

Performance of PAL-XFEL and its Future Plan

The PAL-XFEL based on S-band normal conducting linac has demonstrated excellent timing stability and unprecedented peak brightness, outperforming other XFEL facilities since its start of user service operation in June 2017. Based on superconducting RF technology, CW XFEL will be on the horizon, increasing the average brightness by four orders of magnitude from pulsed XFEL; LCLS-II in the USA in 2023 and SHINE in China in 2025. And an X-ray FEL Oscillator, which is a fully coherent X-ray source, is under study in the USA by making full use of CW superconducting linac. Acknowledging this significant change, we (PAL) propose a plan to build a CW XFEL and an XFELO. A basic parameter study will be presented together with the current status of PAL-XFEL.

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