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## Beam dynamics of twin-bunch generation in the LCLS-II

*Monday, 20 May 2024 16:00 (2 hours)*

The LCLS-II is a high repetition rate upgrade to the Linac Coherent Light Source (LCLS) and will offer photon science users an unprecedented million pulses per second. However, the accelerating gradient on the cathode of the Very-High-Frequency photoinjector is relatively lower compared to traditional electron guns, the longitudinal beam dynamics become more complicated as required to achieve bunch current high of kA. This paper presents the simulation study of twin-bunch generation in the LCLS-II and analyzes the feasibility of corresponding experimental demonstration in the LCLS-II.

### Footnotes

### Funding Agency

### Paper preparation format

### Region represented

North America

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