

Pembroke Instruments Announces Release of New X-Ray Spectroscopy Platforms

Pembroke Instruments announces the release of two new platforms for X-Ray spectroscopy: HardLight TXS and proXAS .

SAN FRANCISCO, CA, US, March 29, 2021 /EINPresswire.com/ -- Pembroke Instruments announces the release of two new platforms for [X-Ray spectroscopy](#): HardLight TXS for applications in the 2-4 keV energy range and proXAS for the 200-1200 eV energy range. Both platforms are compact for laboratory spectroscopy, no need for expensive beamlines.



proXAS X-Ray Spectrometer

The HardLight TXS spectrometer enables accurate photon diagnostics at HHG beamlines, X-ray free-electron lasers, and table-top X-ray lasers. Photon energies between 2 keV and 4 keV can be measured in single-shot.

In von Hamos geometry with high-efficiency backscattering, the X-ray spectrum is fingerprinted for online beam characterization. The transmitted beam remains undisturbed with >90% transmission for further use in experiments.

By simply exchanging the backscattering probe with a material sample, the hardLIGHT TXS is made ready for X-ray emission spectroscopy (XES). The tender X-ray range provides sensitive access to the chemical state of many materials, e.g. investigations of sulfur at 2keV allow for important insights for battery research.

The main features and applications of HardLight TXS include:

- single-shot diagnostics at 2 to 4 keV
- backscattering mode for online beam characterization
- XES mode for investigating material samples
- energy resolution of 0.3eV

compact and mobile device

The proXAS is a tabletop [X-RAY spectrometer](#) for the 200-1200 eV energy range.

Turn-key system for NEXAFS spectroscopy in the 200-1200eV range. Measurements with a quality on par with synchrotron results allow chemical state analysis in the lab. No need to apply for beamtime to gain insight into the electronic configuration of elements, including oxidation state, bond lengths, and molecule orientation

Features and applications of the integrated spectrometer include:

first integrated table-top NEXAFS spectroscopy solution no need to apply and wait for beamtime
chemical state analysis for geology, biology, materials research fast polychromatic acquisition
analysis of organic materials, e.g. lipid membranes, humicacids, polymer films, especially at carbon K-absorption edge surface-sensitive chemical analysis of C, N, O, Ca, K, Ti

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