

Abstract Submitted  
for the HAW14 Meeting of  
The American Physical Society

**Jet physics with the proposed sPHENIX detector** ALI HANKS,  
Stony Brook University — High energy partons, best studied through full jet reconstruction, are important probes for developing a deeper understanding of the quark-gluon plasma (QGP) produced in heavy ion collisions. The PHENIX collaboration has proposed a series of major upgrades designed to expand our jet reconstruction capabilities and make full use of the enhanced luminosity available at RHIC. The first stage of this plan involves replacing the existing PHENIX central arms with full  $2\pi$  electromagnetic calorimetry and adding hadronic calorimetry, enabling a wide range of important jet probe measurements which will complement corresponding measurements at the LHC. Combined with flexible accelerator capabilities able to provide a wide range of collision systems and beam energies, these new capabilities will enable detailed investigation of the properties of the QGP close to  $T_c$  where the effective coupling is the strongest.

Janette Hanks  
State Univ of NY- Stony Brook

Date submitted: 01 Jul 2014

Electronic form version 1.4