

Development of Outside the Lab Mass Spectrometers for Rapid Trace Detection

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FLIR Mass Spectrometry (Griffin Analytical) has developed a range of MS systems for use outside of traditional laboratory environments - for example in mobile labs, at entry checkpoints, in cargo facilities, on ships, at hazmat sites, or at crime scenes. The Griffin 460 is a portable GC-MS system designed for use with the range of sampling accessories to provide a powerful analytical tool for a wide range of samples that just cannot be taken back to a lab. When results are needed more quickly than provided by a GC time scale, direct-sampling mass spectrometry is required. Direct-sampling mass spectrometers have been designed by FLIR MS to use either a harvest-and-release thermal desorption inlet for trace detection of surface samples, or a membrane inlet for rapid detection of air contamination. In addition, FLIR MS has designed an ambient ionization mass spectrometer which features either a simplified geometry DESI/ESI ionization source for rapid detection directly from surfaces or a remote sampling wand with APCI for detection of explosives from surfaces which cannot be presented to the instrument itself.