Abstract Submitted
for the DNP20 Meeting of
The American Physical Society

**Transverse momenta and flow coefficients from modeled Xe Xe collisions using hic-eventgen**[1] NICHOLAS SUMMERFIELD, ANTHONY TIMMINS, Univ of Houston — The quark-gluon plasma (QGP) is a state of hadronic matter that is created at extremely large temperatures and pressures. It can be created in the laboratory through relativistic heavy ion collisions, and only for an unobservable instant before freezing into hadrons. To study the properties of the QGP, hydrodynamic models are employed to recreate such events that follow a collision up to the point of detection. In this research, we will utilize the hic-eventgen chain, which models heavy-ion collisions using initial conditions from $T_R$ENTo, VISHNu 2+1 hydrodynamics, and UrQMD for the hadronic afterburner. The input parameters (e.g. the shear and bulk viscosities divided by the entropy density) for this chain have been tuned to describe the measured average transverse momenta and flow coefficients in Pb-Pb collisions at both $\sqrt{s_{\mathrm{NN}}} = 2.76$ GeV and 5.02 GeV using a Bayesian analysis. We will use these tuned parameters to test whether the hic-eventgen chain can describe measurements of average transverse momenta and flow coefficients from Xe-Xe collisions at $\sqrt{s_{\mathrm{NN}}} = 5.44$ GeV.

[1]UH SURF program

Nicholas Summerfield
Univ of Houston

Date submitted: 23 Jun 2020 Electronic form version 1.4