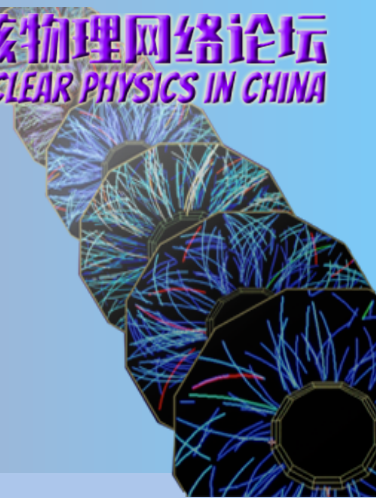




The 257th HENPIC Seminar

Understanding the hadron- and photon-triggered jet
acoplanarity enhancement with thermal recoil jets

Speaker: Prof. Shanshan Cao
(Southeast University)

10:30 October 8, 2026, Thursday (UTC+8)

Zoom link: lbnl.zoom.us/j/98708774920 ID: 987 0877 4920

Abstract:

In the established paradigm of jet quenching, jets from initial hard parton scatterings are suppressed by their interaction with the quark-gluon plasma (QGP), serving as crucial tomographic probes of QGP properties. Within the linear Boltzmann transport model, we find that the QGP can also absorb and reprocess the energy deposited by hard jets into emergent jet-like objects, providing an alternative production mechanism of thermal recoil jets. These recoil jets exhibit distinct transverse momentum and cone-size dependencies, and explain the puzzling RHIC and LHC observations of enhanced hadron- and photon-triggered jet yields at large azimuthal angles for low- p_T , large- R jets. Markedly different behavior is predicted for heavy-flavor triggered jets, and their unique substructures await experimental verification.

About the speaker:

Shanshan Cao is a professor at Southeast University. He received his B.Sc. degree from Nanjing University in 2009 and Ph.D. degree from Duke University in 2014. He worked as a postdoctoral researcher at Lawrence Berkeley National Laboratory and Wayne State University from 2014 to 2020, and a professor at Shandong University from 2020 to 2026. His research focuses on theoretical high-energy nuclear physics, including jet and heavy-flavor physics in the Quark-Gluon Plasma.



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