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FEL performance enhancement with phase shifters at Dalian Coherent Light Source

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A phase shifter collocated with an undulator is an efficient method to enhance the lasing performance of free-electron laser (FEL), particularly for seeded FEL. Dalian Coherent Light Source (DCLS) is a seeded FEL facility operating in high-gain harmonic generation (HGHG) mode to produce fully coherent vacuum ultraviolet laser. To achieve high FEL lasing performance, five phase shifters are interspersed among six undulators to match the phase of the electron beam and the FEL radiation field. This paper presents the commissioning results of these five phase shifters, with a primary focus on their impact on FEL lasing performance.

Footnotes

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Region represented

Asia

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