

Abstract Submitted  
for the DPP08 Meeting of  
The American Physical Society

**Measurements with a Heavy Ion Beam Probe during Improved Confinement in MST**<sup>1</sup> D.R. DEMERS, X. CHEN, P.M. SCHOCH, Rensselaer Polytechnic Institute, P. FIMOGNARI, University of Wisconsin - Madison — The Heavy Ion Beam Probe (HIBP) in operation on the Madison Symmetric Torus (MST) is acquiring measurements in the core region of improved confinement plasmas. These discharges, also known as pulsed poloidal current drive (PPCD), are characterized by periods during which magnetic turbulence and transport are suppressed. Simultaneous measurements of  $\tilde{n}$  and  $\tilde{\phi}$  will enable us to explore the contribution of electrostatic fluctuations to transport and measurements of  $E_r$  will allow us to examine localized structures associated with non-ambipolar particle transport. The issues presented by the reversed field pinch plasma and the dynamic nature of PPCD - including computation of magnetic equilibria; HIBP sample volume localization, size, and orientation; and fluctuation sensitivity – will be discussed, and measurements will be presented.

<sup>1</sup>This work supported by USDoE.

D.R. Demers  
Rensselaer Polytechnic Institute

Date submitted: 09 Jul 2008

Electronic form version 1.4