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PAL-XFEL facility report

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This talk presents the recent progress and operation status of the PAL-XFEL, focusing on the accelerator and beamline performance, along with recent developments. The facility is now accommodating approximately 70 user experiments annually. Significant efforts to improve FEL (Free Electron Laser) intensity have successfully increased pulse energies to over 2 mJ in SASE mode and 1 mJ in self-seeding mode, with stable long-term operation. Pulse stability for long term operation was achieved through changing the injector laser, chiller, X-band LLRF controller, and the method for Gun phase shifter from LLRF to the laser RF phase shifter. The diverse beamline instruments were also conducted for various sample environment for XSS(X-ray Scattering and Spectroscopy), NCI(Nano Crystallography and coherent Imaging), and SSS(Soft X-ray Scattering and Spectroscopy) experiment hutches. Ongoing developments such as the fresh-slice FEL, electron beam collimation via laser heater, and the construction of a second hard X-ray line will also be shortly discussed.

Footnotes

Funding Agency

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