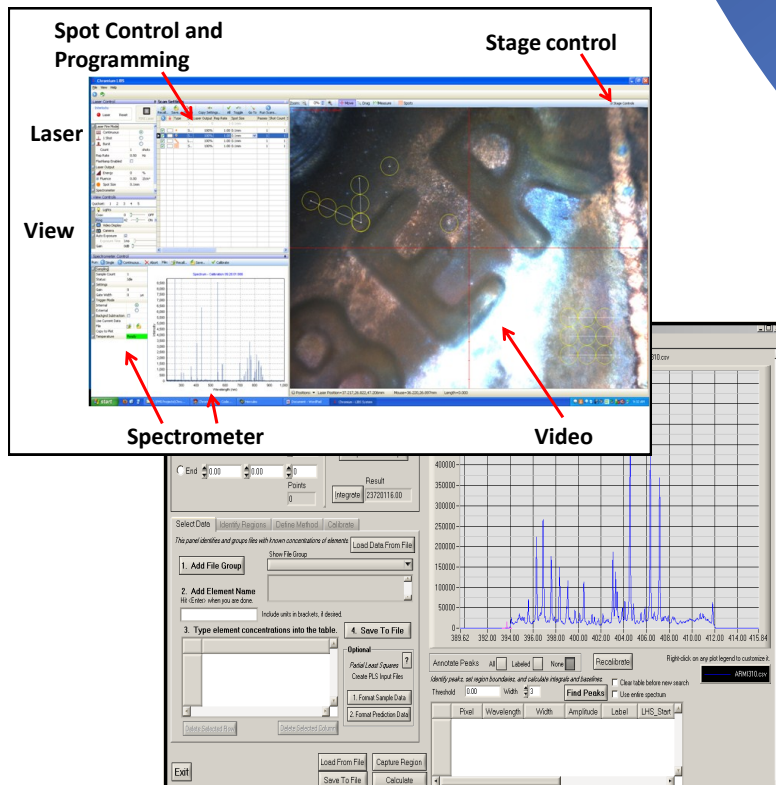


## Laser Induced Breakdown Spectroscopy (LIBS)

A short, high-power laser pulse, when focused, will ablate and ionize material from a solid surface, creating a plasma. Excited atoms and small molecules in the plasma emit light, which is collected to classify and quantify the measured material.

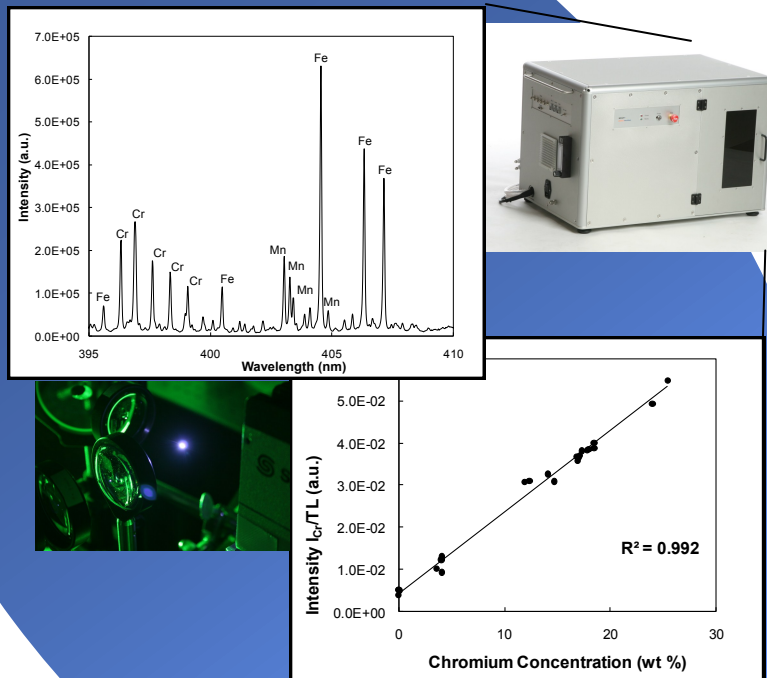
### Insight™ LIBS Systems

Photon Machines' LIBS systems are powerful tools for steel identification. Major and minor alloying elements, including chromium, nickel, manganese, carbon, titanium, molybdenum, and many others, can be identified and quantified. The Insight™ includes video imaging and targeting of samples, computer-controlled x-y-z sample stage, and a purge gas system, all in a Class-1 laser enclosure. Optimized for microanalysis to macroanalysis, the Insight™ can make analysis spots from 10 microns to 2 mm in size. Broadband spectrometers sensitive to most elements, or Czerny-Turner models are available.



The software interface includes several key components:
 

- Spot Control and Programming:** A window for configuring analysis parameters.
- Stage control:** A window for managing the sample stage's position.
- Laser View:** A window showing the laser's field of view and analysis spot.
- Spectrometer:** A window displaying the captured LIBS spectrum with labeled peaks.
- Video:** A window showing a real-time video feed of the sample being analyzed.



### Chromium™ for rapid Data Acquisition and Precision Analysis made easy

Rapid and accurate measurements of samples are easily achieved using Chromium™. Laser energy, repetition rate, number of shots, and patterned laser measurement locations are all controllable through the user interface. High-resolution video allows sample targeting. Once spectra are captured, advanced spectral analysis tools for specialists are available to quantify and classify samples. Chemometric analysis tools include MLR, PCA, PCR, PLS, and PLS-DA. Once configured by an analyst or by Photon Machines engineers, the system can run in "operator" mode, allowing repeatable analysis—preparation free—and without a Ph.D.!