LIBS

      Laser-induced Breakdown Spectrometer(LIBS) is an atomic emission device using laser as excitation source. It can be used for solid, liquid and gas analysis for surface elemental distribution, remote or on-site, which is free of pretreatment. It can also achieve the deep analysis of coating. At present, its presence can be seen in many fields such as metallurgy, environment, state security, geology, nuclear and aerospace.

1) Nd:YAG light-pumped laser, wavelength of 1064nm, pulse width of 5ns, frequency of 20Hz;

2) A concave gratings with plane spectral imaging is used to disperse and diffract light, presenting images on one plane. 6 CDDs are installed with each resolution of 0.05nm;

3) A displacement platform can realize linear and plane scanning.

4) Optical fibers can achieve the collection of spectral signals in a vertical and transverse way.

5) Both positive and negative lens are employed to focus laser. The distance between focal point and sample surface can be adjusted by changing the distance between the

positive and negative lens.

6) A powerful software can help choose whether or not to load data and set up key parameters.

7) NIST full spectral database is the primary way to find peak, with other spectral databases being optional as well. Spectral lines characteristic of relevant atoms will be presented in a friendly way. Calibration peak is available that falls into 150nm-900nm.

8) Spectral range can be set to meet your peak-picking and calibration purpose. It can adapt automatically to spectral data with resolution of 0.005nm-0.5nm. Spectral width can be set to analyze spectral data with varied resolutions.

9) Internal standard method is an option. When selected, it can be combined with another or several spectral lines as a weighted one. Auto combination can be achieved automatically between analytical lines and standard lines, which can help work out optimal line pair. The shape and state of plasma can be presented in real time , photoed and exported afterwards.