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## FLASH status –FEL user facility between two upgrade shutdowns

*Monday, 20 May 2024 16:00 (2 hours)*

FLASH, the XUV and soft X-ray free-electron laser user facility at DESY, is in the transitional period between two substantial upgrade shutdowns within the FLASH2020+ upgrade project. FLASH consists of a common part FLASH0 (injector & superconducting linac), two FEL beamlines (FLASH1/2) and an experimental beamline FLASH3, accommodating the plasma wakefield experiment FLASHForward. The first (2021/22) shutdown was aimed at upgrading FLASH0 and install an APPLE-III undulator in the otherwise unchanged beamline FLASH2, enhancing the third harmonic at flexible output polarization. The next (2024/25) shutdown will focus on the complete exchange of the FLASH1 beamline to allow for externally seeded operation in the range from 60 nm down to 4 nm at 1 MHz bunch repetition rate (600  $\mu$ s trains at 10 Hz train repetition rate). We report on the operation between the two shutdowns which was, to a large extend, dedicated to FEL operation for users and on the commissioning of the new features implemented in the last shutdown.

### Footnotes

### Funding Agency

### Paper preparation format

LaTeX

### Region represented

Europe

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