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### **HIGH DETECTION EFFICIENCY ISOTOPE RATIO ANALYSIS USING A SINGLE FOCUSING ICP MAGNETIC SECTOR MASS SPECTROMETER.**

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The IsoProbe is a single focusing magnetic sector ICP source multicollector mass spectrometer. A hexapole collision cell between the ICP source and the magnetic sector analyser reduces the energy spread of ions from the source from 15eV to <1eV. The result is accurate mass focusing and flat topped peaks from the multicollector. The sensitivity of the system is very high. With a Meinhard-type nebuliser ion currents of 1E9 cps/ppm are attained, which increases to 1E10 cps/ppm with a CETAC microconcentric desolvating nebuliser. This leads to a total ions per atom detection efficiency of 1% for Pb. The same efficiency is also apparent with laser ablation of NIST glasses and zircons. This high efficiency is equivalent to that reported for the SHRIMP ion microprobe, where in-situ Pb isotope ratio measurements have normally been made.

We will present the results of the direct, in-situ, measurement of lead isotope ratios in zircons, and in NIST glasses by laser ablation using a Nd:YAG laser coupled to the IsoProbe.