

Seminarium Studium Doktoranckiego NCBJ
Poniedziałek, 21 maja, godzina 9:00
Sala 22 w NCBJ, Hoża 69

Speaker: Erik Kofoed
(SD NCBJ)

Title: Asymptotic Freedom at Finite Temperatures and Densities

Abstract: It is well known fact that the strong coupling constant in quantum chromodynamics (QCD) becomes weak at high energies which allows for perturbative calculations using Feynman diagrams. This is the phenomenon of asymptotic freedom. Much less clear is the status of asymptotic freedom at the early stages of a heavy ion collision where a bulk QCD medium is present. One difficulty is that there is, unlike in vacuum, no 'best' definition of what we mean with a coupling constant.

The analysis is also complicated by the fact that a medium is characterised by several dimensionful scales, making the powerful scaling relations that can be used in vacuum not applicable