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PolFEL –polish free electron laser under construction

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PolFEL, the Polish Free Electron Laser facility, after recent configuration adjustments, will feature a dual superconducting electron linac fed in the first stage by pulse-operating, made of copper photoinjectors. In the second stage, both Cu injectors will be replaced by superconducting injectors enabling the cw operation. The first linac line equipped with two Rossendorf-RI type cryomodules will supply up to 80 MeV electrons to a superradiant undulator generating experimentally useful THz FEL radiation. The second linac will be dedicated to the experiments with electron beams, most notably for ultrafast electron diffraction (UED). Here, the linac line will form very low emittance electron bunches of few fs duration and charge up to 100 fC. Particular care will be paid to provide a minimal jitter of the fs laser pulses for high resolution pump-probe UED experiments. Additionally, another cryomodule will be installed behind the UED station, serving as a source for VHEE experiments. The basic facility will be supplemented with a VUV/EUV HHG source and a rich optical laser setup which together will allow to run photon research in a full THz –EUV spectral range.

Footnotes

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Word

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Europe

Primary author: GRABOWSKI, Wojciech (National Centre for Nuclear Research)

Presenter: GRABOWSKI, Wojciech (National Centre for Nuclear Research)

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