

# Optimization of laser plasma-based x-ray sources according to warm-dense-matter absorption spectroscopy requirements

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Recently [1], we discussed choosing optimum material and thickness of a target to get a bright x-ray source in the wavelength range of 2–6 Å (2–6 keV) considering relatively low- $Z$  elements suitable for x-ray absorption spectroscopy (XAR) of warm dense matter [2]. In the present work, we demonstrated that the so-called photorecombination region of x-ray characteristic spectral emission is best suited for XAR using a laser-generated x-ray source, due to its featureless spectra of high intensity.

[1] Martynenko A S, Pikuz S A, Skobelev I Y *et al* 2021 *Matter Radiat. Extremes* **6** 014405

[2] Bressler C and Chergui M 2004 *Chem. Rev.* **104** 1781–1812