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External injections of electrons into a laser-driven plasma wakefield at CLARA

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External injection of high quality, low energy electron bunches into a laser driven plasma wakefield has been proposed as a method to improve the quality and stability of the accelerated electrons. Simulations have shown the preservation of emittance and energy spread of injected bunches but there has been only one experiment to date demonstrating successful injection and acceleration. We report the results of a new experiment at the Daresbury Laboratory, UK, to study the acceleration of 35MeV electrons from the CLARA linear accelerator injected into a laser plasma wakefield.

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