中国高能核物理网络论坛
HIGH ENERGY NUCLEAR PHYSICS IN CHINA

HENPIC

The 193th HENPIC seminar

Heavy flavors on the lattice

Speaker: Dr. Hai-Tao Shu（舒海涛）

August 17th, 2023, Thursday, 10:30 am (UTC+8)
Zoom meeting ID: 421 173 735, passcode: 644179

ABSTRACT:

Heavy flavors, including heavy quarks and quarkonium (quark-antiquark bound states), are produced in the early stages of the ultra-relativistic heavy-ion collisions due to their large mass. Since they witness the entire evolution of the collisions, we can use them to probe the hot quark-gluon-plasma medium created in the collisions. By investigating the fate of the quarkonium we can infer the temperature of the hot medium. At high temperature quarkonium might dissociate and heavy quarks will be released from the bound states. After a certain a mount of time of traveling they get thermalized. The kinetic thermalization time of heavy quarks can be characterized by the heavy quark diffusion coefficient. In this talk I will report the lattice efforts in understanding the fate of quarkonium and the diffusion of heavy quarks in the hot medium.

ABOUT THE SPEAKER:

Hai-Tao Shu is currently a research associate at Brookhaven National Laboratory. He received his Ph.D degree from Central China Normal University in 2018. Then he moved to Bielefeld university as research associate for three years. After that he joined the physics department of Regensburg University as research associate from 2021 to 2023. Recently he joined the physics department at Brookhaven National Laboratory. His research interests includes transport properties of quark-gluon plasma, in-medium hadron properties and hadron structure using lattice quantum chromodynamics.

HENPIC website: https://indico.ihep.ac.cn/event/11115

Sponsored by Guangdong Major Project of Basic and Applied Basic Research(2020B0301030008)