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proton acceleration in laser driven turbulent plasmas - insights from astrophysics

Brian Reville^{1,†}

- ¹ Max Planck Institute for Nuclear Physics
- † brian.reville@mpi-hd.mpg.de

Recent laser experiments have advanced our understanding of plasma turbulence in regimes of relevance to astrophysical systems. Here we summarise some of these results and their implications for acceleration of protons. We can further exploit our understanding of analogue astrophysical systems to motivate and give insight on future experiments.