

Abstract Submitted
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Observation of large-angle quasi-monoenergetic electrons from a laser wakefield¹ DMITRI KAGANOVICH², DANIEL GORDON, ANTONIO TING, NATALIE MILIOUTINA³, PHILLIP SPRANGLE, Plasma Physics Division, Naval Research Laboratory, Washington, DC 20375 — A relativistically intense laser pulse is focused into a gas jet and quasi-monoenergetic electrons emitted at a 37 degree angle with respect to the laser axis are observed. The average energy of the electrons was between 1 and 2 MeV and the total accelerated charge was about 1 nC emitted into a 10 degree cone angle. The electron characteristics were sensitive to plasma density. The results are compared with three dimensional particle-in-cell simulations. This electron acceleration mechanism might be useful as a source of injection electrons in a laser wakefield accelerator.

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