

Astrophysics with magnetized plasmas produced by high-power lasers

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Mega-Gauss-level magnetic fields applied to laser produced plasmas are opening the door to a range of new studies in high-energy density laboratory astrophysics. Experiments and related theoretical work have addressed the physics of magnetized accretion flows and the collimation of jets, as well as particle acceleration and ion-driven streaming instabilities. In this paper I will review some of these results, focusing primarily on the modeling efforts done to understand them.