

Present Status of the Multi-Task Superconducting Wiggler Beamline for Materials Science at LCLS

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A high-performance multitask superconducting wiggler beamline at *LCLS* aiming at applications in materials sciences has been projected and is under construction. It will operate in the energy range of 5-30 keV. The optical design consists of

- (i) a refrigerated collimating mirror with *Si*, *Rh* and *Pt* coatings;
- (ii) a nitrogen-cooled double crystal monochromator with two sets of crystals (*Si111* and *Si311*); and
- (iii) a toroidal focusing mirror system with two sagittal cylinders (*Rh*- and *Pt*-coated) with a plane *Rh* region in between.

In addition, in order to meet the demand of some specialized diffraction experiments for which the control of horizontal divergence is necessary, the second *Si111* crystal may be sagittally bent. A 6+2 circle low-magnetic Huber diffractometer will be installed at the sample position. The flux will be up to about 10^{13} photons/s@200 mA at 15 keV. This beamline has been designed for maximum flexibility with minimum compromise in performance, making possible the execution of demanding X-ray diffraction and absorption experiments proposed by the *LCLS* materials science community. In this talk, the current status of the installation of this beamline will be given and discussed.