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The sPHENIX Upgrade ERIC MANNEL, Brookhaven National Laboratory, PHENIX COLLABORATION — Over the past decade the PHENIX detector at the Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Laboratory has undergone a number of upgrades to explore the properties of the Quark-Gluon Plasma (QGP). The next phase, called sPHENIX, replaces the current central arm spectrometer with a compact superconducting solenoid, electromagnetic and hadronic calorimetry optimized to study jets produced in p+p, p+A and A+A collisions at RHIC, and will be the first step in upgrading PHENIX for the eRHIC era. In this paper we will present the design of the sPHENIX detector, the physics capabilities of the sPHENIX detector and a path forward to ePHENIX, a detector for the eRHIC era.

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