



**ΚΟΙΝΟ ΣΕΜΙΝΑΡΙΟ ΚΕΝΤΡΟΥ ΚΒΑΝΤΙΚΗΣ ΠΟΛΥΠΛΟΚΟΤΗΤΑΣ ΚΑΙ
ΝΑΝΟΤΕΧΝΟΛΟΓΙΑΣ & ΚΕΝΤΡΟΥ ΘΕΩΡΗΤΙΚΗΣ ΦΥΣΙΚΗΣ ΚΡΗΤΗΣ /
JOINT CCQCN -CTP SEMINAR**

Thursday, 29 October 2015

15:00-16:00

2nd Floor Seminar Room

Heavy-ion physics at LHC; current status and open questions

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Abstract

A new era in the study of high-energy nuclear collisions began when the CERN LHC provided the first collisions of lead nuclei in late 2010. In the first three years of operation the ALICE, ATLAS and CMS experiments collected Pb-Pb collision data exceeding any previously studied collision energies by more than an order of magnitude. These data have provided new insights into the properties of QCD matter under extreme conditions, with extensive measurements of soft particle production and newly accessible hard probes of the created hot and dense medium. An integral part of the heavy-ion program is the study of benchmark reference data provided by pp and pPb collisions. In this talk a comprehensive overview of the obtained results is provided. While the basic properties of the created medium were established at RHIC, the LHC data suggest many new avenues for extracting its properties in detail. The current status and open questions are outlined, in particular in understanding surprising results related to the reference systems.

