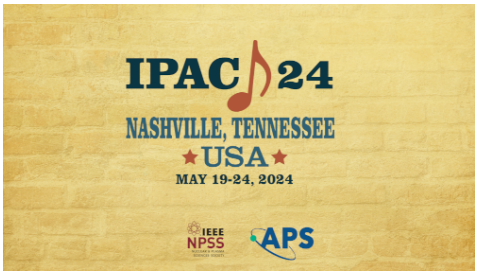

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FLASHlab@PITZ beamline upgrade towards full functionality –status and plans

Thursday, 23 May 2024 16:00 (2 hours)

At the Photo Injector Test facility at DESY in Zeuthen (PITZ), an R&D platform for electron FLASH cancer radiation therapy and radiation biology is being prepared: FLASHlab@PITZ. The design of the full beamline with optimized beam properties was finished; the setup is currently being finalized and the mechanical design and manufacturing is underway. The beamline runs in parallel to the SASE THz beamline at PITZ and is connected to it with a dogleg. Beam dynamics simulations were conducted to assure excellent beam quality at the experimental area. A fast kicker system will be installed which is capable of distributing electron bunches from a single bunch train freely over an area of 25mm x 25mm within one microsecond. When the full FLASHlab@PITZ beamline is ready in 2024, the accelerator will deliver 22 MeV electrons to generate dose rates from 0.01 Gy/s up to 10e+14 Gy/s to an experimental area, which can accommodate a variety of setups for irradiation studies. The flexible arrangement of the experimental area will make it possible for external users to collaborate with PITZ and conduct experiments with existing or newly designed irradiation setups.

Footnotes

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