

Studying Proton Structure, the Partonic Structure of Nuclei, and Hadronization at sPHENIX

The proposed sPHENIX detector at the Relativistic Heavy Ion Collider will take proton-proton, proton-nucleus, and nucleus-nucleus collision data in the early 2020s, opening up new opportunities to study a wide variety of QCD systems and processes. Inclusive and correlation observables involving jets, photons, and heavy flavor at midrapidity will provide sensitivity to partonic structure and dynamics within the proton as well as nuclei and an initial program exploring hadronization in different collision systems. Possible additional instrumentation, in particular in the forward rapidity region, would enable a wealth of further measurements probing the low-x structure of nuclei, long-range collective behavior in small systems, and additional spin-spin and spin-momentum correlations in the proton and in the process of hadronization.

Preferred Track

Future Experimental Facilities, Upgrades, and Instrumentation

Collaboration

sPHENIX

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