



Contribution ID: **210** Contribution code: **TUP210-FRA**

Type: **Poster Presentation**

## The UK XFEL conceptual design and options analysis project

*Tuesday 20 August 2024 20:40 (20 minutes)*

The UK is conducting a multi-stage project to analyse the case for major investment into XFELs, through either developing its own facility or by investing at existing machines. The project's 2020 Science Case identified a clear need for 'next-generation' XFEL capabilities including near-transform limited x-ray pulses across a wide range of photon energies and pulse durations; evenly spaced high-repetition rate pulses; and a high-efficiency facility with a step-change in the simultaneous operation of multiple end stations. The project is developing a conceptual design to meet these requirements, significantly aided by collaboration with international XFELs. It is also guided by an extensive ongoing user engagement programme of Townhall meetings and other activities. Both the science requirements and the emerging conceptual design are expected to be of general interest to the community.

### Footnotes

### Funding Agency

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**Session Classification:** Poster session

**Track Classification:** Advanced FEL modes and science applications