



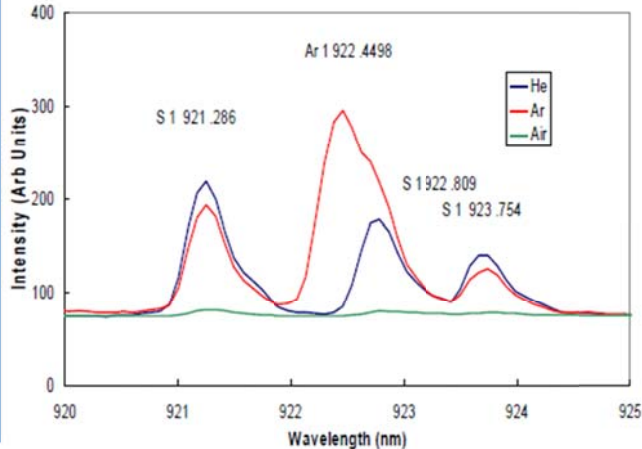
Sulfur Analysis using the Spectrolaser

Sulfur Analysis

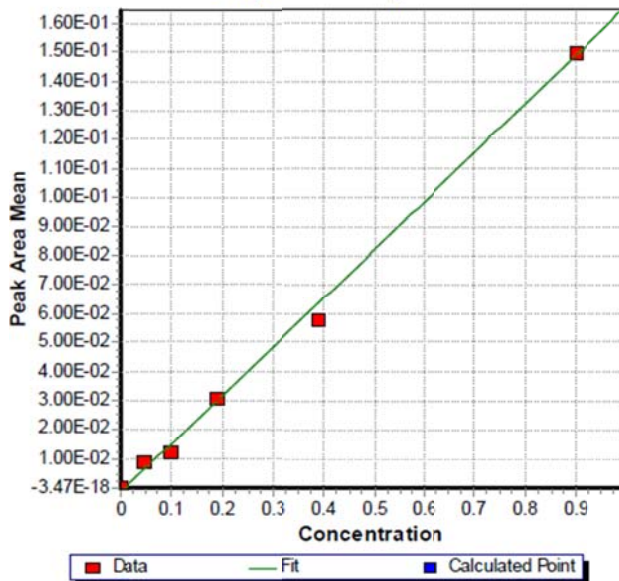
The Spectrolaser uses the analytical technique of Laser Induced Breakdown Spectroscopy (LIBS) to accurately determine the elemental analysis of materials.

This technique is particularly useful for the determination of metallic elements in materials, where detection limits are often in the low-ppm range. The instruments are most often used without vacuum or a buffer gas, making them a convenient low-cost method of obtaining materials analysis.

However, using buffer gases such as helium or Argon can enhance the emission of some elements and extend the power of the instrument to the analytical determination of important elements including halogens (F and Cl) as well as sulfur. Furthermore, in combination with the extended wavelength sensitivity of the Spectrolaser instruments to 950 nm, buffer gases enable the use of the strongest S emission lines at 921 -923nm in the LIBS spectrum, shown right.



S (921.286nm)



Sulfur is monitored regularly in a diverse range of industry applications including fuel utilization and in pharmaceutical manufacture. The use of a buffer gas is a convenient way of extending the analytical power of the Spectrolaser to this important element. As an example, sulfur determination in a coal application located in Spain is shown left. Buffer gas capability is standard in all Spectrolaser instruments.