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# Establishing a relativistic ultrafast electron diffraction & imaging (RUEDI) UK national facility

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RUEDI (Relativistic Ultrafast Electron Diffraction & Imaging) is a proposed facility which will deliver singleshot, time-resolved, imaging with MeV electrons, and ultrafast electron diffraction down to 10 fs timescales. RUEDI is being designed to enable the following science themes: dynamics of chemical change; materials in ex-treme conditions; quantum materials; energy generation, storage, and conversion; and in vivo biosciences. RUEDI is proposed to be built at STFC's Daresbury Laboratory in the UK. The Conceptual Design Review and Outline Instrument Design reports were published in November 2022 and summarised in this paper, with a Technical Design Review report to follow in November 2023.

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### Footnotes

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Yes

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