LSX-213 G2+

Nd:YAG Laser Ablation System

Application Areas

Environmental Analysis

Geological Analysis
- Isotope Ratios
- Translucent Glasses

Forensics

Isotope Fingerprinting
Bulk Analysis
Failure Analysis
(Bio) Imaging / Mapping
Depth Profiling

Example Materials

Calcite
Metals
Translucent Glasses
Bone

Ceramics
Plastics
Coatings
Biological

About the LSX-213 G2+

The LSX-213 G2+ system features the latest in optical design technology to target areas of interest. Built on the rugged and field proven LSX platform, the Light Engine inside the LSX-213 is a hermetically sealed, MIL-SPEC laser head affording unmatched stability and user serviceability. Coupled with precision mounted optical components on a vibration isolated optical bench, the system can be used on multiple analytical instruments at multiple locations with confidence and ease. Simple, elegant component layout leads to improved stability and ease of maintenance. The laser ablation platform incorporates an open architecture sample area that enables flexibility for a wide range of specialized and custom sample cells.

Spot sizes ranging from 4 µm to 200 µm are generated using aperture imaging technology, and are easily set using software control. From power, spot size and scan speed to control over timing and communication with your spectrometer, Teledyne CETAC Technologies is focused on making your job easier; simply Target, Ablate, and Analyze.

The LSX-213 incorporates the latest in high resolution hardware and optical design technology, providing the user with excellent optical resolution and a wide field of view. Images are of startling quality, and high intensity lighting arrays above and below the sample produce extremely clear images even at high zoom.

Key Features

Laser Cabinet

- Frequency quintupled 213 nm Q-switched Nd:YAG laser with > 4 mJ source pulse energy and < 5 ns pulse width
- < 3% pulse to pulse stability throughout
- Flat top energy profile
- Mechanically and thermally isolated laser beam delivery and viewing path for maximum stability
- Variable output energy and variable pulse repetition frequency (1 – 20Hz)
- Variable laser spot size (4 – 200 µm)
- Fully sealed laser head with user changeable flashlamp

Viewing Optics and Video

- Computer controlled, continuously adjustable parfocal video microscope (2.6x – 32.5x optical zoom range)
- Wide field of view (> 6 mm) at high optical resolution (< 2 µm)
- High intensity LED lighting arrays
- Motorized rotating polarizer

Sampling System

- Open architecture for maximum flexibility
- Optional HelEx Active 2-Volume Ablation Cell
- High precision XY stages (0.16 µm/step)

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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_2 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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