Jaroslav Bielcik:

Recent hard probes measurements from STAR.

The STAR experiment at RHIC has excellent detector coverage, tracking, and particle identification capabilities to study emergent properties of the Quark Gluon Plasma (QGP) created in central heavy-ion collisions. Among the probes used experimentally to study the QGP properties, hard probes (jets and heavy flavor quarks) are unique since they are dominantly produced at the early stage of the collisions and subsequently experience the entire evolution of the system. These probes help to unravel the fundamental properties of the medium, such as temperature, viscosity, energy density and transport coefficients. In p+Au collisions we might study the effects of cold nuclear matter.

In this talk, we will discuss recent high-precision measurements of heavy flavor mesons, quarkonia, jet production, and their substructure in p+p, p+Au, and heavy-ion collisions in the STAR experiment. In addition, an outlook for upcoming measurements will be presented.