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Observation of bubble formation in laser wakefield acceleration[1]
SAHEL HAKIMI, NICHOLAS BEIER, University of California, Irvine, YONG MA, JESUS HINOJOSA, University of Michigan, Ann Arbor, AMINA HUSSEIN, University of California, Irvine, ANATOLY MAKSIMCHUK, JOHN NEES, University of Michigan, Ann Arbor, TOSHIKI TAJIMA, University of California, Irvine, KARL KRUSHELNICK, ALEC THOMAS, University of Michigan, Ann Arbor, FRANKLIN DOLLAR , University of California, Irvine, DEPARTMENT OF PHYSICS AND ASTRONOMY, UNIVERSITY OF CALIFORNIA, IRVINE, CALIFORNIA 92697, USA COLLABORATION, CENTER FOR ULTRAFAST OPTICAL SCIENCE, UNIVERSITY OF MICHIGAN, ANN ARBOR, MICHIGAN 48109, USA COLLABORATION — Laser Wakefield Acceleration experiments were performed with the HERCULES laser facility at University of Michigan. Inferring the temperature with soft x-ray spectroscopy, we observed bubble formation as a function of plasma density. The electron injection threshold, as well as the onset of Betatron radiation were observed. Numerical modeling with PIC simulations are also presented.

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