

Abstract Submitted
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Giant magnetic fields and relativistic electron transport in dense, hot plasmas created on solid targets¹ RAVINDRA KUMAR GATTAMRAJU, MONIRUZZAMAN SHAIKH, Tata Institute of Fundamental Research, AMIT LAD, Tata Institute of Fundamental Research Mumbai, DEEP SARKAR, KAMALESH JANA, INDRANUJ DEY, Tata Institute of Fundamental Research — Intense, femtosecond laser pulses generate relativistic electron pulses, important for many applications[?]. In this paper, we present a femtosecond time-resolved and micrometer space resolved giant magnetic fields generated by 10^{19} W cm⁻², 800 nm, 30 fs, high intensity contrast laser pulses in using pump-probe Cotton Mouton polarimetry[?]. The space and time resolved maps of the magnetic fields at the front and rear of targets reveal turbulence in the magnetic fields [?]. We also present data from shadowgraphy and Cherenkov emission along with model calculations to build up a picture of the transport process.

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[3] Mondal S. *et al. . Proc. Natl. Acad. Sci. USA* **109**, 8011 (2012).

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