

<http://www.appliedspectra.com/technology/LIBS.html>



The J200 LIBS: LIBS for the Li-Ion Battery Industry

Applied Spectra, Inc (ASI) announces the latest instrumentation advance in Li-ion battery chemistry characterization based on Laser-Induced Breakdown Spectroscopy (LIBS), the **J200 LIBS Instrument**.

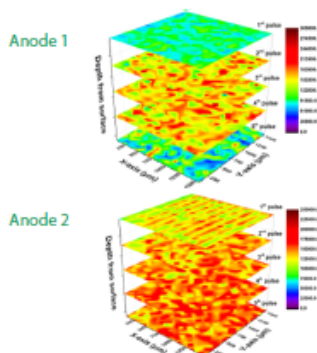
The **J200 LIBS Instrument** enables Li-ion battery material characterization possibilities that conventional techniques such as XRF, ICP-OE and ICP-MS cannot deliver. These include:

- Composition and impurity analysis for raw electrode and electrolyte materials without sample preparation
- Binder distribution analysis, with F measurements
- Rapid and cost effective elemental depth profiling analysis for cathodes and anodes
- Conductive agent distribution analysis
- Lighter element analysis, which is difficult for XRF

LIBS is a rapid chemical analysis technology that uses short laser pulses to understand chemical composition. This analytical technique has many compelling advantages compared to other traditional methods. These include no acid digestion, fast analysis time - usually a few seconds, and broad elemental coverage. Key elements that comprise Li-ion battery electrode, binders, conductive agents, electrolytes, and separators such as Li, B, C, N, O, F, P, Mn, Ni, Co, Fe, and Mg are easily analyzed with this technique. With sample stage automation, and applying successive laser pulses, LIBS can perform fast elemental mapping of a sample area to understand the distribution of additives and binders, as well as depth profiling analysis to understand the electrode chemistry change after different cycling loads.

Free Application Notes Available on Li-Ion Battery Material Analysis

Below are examples of the powerful analytical capabilities of the **J200 LIBS Instrument** for Li-ion battery material characterization. Contact marketing@appliedspectra.com to obtain a copy, today!



Rapid Composition Monitoring of Raw Li-ion Battery Electrode Materials Using J200 LIBS Instrument

Find out how the **J200 LIBS instrument** allows Li-ion battery manufacturers to rapidly determine bulk composition of battery electrode raw materials, screen for unwanted impurities, and improve quality and reliability of Li ion battery products.

Depth Profile Analysis of Solid State Li-Ion Battery Device by Laser Induced Breakdown Spectroscopy (LIBS)

This technical note highlights the ability of the **J200 LIBS Instrument** to perform depth-profile analysis of key elements that represent the chemical makeup of important Li-ion battery components, with speed, excellent throughput, and a large dynamic range (ppm to wt. %)

Fluorine Analysis Using Laser Induced Breakdown Spectroscopy (LIBS)

The **J200 LIBS Instrument** can measure F, which can be tracked to understand binder distribution in battery electrodes. See how F can be detected and quantified using the **J200 LIBS Instrument**.

Contact us, today to see how the J200 can work for you!

The Applied Spectra **J200 LIBS Instrument** is ideal for quantitative and qualitative composition measurements for Li-ion battery material and component QC. Electrode binder homogeneity, conductive agent distribution, and deviation of electrode chemistry from the target value can be analyzed rapidly. The instrument can be also useful in FA analysis situations.

For more information please contact Lucille East, Marketing Manager at Applied Spectra, Inc. at marketing@appliedspectra.com or visit <http://www.appliedspectra.com/technology/LIBS.html>.

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De Leon Energy | Mazal-Arie 10 | Hod-Hasharon | 45309 | Israel