



Contribution ID: 138 Contribution code: MOP54

Type: Contributed Poster

First Study of Fresh-Slice Multi-Stage Amplification at SwissFEL

Monday, 22 August 2022 17:10 (20 minutes)

We report on the first demonstration of generating high-power and short FEL pulses using the fresh-slice multi-stage amplification scheme at Athos, the soft X-ray beamline of SwissFEL. We use a transversely tilted electron beam traveling through the unique Athos layout with magnetic chicanes between every two undulator modules. Our first results show the production of FEL radiation with pulse energies of few hundreds microjoules and pulse durations at the femtosecond level. This operation mode will allow us to advance the scientific opportunities of single-particle imaging experiments.

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Yes

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