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## **Trace element analysis using the fluorescence microprobe at the Advanced Light Source**

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The fluorescence microprobe beamline at the Advanced Light Source (ALS) is a unique instrument for analysis of trace elements. The beamline is on a bending magnet port of the synchrotron and uses a pair of multilayer coated mirrors to focus the x-ray source to a spot size of 1-5  $\mu\text{m}^2$ . Since the multilayer mirrors limit the energy bandpass of system to 5-10%, the trace element sensitivity is significantly improved compared to use of grazing incidence mirrors. Different pairs of mirrors have been used to operate at 8.5, 10, and 12.5 keV. The detection limits for elements from Si to As will be presented for operation at both 1.5 GeV and 1.9 GeV. Results that illustrate the features of the instrument will be presented from the many samples that have been studied.