Abstract Submitted for the DPP08 Meeting of The American Physical Society

Numerical modeling of steady state MHD turbulence¹ JEAN C. PEREZ, STANISLAV BOLDYREV, University of Wisconsin-Madison — An effective numerical setting for simulating universal regimes of steady state MHD turbulence is presented. We show by means of high resolution numerical simulations that this setting allows one to investigate the most important features of weak and strong MHD turbulence, such as anisotropy, energy spectra, critical balance, dynamic alignment and the role of cross helicity. The relevance of the results to Solar Wind and Interstellar Medium (ISM) turbulence is discussed.

¹Work supported by the U.S. DOE under Grant DE-FG02-07ER54932, by the NSF Center for Magnetic Self-Organization in Laboratory and Astrophysical Plasmas at the University of Wisconsin-Madison, and in part by the NSF under Grant PHY05-51164.

Jean C. Perez University of Wisconsin-Madison

Date submitted: 21 Jul 2008

Electronic form version 1.4