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## **fsPHENIX: A Detector for the Study of Nucleon Spin Structure and Cold Nuclear Matter at RHIC**

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In the next decade the Relativistic Heavy Ion Collider (RHIC) will embark on detailed studies of the Quark Gluon Plasma with a major upgrade to the PHENIX detector, known as sPHENIX. To fully exploit the capabilities of sPHENIX and RHIC in spin-polarized p+p and p+A collisions the PHENIX Collaboration is proposing new instrumentation in the forward (proton-going) direction as an addition to the base sPHENIX detector. This project, known as fsPHENIX, will enable new measurements of spin asymmetries in jet production (both inter- and intra-jet), Drell Yan, and studies of cold nuclear matter using the unique capabilities of the RHIC collider to provide spin polarized p+A collisions. We will give an overview of the fsPHENIX design, its relationship to sPHENIX and ePHENIX, and physics goals of the proposed detector.

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