

Xinru Wang "QCD preheating"

Wednesday, 8 November 2023 16:10 (25 minutes)

It is believed that QCD can not play major role to account for cosmological matter abundances observed in the Universe today including the baryon asymmetry of the Universe. However, in this talk, I would like to share a new picture of the thermal history called "QCD preheating". The dynamic motion of light quark condensate should have the potential to explosively produce the number densities for nucleon and antinucleon by nonadiabatic processes, similarly to the preheating induced by the nonadiabatic-varying vacuum. And this dynamic aspect of the QCD vacuum opens a new frontier to explore low-scale matter generation such as baryogenesis. Pursuing the QCD reheating era would also help deeply understanding the subatomic-scale physics in the thermal history of the Universe.

Session Classification: Short talks