

## 加速器

Towards one machine, two purposes: using a common SC linac for XFEL and ERL simultaneously

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## 摘要

The linac based XFEL and ERL are advanced (or, say, 4<sup>th</sup> generation) light sources, with different electron beam parameters and different advantages. However, the linac used for XFEL and ERL should provide very advanced beams with high energy, high peak and/or average current, very low emittance and low energy spread, thus making the linac very complicated and expensive. To share the XFEL and ERL advantages and save the construction-operation budget, a proposal of using a common superconducting electron linac for hard X-ray XFEL and ERL is described in this paper. The interactions between the XFEL and ERL beams via the accelerating structure are studied and the result is positive.

## 关键词

[electron linac, XFEL, ERL](#)

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