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## A new beamline for Enhanced Liquid Interface Spectroscopy and Analysis (ELISA) at BESSY II

*Tuesday 16 September 2025 17:00 (1 hour)*

The Enhanced Liquid Interface Spectroscopy and Analysis (ELISA) beamline at BESSY-II is engineered for cutting-edge liquid interface research. Integrating soft X-ray (40–3500 eV) and infrared (10–10,000 cm<sup>-1</sup>) radiation, its dual-branch design optimizes beamtime efficiency and experimental versatility. ELISA features ultra-precise gratings (of 400, 1200 and 2400 l/mm line density, including Cr/C multilayer-coatings on the gratings and pre-mirror at the monochromator), special mirror coatings allow to cover the soft-to-tender X-ray energy range with high flux. Synchrotron-based IR integration ensures precise temporal and spatial correlation with sub-nanosecond resolution. Supporting ambient pressure X-ray photoelectron spectroscopy and reflection-absorption IR spectroscopy, the beamline adapts to variable sample environments. We present ELISA's innovative design, technical specifications, expected performance, and development timeline, showcasing its transformative potential for interface science.

### Footnotes

### Funding Agency

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