm) and 3 J/cm² (206nm) is achievable, with 0.1% RSD on shot-to-shot stability over long runs.

The Excite Pharos is available with the class leading HelEx II Active 2-Volume Ablation Cell, enabling 700 ms washout and a constant ablation environment. The ARIS fast washout accessory is also available to further improve analytical performance providing aerosol transport in the order of 30-50ms.

Key Features

- Light Conversion Pharos Laser Source
- 1028 nm, 257 nm & 206 nm wavelengths
- Pulse duration < 290 fs
- Pulse energy up to 1.5 mJ
- Flexibility in repetition rate: 1 Hz to 1 kHz in 1 Hz increments
- Only 1 refractive optic for minimal pulse stretching
- Independent beam paths for each wavelength
- Independent video and lasing optical element for optimal viewing and crater quality
- Continuously variable 1 – 65 µm spot size
- HelEx II active 2-volume ablation cell compatible
- ARIS fast washout compatible
- Fully integrated chiller to minimize footprint



Teledyne Photon Machines, a brand of Teledyne CETAC Technologies, provides laser ablation systems ranging from CO₂ 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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