

## Studying nuclear matter with jets in the sPHENIX experiment at RHIC

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The sPHENIX detector currently under construction at Brookhaven National Laboratory's Relativistic Heavy Ion Collider (RHIC) is designed to significantly advance studies of the microscopic nature of nuclear matter. The experiment incorporates full azimuth vertexing, tracking, and a complete set of electromagnetic and hadronic calorimeters over the pseudorapidity range  $|\eta| < 1.1$ . This powerful detector system is coupled with a high rate DAQ in order to deliver unprecedented data sets enabling a wide range of jet measurements at RHIC. sPHENIX has an extensive a multi-year physics program planned which includes Au+Au, polarized p+p and p+Au collisions. Measurements of jets and jet substructure in these systems will provide unprecedented access to nuclear PDFs and the spin-orbit correlations in the proton through measurements of the Sivers and Collins asymmetries. In this talk we will present an overview of the sPHENIX jet measuring capabilities and the planned sPHENIX jet physics program.

### Submitted on behalf of a Collaboration?

Yes

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