

Tapering enhanced high efficiency THz waveguide oscillator

摘要

在 taper 的 THz 自由电子激光 (THz-FEL) 中插入波导能够显著提升单通的能量提取效率。文章介绍了采用 FEL 振荡器的方式, 进一步在较高的单通能量提取效率基础上提升提取效率。该设计特别为高重复频率热阴极电子枪设计, 能够产生高平均功率的 THz 辐射。

关键词

THz, 自由电子激光, 振荡器, 波导

Abstract

Using a waveguide in a THz Free electron laser (FEL) has been validated experimentally to enable efficient single-pass energy extraction through a tapered helical undulator. An oscillator configuration can further boost energy extraction above the single pass limits and open the door towards very high average power THz sources with the help of high repetition rate electron sources

Keywords

THz, FEL, oscillator, waveguide

Author: 杨, 一宁 (清华大学)

Presenter: 杨, 一宁 (清华大学)

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