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Microbunching Instability Mitigation Strategies and Diagnostic Methods

Wednesday 21 August 2024 11:35 (35 minutes)

One of the key barriers to the generation of free-electron laser (FEL) pulses that are fully longitudinally coherent is the microbunching instability. Numerous methods for suppressing this instability have been studied, and recent investigations at the FERMI FEL have demonstrated that the transverse beam optics can play an important role in achieving this mitigation. Experimental and theoretical studies show this effect, and a new method for measuring the microbunching in the electron beam is presented. Future investigations are also planned which can take advantage of microbunching suppression based on beam optics.

Footnotes

I didn't see an option for Invited Talks, but I received an invitation to present this work.

Funding Agency

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