

Abstract Submitted
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Transport Properties of Laser Plasma and H-Rich White Dwarf Stars VITHAL L. PATEL¹, Berkeley Research Associates, Inc., JAECHUL OH, Research Support Instruments, Inc. — An extended survey of spectroscopic observations of hydrogen-rich white dwarf stars indicates existence of magnetic fields of 10kG-10MG [1]. High intensity laser interactions with matter generates magnetic fields of several 100s MG [2]. In both laboratory laser plasma as well as astrophysical plasmas, weakly Landau quantization may be present. We consider transport properties of such plasmas following work of Potekhin [3]. With some simplification, estimate of transport coefficients can be made without evaluation of elaborate integration. This research was performed in Laser Plasma Branch, Plasma Physics Division, Naval Research Laboratory and was supported by DOE/NNSA.

[1] A. Kawka et. al., ApJ, 654, 499, 2007

[2] S. Eliezer et. al., Phys. Plasmas, 12, 052115, 2005

[3] A. Y. Potekhin, Astron. Astrophys., 346, 345, 1999

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