

Abstract Submitted
for the DPP07 Meeting of
The American Physical Society

Construction of a Pulse-Burst Laser System for Fast Thomson Scattering on the MST RFP¹ D.J. DEN HARTOG, University of Wisconsin-Madison and Center for Magnetic Self-Organization — A “pulse-burst” laser system is being constructed for addition to the Thomson scattering diagnostic on the MST RFP. This laser will produce a burst of up to 200 approximately 1 J Q-switched pulses at repetition frequencies 5-250 kHz. This laser system will operate at 1064 nm and is a master oscillator, power amplifier (MOPA). The master oscillator is a compact diode-pumped vanadate laser, intermediate amplifier stages are flashlamp-pumped Nd:YAG, and final stage(s) will be flashlamp-pumped Nd:glass (silicate). The burst train of laser pulses will enable the study of Te and ne dynamics in a single MST shot, and with ensembling, will enable correlation of Te and ne fluctuations with other fluctuating quantities.

¹This work is supported by the U. S. Department of Energy and the National Science Foundation.

Daniel Den Hartog
University of Wisconsin-Madison

Date submitted: 16 Jul 2007

Electronic form version 1.4