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Recent experimental results from the dielectric wakefield acceleration program at CLARA facility

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Dielectric wakefield acceleration (DWA) is a high gradient novel acceleration concept. To realise this concept for future high energy facilities, scalable models of the transverse and longitudinal beam dynamics from these wakefields must be created and experimentally verified. We present a summary of results from the recent experimental run at the CLARA facility. This study used both circular and planar quartz DWA structures and was performed with 100 pC bunch charge and 35 MeV beam energy. The effect of dipole-like and quadrupole-like wakefields from both structures were studied in detail for a variety of beam distributions. These results were used for the benchmarking a highly scalable simulation code which was developed in-house.

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Footnotes

I have read and accept the Privacy Policy Statement

Yes

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