Abstract Submitted
for the DPP14 Meeting of
The American Physical Society

Compression of spinning plasma[1] VASILY GEYKO, NATHANIEL FISCH, Princeton University — Adiabatic compression of a spinning plasma in cylindrical geometry is studied in thermodynamical limit. Compared to spinning neutral gas, additional electrostatic energy of charge separation yields to increased heat capacity for both axial and longitudinal compressions. Radial compression of plasma with external axial magnetic field is also considered. The obtained results can be used as thermodynamical estimations for z-pinch compression.

[1]This work was supported by DOE Contract No. DE-AC02-09CH11466, and by NNSA SSAA Grant No. DE-FG52-08NA28553.

Vasily Geyko
Princeton University

Date submitted: 11 Jul 2014 Electronic form version 1.4