

Inductively coupled plasma mass spectrometry in geoanalysis and environmental studies – Setting the scene

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Plasma-based multielement and isotope analysis plays a great role in broadening our understanding of geochemistry. In this setting-the-scene presentation I will briefly describe the rapid progress made in instrumental design, sample introduction and sample preparation protocols, including multicollector mass spectrometry for vital isotope studies for geoanalysis

The awakening of a sleeping beauty – Application of a new CID based DC arc atomic emission spectrometer for multielement geoanalysis

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In the recent past, the free-flowing DC carbon arc AES was widely employed as a powerful analytical method for direct solids elemental determinations in geoanalysis. However, the technique went into a technical slumber due limitations of photographic detection and source control. In this presentation we will describe the optical configuration and coupling of a new DC-arc source coupled to an innovated CID spectrometer (Prodigy, Leeman Labs) for direct solids multielement analysis of refractory geological and related materials. The ability of the CID spectrometer to record complete atomic emission spectra throughout various stages of the vaporization cycle is shown to be a major advantage. Variation of background interferences throughout the temperature program can be quantitatively measured and compensated and optimized temperature programs can be selected in accordance with the properties of the element and the composition of the matrix. Figures of merit such as LODs, precision, dynamic range and accuracy based on CRM analysis will be presented