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Stabilised timing links for the CLARA test facility

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Achieving femtosecond synchronization between charged particle beams and experimental laser systems poses a significant challenge for modern particle accelerators. In particular, tight synchronization of multiple remote accelerator systems is required to achieve femtosecond stability of the electron beam. This paper presents the development of the CLARA fibre-stabilized timing distribution network and beam arrival monitor system, and reports on the commissioning of the first stabilizing timing link at CLARA, which has achieved a long term stability of <math><5\text{fs}</math>.

Funding Agency

Footnotes

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Yes

Primary author: HENDERSON, James (Science and Technology Facilities Council)

Co-authors: AIKEN, Alexander (Science and Technology Facilities Council); SNEDDEN, Edward (Science and Technology Facilities Council); JOSHI, Nirav (Science and Technology Facilities Council)

Presenter: HENDERSON, James (Science and Technology Facilities Council)

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