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[339] AMS of ^{90}Sr at the sub-fg-level using laser photodetachment at VERA

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^{90}Sr is among the most hazardous fission products with a high production yield in the nuclear fuel cycle and is of great environmental interest due to its radiotoxicity as well as its potential as a tracer. Accelerator Mass Spectrometry (AMS) is the technique of choice for the detection of minute environmental levels of long-lived radionuclides, but the background from the abundant stable atomic isobar ^{90}Zr has so far prevented its use for ^{90}Sr . The novel Ion Laser InterAction Mass Spectrometry (ILIAMS) setup at the Vienna Environmental Research Accelerator (VERA) overcomes this problem by neutralizing the isobar via non-resonant laser photodetachment.

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