# Hard-soft correlations in hadronic collisions - GDR QCD

# Rapport sur les contributions

https://indico.in2p3.fr/e/17439

ID de Contribution: **1** Type: **Non spécifié**

# Welcoming and introduction

*lundi 23 juillet 2018 14:00 (10 minutes)*

**Orateur:** PORTEBOEUF-HOUSSAIS, Sarah (LPC)

ID de Contribution: **2** Type: **Non spécifié**

# Hard-soft correlations in the EPOS event generator

*lundi 23 juillet 2018 15:30 (40 minutes)*

**Orateur:** PIEROG, Tanguy (KIT, IKP)

ID de Contribution: **3** Type: **Non spécifié**

# Soft particle production in different multiplicity environments

*mardi 24 juillet 2018 14:40 (40 minutes)*

**Orateur:** BIANCHI, Livio (INFN Torino - Universita' di Torino)

ID de Contribution: **4** Type: **Non spécifié**

# Effects of saturation in high-multiplicity pp collisions

*lundi 23 juillet 2018 14:10 (40 minutes)*

Parton distributions in the protons colliding with multiplicity much higher than the mean value, are biased to higher parton densities, leading to enhanced effects of saturation. This and the effect of mutual boosting of the saturation scales significantly increase the gluon density at small x, and correspondingly the production rate of J/psi
and pT broadening, in a good accord with data.

**Orateur:** KOPELIOVITCH, Boris

ID de Contribution: **5** Type: **Non spécifié**

# Charmonium production versus multiplicity in PYTHIA8

*lundi 23 juillet 2018 16:40 (40 minutes)*

**Orateur:** WEBER, Steffen

ID de Contribution: **6** Type: **Non spécifié**

# Open charm production in dense hadronic environnement

*mardi 24 juillet 2018 15:50 (40 minutes)*

The production of open-heavy flavours in pp and p–nucleus collisions as a function of the charged-particle multiplicity (dNch/dη) can give insight into multiple parton interactions and into the interplay between hard and soft processes. Moreover, the comparison of the production of charmed mesons with and without strange-quark content and the baryon-to-meson ratio can help to study collective-like effects that in recent years have been observed in high multiplicity pp and p–nucleus collisions. These effects are typical of nucleus–nucleus collisions in which a Quark-Gluon Plasma with high-energy density is formed. This state produces a system with dense hadronic environment. It is interesting to investigate heavy-ion typical phenomena in the heavy-flavour sector across collisions systems as a function of the event activity, and, vice versa, to study in detail the coupling of heavy quarks to the ”bulk”in heavy-ion collisions. Indeed, the measurement of the production of open heavy-flavour hadrons in nucleus–nucleus collisions can provide important information about the microscopic interactions of heavy quarks with the medium constituents. In particular, the mea- surement of the azimuthal anisotropies at low transverse momentum, quantified by the elliptic flow v2, gives insight into the participation of the heavy quarks in the collective expansion of the system and their possible thermalisation in the medium. Additional insight into the dynamics of the heavy quarks can be provided by the application of the event-shape engineering (ESE) technique to the D-meson v2. Mea- suring the D-meson v2 in classes of events defined on the basis of the average flow in a given centrality class allows us to evaluate the correlation between the elliptic flow of soft hadrons and D mesons.
In this talk, the latest results on the production of open-heavy flavour production, including the ratio between the production of D+s and non-strange D mesons, as a function of dNch/dη in pp, p–Pb and Pb–Pb collisions at √sNN = 5.02 TeV with ALICE will be presented. The enhancement of the relative abundance of Λ+c baryons compared to D mesons in pp and p–Pb collisions with respect to that measured in $e^+e^-$ collisions will be discussed. Finally, the first application of the ESE technique to the measurement of the D-meson v2 in Pb–Pb collisions at sNN = 5.02 TeV with ALICE will be also presented.

**Orateur:** GROSA, Fabrizio

ID de Contribution: **7** Type: **Non spécifié**

# Correlations between low-pt Z bosons and soft gluons in p+p and p+A collisions

*lundi 23 juillet 2018 18:00 (40 minutes)*

**Orateur:** MARQUET, Cyrille (CPHT - Ecole Polytechnique)

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# Heavy-flavour with charged-particle correlations and collective effects in p-Pb collisions at $\sqrt{s_{\mathrm{NN}}}$= 5.02 TeV with ALICE at the LHC

*lundi 23 juillet 2018 17:20 (40 minutes)*

**Orateur:** MAZZILLI, Marianna

ID de Contribution: **9** Type: **Non spécifié**

# TBA

ID de Contribution: **10** Type: **Non spécifié**

# TBA

ID de Contribution: **11** Type: **Non spécifié**

# Proton structure via double parton scattering

*mardi 24 juillet 2018 09:00 (40 minutes)*

**Orateur:** RINALDI, Matteo

ID de Contribution: **12** Type: **Non spécifié**

# Hard-soft correlations with LHCb

*mardi 24 juillet 2018 09:40 (40 minutes)*

**Orateur:** WINN, Michael

ID de Contribution: **13** Type: **Non spécifié**

# Transverse geometry and hard-soft correlations in high-energy pp collisions

*mardi 24 juillet 2018 10:50 (40 minutes)*

**Orateur:** WEISS, Christian

ID de Contribution: **14** Type: **Non spécifié**

# J/Psi production in pp and pPb

*mardi 24 juillet 2018 11:30 (40 minutes)*

**Orateur:** CRKOVSKA, Jana (IPN Orsay)

ID de Contribution: **15** Type: **Non spécifié**

# Probing gluon nPDF with heavy quarkonium

*mardi 24 juillet 2018 14:00 (40 minutes)*

**Orateur:** SHAO, Hua-Sheng (CERN)

ID de Contribution: **16** Type: **Non spécifié**

# Hard-soft correlations with the MFT

*lundi 23 juillet 2018 14:50 (40 minutes)*

**Orateur:** URAS, Antonio (IPNL Lyon)

ID de Contribution: **17** Type: **Non spécifié**

# TBA

**Orateur:** MOUTARDE, Hervé (CEA-IRFU-SPHN)

ID de Contribution: **18** Type: **Non spécifié**

# Closing discussion

ID de Contribution: **19** Type: **Non spécifié**

# Round table : soft-hard correlations in hadronic collisions, what's next ?

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# Closing

*mercredi 25 juillet 2018 11:20 (10 minutes)*

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# TBA

ID de Contribution: **22** Type: **Non spécifié**

# Double parton scattering studies in associated quarkonium production at the LHC and Tevatron

*mercredi 25 juillet 2018 09:00 (40 minutes)*

**Orateur:** YAMANAKA, Nodoka (IPN Orsay, Paris-Sud U., CNRS-IN2P3)

ID de Contribution: **23** Type: **Non spécifié**

# AFTER@LHC

*mercredi 25 juillet 2018 10:40 (40 minutes)*

**Orateur:** LANSBERG, Jean-Philippe (IPNO - Paris-Sud U. - CNRS/IN2P3)

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# Hard soft correlations with CMS

*mercredi 25 juillet 2018 09:40 (40 minutes)*

**Orateur:** CHAPON, Émilien (SPP / Irfu / CEA Saclay)