European XFEL Users' Meeting 2022 | DESY Photon Science Users' Meeting 2022



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Moving toward the new FLASH2020+ facility

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The FLASH2020+ project implements major upgrades to the FLASH facility to meet the new requirements of the growing soft-x ray user community.

The upgrades are grouped in two installation phases of which the first has started in November 21 and focusses on extending the capabilities of the superconducting linear accelerator. Among others the beam energy will be increased by 100 MeV to allow reaching a total of 1.35 GeV and thus reducing extending the available wavelength range even further into the water window. Additionally in FLASH2 a so called afterburner will be installed allowing to boost the intensity at the third harmonic while additionally allowing for variable polarisation at wavelength aslow as 1.33 nm.

In the second installation phase starting 2024 the FLASH1 beamline will be in focus. The existing beamline will be completely replaced by an externally seeded beamline allowing to exploit the full FLASH repetition rate of 1MHz in burst mode at variable polarisation. Together with the option of parallel THz generation, new pump-probe laser sources, an improved synchronisation and new endstations this will allow for the next generation of high quality user experiments.

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