

Trace Elements in Flyash by rf-Source Glow Discharge Mass Spectrometry

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The installation of an rf-source glow discharge mass spectrometer (rf-GDMS) was recently completed in our laboratory. Initial application of the instrument to trace and ultra trace elemental analysis in insulating samples, such as coal and fly ash, has been accomplished without the usual solubility problems. A brief explanation of the high resolution, double focusing, magnetic, inorganic, solids mass spectrometer (VG 9000) will be given. Application of the GDMS to trace element analysis of conducting and semi-conducting materials has long been known and presented, but combining the multi-element determining characteristics of the GDMS with rf-source to nonconductors (insulating samples) can now be achieved using relatively simple non-contaminating solid sample preparation techniques. Several applications of the rf-source GDMS to insulating or non-conducting "analytically nasty" samples and several different fly ashes will be presented.

