



Contribution ID: 73 Contribution code: MOP25

Type: Contributed Poster

Origin of the Complex Beam Profile of a Hole-Coupled Free Electron Laser Oscillator

Monday, 22 August 2022 17:10 (20 minutes)

Infrared FEL oscillators generally use hole-coupling to extract intracavity laser power. The hole-coupling inherently causes a non-Gaussian beam profile at user stations, which are more than 10 m apart from the coupling hole. It is due to the existence of the Airy pattern in the extracted laser beam. We demonstrated that the beam profile can be changed from a non-Gaussian to a nearly Gaussian distribution by removing the Airy pattern in the experiments and physical optics calculations [1]. This work was supported by MEXT Q-LEAP (JPMXS0118070271).

I have read and accept the Privacy Policy Statement

Yes

Primary author: ZEN, Heishun (Kyoto University)**Co-author:** OHGAKI, Hideaki (Kyoto University)**Presenters:** ZEN, Heishun (Kyoto University); OHGAKI, Hideaki (Kyoto University)**Session Classification:** Monday posters**Track Classification:** FEL oscillators & IR-FEL