

Abstract Submitted
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Transport of High-energy Charged Particles in Spatially Intermittent Magnetized Turbulence¹ P. TZEFERACOS, University of Rochester, A.F.A. BOTT, Princeton University, L.E. CHEN, A. RIGBY, A.A. SCHEKOCHEV, University of Oxford, D.Q. LAMB, University of Chicago, G. GREGORI, University of Oxford — The identification of sources of high-energy cosmic rays (CRs) requires the understanding of how CRs are deflected by the stochastic, spatially intermittent intergalactic magnetic field. We discuss a set of recently published laser-driven experiments of the TDYNO collaboration, which measure the propagation of energetic charged particles through a magnetized plasma with these properties. These experiments were designed using the FLASH code and were executed on the Omega Laser Facility at the Laboratory for Laser Energetics of the University of Rochester. The diffusive transport is characterized experimentally. The results show that the transport is diffusive and that, for the regime of interest for the highest-energy CRs, the diffusion coefficient is unaffected by the spatial intermittency of the magnetic field.

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