



Contribution ID: 69

Type: poster

Isolated Terawatt Attosecond X-ray Free Electron Laser

Monday 1 July 2019 18:00 (2 hours)

Micro-bunching instability (MBI) is considered as a critical obstacle for the realization of the isolated terawatt attosecond XFEL. To make high a peak current, the distribution of the electron beam in the phase space should be uniform. The micro-bunching instability will twist the distribution which results in very low peak current value. The effect by MBI has been investigated and a proposal is provided to overcome the obstacle. This will pave a way to the realization of a terawatt level, isolated attosecond pulse at X-ray region.

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Session Classification: Poster session 1