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标题: Numerical modeling of a high power terahertz source in Shanghai
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摘要: On the basis of an energy-recovery linac, a terahertz source with a potential for kilowatts of average power is proposed in Shanghai, which will serve as an effective tool for material and biological sciences. In this paper, the physical design of two free electron laser (FEL) oscillators, in a frequency range of 2-10 THz and 0.5-2 THz respectively, are presented. By using three-dimensional, time-dependent numerical modeling of GENESIS in combination with a paraxial optical propagation code, the THz oscillator performance, the detuning effects, and the tolerance requirements on the electron beam, the undulator field and the cavity alignment are given.
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