

Abstract Submitted  
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**Construction of a Pulse-Burst Laser System for Fast Thomson Scattering on the MST RFP**<sup>1</sup> 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.

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