Contribution ID: **1648** Contribution code: **TUPL071** Type: **Poster Presentation**

An introduction to the UK XFEL conceptual design and options analysis

Tuesday, 9 May 2023 16:30 (2 hours)

In October 2022, the UK XFEL project entered a new phase to explore how best to deliver the advanced XFEL capabilities identified in the project's Science Case. This phase includes developing a conceptual design for a unique new machine to fulfil the required capabilities and more. It also examines the possibility of investment opportunities at existing XFELs to deliver the same aims, and a comparison of the various options will be made. The desired next-generation capabilities include transform limited operation across the entire X-ray range with pulse durations ranging from 100 as to 100 fs; evenly spaced high repetition rate pulses for enhanced data acquisition rates; optimised multi-colour FEL pulse delivery and a full array of synchronised sources (XUV-THz sources, electron beams and high power/high energy lasers). The project also incorporates sustainability as a key criteria. This contribution gives an overview of progress to date and future plans.

Funding Agency

Footnotes

I have read and accept the Privacy Policy Statement

Yes

Primary author: DUNNING, David (Science and Technology Facilities Council)

Co-authors: ADEN, Paul (Science and Technology Facilities Council); ANGAL-KALININ, Deepa (Science and Technology Facilities Council); CLARKE, James (Science and Technology Facilities Council); COLLIER, John (Science and Technology Facilities Council); FELL, Barry (Science and Technology Facilities Council); GREEN, James (Science and Technology Facilities Council); HENDERSON, James (Science and Technology Facilities Council); MARANGOS, Jonathan (Imperial College of Science and Technology); MATHISEN, Storm (Science and Technology Facilities Council); MILITSYN, Boris (Science and Technology Facilities Council); ROPER, Mark (Science and Technology Facilities Council); SNEDDEN, Edward (Science and Technology Facilities Council); THOMPSON, Neil (Cockcroft Institute); WALSH, David (Science and Technology Facilities Council); Dr WILLIAMS, Peter (Cockcroft Institute)

Presenter: DUNNING, David (Science and Technology Facilities Council)

Session Classification: Tuesday Poster Session

Track Classification: MC2: Photon Sources and Electron Accelerators: MC2.A06: Free Electron Lasers