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Preparing for XLO: optical cavity design

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X-ray laser oscillator, dubbed XLO, is an ongoing project at SLAC National Accelerator Laboratory. XLO employs atomic gain medium pumped by an XFEL, to generate hard x-ray coherent, transform limited light. XLO has unique properties of very high gain per pass (similarly to the case of an undulator-/cavity- based high gain XFEL, while maintaining narrow bandwidth of XFELO. Current effort is focused on demonstrating XLO operating at 8048 eV (Copper $K_{\alpha 1}$ line), using 9 keV pulse from the LCLS.

Footnotes

Funding Agency

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