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Most advanced photon beams for users from a seeded FEL

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An externally seeded FEL combines the flexibility of photon energy tuning of a FEL amplifier with the control of the initial conditions of the amplification process, that are determined by the electron phase-space distribution at the entrance of the amplifier. This type of control allows the generation of light in a wide variety of pulse conditions. Some examples are the generation of multiple pulses, multiple colours, coherent control of the light properties, shaping of the pulse and some control on the pulse duration, in addition to a natural temporal synchronisation with the seed laser timing. In this communication an overview of some of the possibilities of pulse shaping and manipulation offered by external seeding will be presented.

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Session Classification: Joint soft X-ray FEL session