

ELI-Beamlines X-ray spectroscopy end station status report and outlook

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Access to high-energy sources and ultrafast techniques at user facilities is highly demanded. Experimental stations are overscheduled. ELI BL aims at offering most progressive instruments satisfying the requirement for experimental time. As V4 countries require accessibility to advanced scientific tools, coordination of efforts on development of end stations at ELI BL is an outstanding opportunity to increase regional scientific infrastructure level. At most of high-energy facilities, X-ray and optical spectroscopy end stations are situated in relatively distant locations due to different beamline constructions that tune radiation to optical or X-ray energy region. The unique feature of ELI BL is location of X-ray (available energy up to ~10 keV, pulse lengths in ps range, and development to higher energies is ongoing) and optical spectroscopy (available energy window of 4.6 eV down to 0.5 eV, pulse length in the fs range) stations in close vicinity neighboring to each other, and relevant beamline scientists belong to one group.

The talk will be focused on recent progress, upcoming achievements and outlook of the X-ray spectroscopy end station development at ELI-Beamlines. Particularly, the presentation will include information on the development of the water-jet PXS, available sample delivery systems and offline X-ray spectroscopy station (so-called XBox).