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Developments for the High-Duty-Cycle Upgrade of the European XFEL

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DESY is developing different scenarios for a high-duty-cycle upgrade of the superconducting linac of the European XFEL. These scenarios include the current 10-Hz "burst mode"at 16.5 GeV (˜1% duty cycle) up to full CW operation at ˜7 GeV (100% duty cycle), with an intermediate 10% duty cycle option which could achieve ˜15 GeV. The linac upgrade itself requires an additional sixteen CW-ready cryomodules, a complete overall of the RF power source as well as a new cryoplant. Timescale for the upgrade is ˜2030.

Footnotes

Funding Agency

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