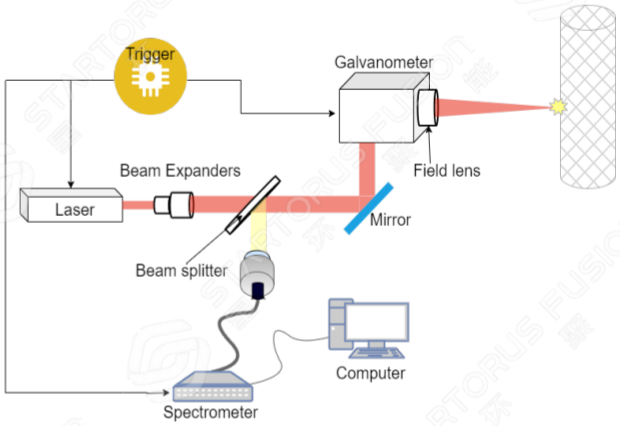
Laser-Induced Breakdown Spectroscopy(LIBS)

Introduction

Laser-Induced Breakdown Spectroscopy (LIBS) generates a plasma by ablating the surface of a material with a laser. When different materials are excited to form plasmas, they emit characteristic spectral lines. By analyzing the spectrum of the plasma, information about the composition, content, and thickness of the material surface can be obtained.The technology is non-contact, minimally destructive, allows for rapid in-situ remote analysis, and enables simultaneous online monitoring of multiple elements.



Parameters

- Laser Wavelength: 1064 nm
- Pulse Energy: 10~100 mJ
- Laser Frequency: 1~20 Hz
- Spot Diameter: 5 mm
- Beam Expansion: 4 X
- Test Spectral Range: 400 nm~716 nm

Applications

Laser-Induced Breakdown Spectroscopy (LIBS) can be used for online analysis of steel composition, coal quality analysis, space exploration, environmental and waste monitoring, cultural heritage identification, industrial process control, detection, geochemical analysis, and more.