

Abstract Submitted
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A table-top laser-based source of short, collimated, ultra-relativistic positron beams¹ GIANLUCA SARRI, BRENDAN DROMEY, MARK DIECKMANN, MATTHEW ZEPF, The Queen's University of Belfast, ANTONINO DI PIAZZA, CRISTOPH KEITEL, Max Plank Institute, Heidelberg, WILLIAM SCHUMAKER, MIKE VARGAS, VLADIMIR CHVYKOV, ALEXANDER MAKSIMCHUK, VIKTOR YANOVSKY, ZHAOHAN HE, ALEXANDER THOMAS, KARL KRUSHELNICK, University of Michigan — We present here the first experimental evidence of the generation of ultra-short (35 fs), highly collimated (3 mrad) and ultra relativistic (150 MeV) positron beams following the interaction of a laser-wakefield accelerated electron beam with high-Z solid targets. The modest laser parameters (25 TW) make this the first demonstration of a table top source of relativistic positron beams. We anticipate that these beams will be also of direct relevance to the laboratory study of astrophysical leptonic jets.

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Gianluca Sarri
The Queen's University of Belfast

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