

Abstract Submitted  
for the DPP11 Meeting of  
The American Physical Society

**High energy T-ray pulses from table-top laser driven Ion accelerators** AMRUTHA GOPAL, SVEN HERZER, ALBRECHT SCHMIDT, ANDREAS REINHARD, WOLFGANG ZIEGLER, GERHARD PAULUS, Institute of Optics and Quantumelectronics, Friedrich-Schiller-Universitaet Jena, Max-Wien-Platz 1, 07743 Jena, Germany, STEFANO MINARDI, Institute of Applied Physics, Friedrich-Schiller-Universitaet Jena, Max-Wien-Platz 1, 07743 Jena, Germany, TORSTEN MAY, MARCO SCHUBERT, ULRICH DILLNER, HANS GEORG MEYER, Institut fuer Photonische Technologien, Postfach 100239, 07702 Jena, Germany, HANS PETER GEMUEND, Max Planck Institute of Radio Astronomy, Auf dem Huegel 69, 53121 Bonn, Germany — We present the first experimental observation of energetic non-collinear T-rays (Terahertz pulses) from laser driven ion accelerators. The experimental and 2D Particle-In-Cell simulation results show that the observed T-rays are mostly emitted at large angles to the target normal. Two dimensional particle-in-cell (PIC) simulations point out that the emission originates from a micron-scale plasma sheath at the rear surface of the target, which is also responsible for the ion acceleration. This opens a perspective for the application of the T-ray detection for on-site diagnostic of particle acceleration in laser produced plasmas.

Amrutha Gopal  
Institute of Optics and Quantumelectronics, Friedrich-Schiller-  
Universitaet Jena, Max-Wien-Platz 1, 07743 Jena, Germany

Date submitted: 29 Jul 2011

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