

Abstract Submitted
for the DPP09 Meeting of
The American Physical Society

Proposed Thomson scattering measurements on the Gas Dynamic Trap HARRY MCLEAN, Lawrence Livermore National Laboratory, DANIEL DEN HARTOG, University of Wisconsin-Madison — We describe a proposed short-term collaborative experimental investigation of electron temperature on the Gas Dynamic Trap (GDT) experiment at the Budker Institute in Novosibirsk, Russia using the double-pulse multipoint Thomson scattering diagnostic from the decommissioned SSPX spheromak at Lawrence Livermore National Laboratory. Electron temperature is a critical parameter in the gas dynamic trap (GDT) since fast-ion energy losses are governed by electron drag, which decreases with increased electron temperature. Higher fast-ion densities lead to higher neutron production in fusion neutron sources based on the GDT concept. Expected plasma conditions and measurement capabilities will be compared. Suitable experimental campaigns will be presented. This work performed under the auspices of the U.S. DoE by LLNL under Contract DE-AC52-07NA27344.

Harry McLean
Lawrence Livermore National Laboratory

Date submitted: 15 Jul 2009

Electronic form version 1.4