Abstract for an Invited Paper for the HAW09 Meeting of The American Physical Society

The present status and future physics program of RHIC

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RHIC is preparing to enter its second decade of operations. I will highlight several measurements from the first 10 years of running that have been pivotal in our belief that the hot and dense matter created in AA collisions at RHIC is strongly interacting, has partonic degrees of freedom, flows like a near-perfect fluid, and is highly opaque to high energy partons passing through it. I will then discuss the near-future heavy-ion program at RHIC. It is focussed on extended top energy Au-Au running and a systematic low energy beam scan. The goals of the 200 GeV collision runs are the detailed measurements of heavy-flavor (c and b) production and jet reconstruction. These results will greatly improve our understanding of the properties of the medium created. The purpose of the low energy beam scan is to search for the QCD critical point. Finally, there are also plans to study U+U collisions where interesting effects may be observed due to the highly oblate nature of the U nucleus.