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Dielectric wakefields structures and their applications at CLARA facility

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Accelerator user facility CLARA (Compact Linear Accelerator for Research and Applications) at Daresbury Laboratory is currently being commissioned. It comprises a 250MeV, 250pC linear accelerator and a dedicated beamline with the hutch for hosting a variety of user experiments including plasma and structure wakefield acceleration. Generation of drive-main bunch pairs for wakefield experiments is accomplished using masking technique and photoinjector pulse shaping.

Two dielectric wakefield structures are included in the machine layout: energy dechirper and streaker. Both are of similar design and can be used for either dechirping or streaking or as accelerating structures. We present first results of these structures commissioning and outline future plans including experiments on beam break-up instability suppression in collinear wakefield accelerators

Author: SAVELIEV, Yuri (STFC, Daresbury Lab., ASTeC)

Co-authors: HIGUERA GONZALEZ, Beatriz (The Cockcroft Institute / The University of Manchester); PACEY, Thomas (STFC Daresbury Laboratory); OVERTON, Toby (ASTeC, STFC Daresbury Laboratory)

Presenter: SAVELIEV, Yuri (STFC, Daresbury Lab., ASTeC)

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