



量子物理学・ナノサイエンス第 342 回セミナー  
/原子核ハドロン物理セミナー

## Unified description of high-energy nuclear collisions based on core-corona picture

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上智大学 (Sophia University)
- 日程** : 7 月 13 日 (水) 15:30 - 17:10
- 場所** : 本館 1 階 H116 講義室および Zoom\*

### 概要

Recent measurements at Relativistic Heavy Ion Collider (RHIC) and Large Hadron Collider (LHC) indicate possible formation of the quark gluon plasma (QGP) in small colliding systems such as proton-proton and proton-nucleus collisions. In comparison with nucleus-nucleus collisions in which the formation of the QGP has already been established, whether the system created in such small systems reaches local equilibrium is highly non-trivial. Motivated by these experimental results, we develop the dynamical core-corona initialization (DCCI) model towards unified description of high-energy nuclear collisions. The basic idea in the DCCI model is to deal with the created system as a combination of equilibrated (core) and non-equilibrated (corona) matter. As the number of produced particles increases, the system is expected to be dominated by the core. On the other hand, when the number of produced particles is small, the system hardly reaches the local equilibrium and should be dominated by the corona. From the analysis of experimental data through the DCCI model, we find the system is dominated by the core when the number of charged hadrons at midrapidity exceeds  $\sim 20$ .

\*本 ZOOM セミナーに参加されます場合には、事前に下記より登録を済ませてください。

<https://zoom.us/meeting/register/tJwkfuiujqjMoGtJjJQgZrtr3iWFiJIDPTmgc>

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連絡教員 慈道 大介 (内線 2083)