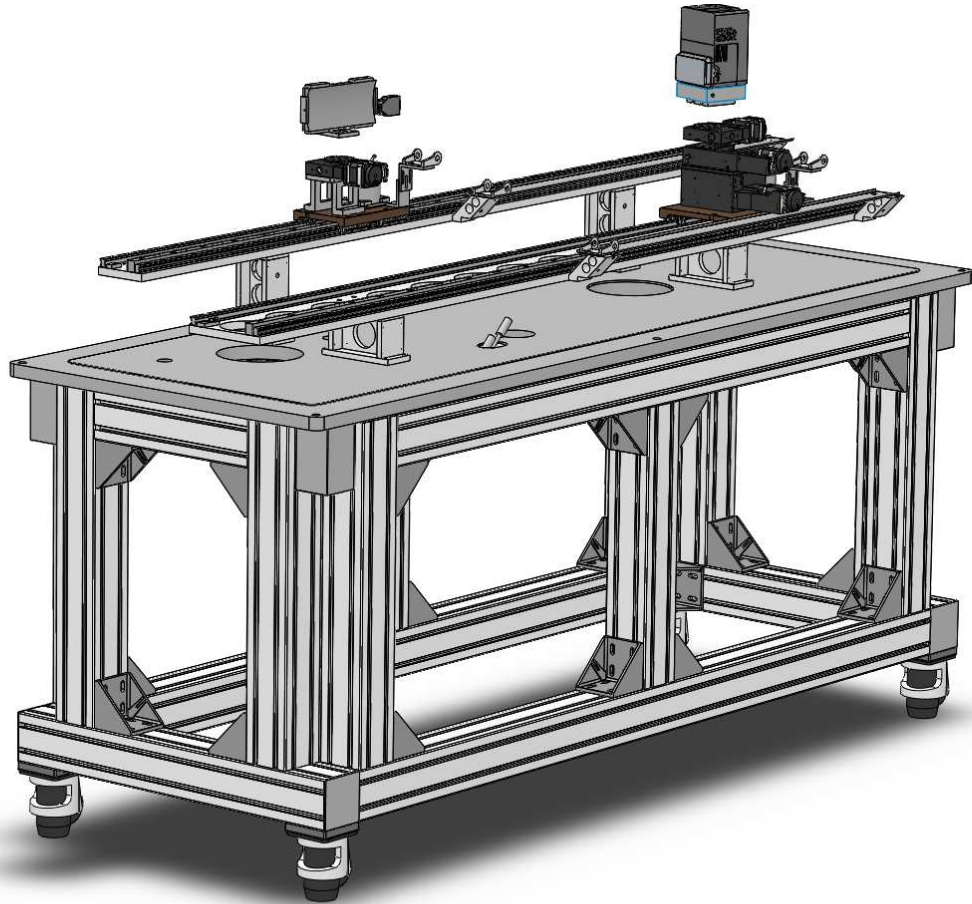


INTEGRATED XAFS SOLUTION

X-ray



Features

Table-top XAFS system

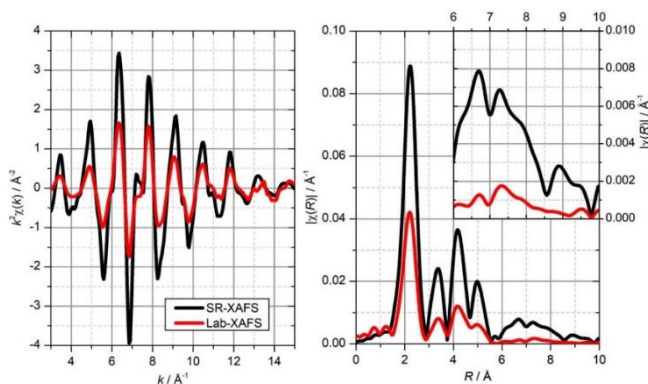
- first integrated lab-based EXAFS and XANES solution
- no need to apply and wait for beamtime
- fast polychromatic acquisition
- software suite for spectra analysis

Synchrotron-quality spectra

- energy range 5 to 12keV
- high resolving power of 4000
- wide bandpass of up to 1keV
- extreme sensitivity for analyte concentrations to a few wt%
- flexible switching between EXAFS and XANES mode

Applications

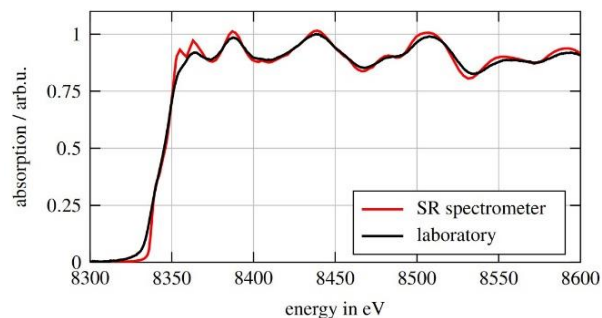
- chemical state analysis for geology, biology, materials research
- information on atomic distances, oxidation state, coordination number
- analysis of K-absorption edges of 3d-transition metals



Sample XAFS measurement of a 10um Cu foil, comparing lab-based (red) and synchrotron (black) results. EXAFS oscillations (left) and corresponding Fourier transformation (right).

Acquisition time: 3min with sample, 1.5min without sample.

J. Anal. At. Spectrom. 35 2298 (2020)



X-ray absorption spectrum of a 6um-thick Ni foil. Comparison to the spectrum obtained at a synchrotron (NSLS, resolving power $E/\Delta E = 5000$) shows the high quality results of the table-top instrument.

All relevant spectral features are present, allowing for the determination of chemical compounds

Specifications

Topology	X-ray tube source von Hamos HAPG spectrometer hybrid detector	
Energy range	5-12keV	
Analyte concentration	down to a few wt%	
Sample mount	turret mount for multiple samples	
Footprint	2.0m x 1.0m	
Software suite	integrated system control, variety of spectra calibration and analysis functions	
	EXAFS mode	XANES mode
Resolving power	1800	4000
	constant over the whole energy range	
Energy bandpass	1000eV	300eV
Acquisition time	3min	8min
	normalized to analyte concentration	
