

PHYSIKALISCHES KOLLOQUIUM

des Fachbereichs Physik der Johann Wolfgang Goethe-Universität Frankfurt

> Mittwoch, den 28.10.2015, 16 Uhr c.t. Großer Hörsaal, Raum _0.111, Max-von-Laue-Str. 1



Prof. Dr. Alberica Toia

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Antrittsvorlesung

" The primordial soup quark-gluon plasma: tastes and flavours of the early universe "

The properties of strongly interacting matter at extreme conditions of temperature and energy densities are studied with heavy ion collisions at LHC and provide experimental evidence of the formation of a hot and dense medium, the Quark Gluon Plasma (QGP). Proton-nucleus collisions provide a reference to study the signatures already present in cold nuclear matter, due to the complex structure of the colliding nuclei which confirm that the suppression of high pT hadron production observed in heavy ion collisions is a genuine effect of the hot deconfined QGP. However, several measurements of particle production in the low and intermediate momentum region in small systems, as those produced in p-Pb collisions, indicate the presence of coherent and collective effects, questioning the validity of the perfect liquid paradigm.

Die Dozenten der Physik

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