

# Heavy flavour measurements in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV with the ALICE experiment

*jeudi 21 juillet 2011 17:15 (15 minutes)*

The ALICE experiment studies the properties of the QCD matter at the extreme energy densities of the ultra-relativistic heavy-ion collisions at the LHC. Produced on a very short time-scale in the initial hard-scattering processes, the heavy quarks (charm and beauty) experience the whole collision evolution: measuring the open heavy flavour spectra allows to investigate the mechanisms of energy-loss and hadronization in the hot and dense medium formed in the nucleus-nucleus collision. In particular, the ALICE capability to disentangle charm and beauty production is expected to help investigating the predicted quark-mass dependence of the in-medium energy-loss.

The ALICE detector measures heavy-flavours in the semi-electronic and semi-muonic decay channels at mid- and forward rapidity, respectively, and D mesons at mid-rapidity. The results in lead-lead collisions at  $\sqrt{s_{NN}} = 2.76$  TeV and proton-proton collisions at  $\sqrt{s} = 7$  TeV will be presented. The nuclear modification factor  $R_{AA}$ , defined as the ratio between the heavy-flavour production in nucleus-nucleus and proton-proton collisions rescaled to the number of binary collisions of nucleons in nuclei, will be discussed. The central to peripheral nuclear modification factor  $R_{CP}$ , obtained from the comparison of the measurements in heavy-ion collisions with a small and large impact parameter, respectively, will be presented as well.

**Auteur principal:** Dr STOCCO, Diego (Subatech)

**Orateur:** Dr STOCCO, Diego (Subatech)

**Classification de Session:** Ultrarelativistic Heavy Ions