Contribution ID: **656**   Type: **Poster Presentation**

JETSCAPE 2.0: Towards a complete event generator for heavy ion collisions

Monday 4 November 2019 17:40 (20 minutes)

In this talk the second major software release of the JETSCAPE collaboration will be described. The Jet Energy-loss Tomography with a Statistically and Computationally Advanced Program Envelope (JETSCAPE) Collaboration is developing a complete event generator for heavy ion collisions to be used by the wider community. In this talk we highlight the performance of the year-2 release of the JETSCAPE software, which consists of an overall framework program, coupled with individually exchangeable modules describing every aspect of high energy heavy ion collisions.

We demonstrate step-by-step how a complete set of experimental data from heavy ion collisions is described by the JETSCAPE event generator equipped with state-of-the-art physical components. These components are classified into three categories: (i) the production, propagation and fragmentation of hard partons; (ii) the pre-hydrodynamic evolution, viscous hydrodynamic expansion and hadronic cascade describing the dynamics of the soft degrees of freedom defining the fireball medium; and (iii) the correlations and interactions between hard and soft particles, during the initial production stage, via in-medium energy loss, and through the medium's response to it.

Author: PANG FOR JETSCAPE COLLABORATION, LongGang (Lawrence Berkeley National Laboratory)

Presenter: PANG FOR JETSCAPE COLLABORATION, LongGang (Lawrence Berkeley National Laboratory)

Session Classification: Poster Session

Track Classification: New theoretical developments