

LIBS **X-Trace**

Mobile laboratory for in-situ spectrochemical analysis

Compact dimensions with the LIBS instrumentation at top-class level.

Modular design

Device composed of a few modules which can be reconfigured based on present requirements and also dismantled for easy transport.

User-friendly control

Wireless software control through a laptop or tablet with live view of the remote sample.

Do not limit your needs in the field of material analysis to the laboratory setups. With the X-Trace and Laser Induced Breakdown Spectroscopy (LIBS) technique you can take the lab to the sample to perform real remote and in-situ chemical analysis of the material. The computer controlled modular device is equipped with high-end instrumentation and is able to perform in-situ analysis at a distance over 20 m.

Remote analysis over 20 m

Possibility of remote analysis – difficult to reach objects or hazardous environments, direct visibility of the sample being the only requirement.

Modern technology

Motorized and automated focusing on the sample, high-performance pulse laser, wide range echelle spectrometer, fast and sensitive EMCCD detector, etc.





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Transport Module	Track comprising of spectroscopy instrumentation and control electronics
Mobility	4 x 260 mm inflatable wheels, 4 x anchor points, 4 x stabilization legs, 2 x foldable handles
Housing and Construction	Al profile frame covered by steel plates, bottom drawer Front door with acces to PC, Laser PSU and pulse generator Back door with acces to spectrometer Front control panel: emergency STOP, key on/off, computer on/off, instrumentation on/off, 2x USB
Spectroscopy Instrumentation	Laser: Nd:YAG, 200 mJ @ 532 nm, 8 ns, 20 Hz ^{I.)} Spectrometer: Echelle, 200 - 1100 nm, resolving power up to 5000 λ/FWHM ^{II.)} Detector: EMCCD, 200 - 1100 nm, QE: 65% @ 530nm, 24% @ 200nm, 30 Hz ^{III.)}
Computers	PC, CPU Intel i7, 16GB Ram, Win 10, broadcasting Wi-Fi network
Control Electronics	PSU and voltage transfomer box Compact pulse generator, accuracy 10 ns Aiming diode laser, 635 nm 2x cooling fans
Dimensions & Weight	1070 x 780 x 840 mm, 122 kg
Stand-Off Module	Detachable module for wireless remote analysis
Basic Parameters	Distance of analysis: 6-20 m, Autofocus capability, Spot size: < 1,5 mm, Pulse energy: 200 mJ
Laser Focusing	Galilean telescope, 5x beam expander, BK7 lens, AR @ 532 nm Motorized refocusing in the range 6 m – infinity
Signal Collecting	Newtonian telescope, 12" primary and 2" secondary UV enhanced Al mirrors, MgF2 coating Motorized refocusing in the range 6 m - infinity Multimode High-OH silica Ø550 μm optical fiber, 190-1200 nm, SMA ends, armored
Movement	Motorized rotation +- 90 °, movement resolution: 0.1 arcmin Motorized elevation (-14 °) to (+33 °), movement resolution: 0.1 arcminh
Sample View	CMOS camera with motorized zoom objective and autofocus CREE LED spotlight for sample illumination
Other Equipment	Laser rangefinder Warning flashlight
Dimensions & Weight	1070 x 670 x 900 mm, 51 kg
External Accessories	Tripod, Power generator Honda EU 20i , 1.8 kW
Overall Dimensions & Weight	1070 x 780 x 1580 mm, 175 kg
Power requirements	230 V, 1.4 kW





グローバルにネットワークを広げ、最先端の科学をお客様に提供 URL: https://www.tokyoinst.co.jp Mail: sales@tokyoinst.co.jp

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