## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration</td>
<td>1</td>
</tr>
<tr>
<td>Registration</td>
<td>1</td>
</tr>
<tr>
<td>Welcome</td>
<td>1</td>
</tr>
<tr>
<td>Parton distributions/phenomenology at low x</td>
<td>1</td>
</tr>
<tr>
<td>Does Nature Know about Perturbation Theory? A Study of HERA Deep Inelastic Scattering Data at Low $Q^2$</td>
<td>1</td>
</tr>
<tr>
<td>Higher-twist corrections to gluon TMD factorization</td>
<td>1</td>
</tr>
<tr>
<td>CFT at Strong Coupling: From DIS to Inclusive Production</td>
<td>1</td>
</tr>
<tr>
<td>tba</td>
<td>1</td>
</tr>
<tr>
<td>XFitter</td>
<td>2</td>
</tr>
<tr>
<td>High precision measurements of the differential W and Z boson cross section and Z/top pair cross section ratios in ATLAS</td>
<td>2</td>
</tr>
<tr>
<td>Spin dependent parton distributions</td>
<td>2</td>
</tr>
<tr>
<td>Discussion session: PDFs, QCD fits, low x</td>
<td>2</td>
</tr>
<tr>
<td>3-parton production in DIS at small x</td>
<td>2</td>
</tr>
<tr>
<td>Measurement of the inclusive jet, dijet, and photon production in ATLAS</td>
<td>2</td>
</tr>
<tr>
<td>Four-jet production in High Energy Factorization plus Parton Showers</td>
<td>3</td>
</tr>
<tr>
<td>Measurement of inclusive jet, dijet and photon production in CMS</td>
<td>3</td>
</tr>
<tr>
<td>PDF results from CMS V+jets measurements</td>
<td>3</td>
</tr>
<tr>
<td>Production of electroweak bosons on association with jets in ATLAS</td>
<td>3</td>
</tr>
<tr>
<td>Dihadron production, heavy-quark pair production, dijet and multi-jet production</td>
<td>3</td>
</tr>
<tr>
<td>Dipole description of diffractive dijet and quarkonia production</td>
<td>3</td>
</tr>
<tr>
<td>Discussion session: PDFs, jets, QCD fits, photon</td>
<td>3</td>
</tr>
<tr>
<td>Probing BFKL dynamics in Mueller-Navelet jet production and in very forward J/psi and backward jet production at the LHC</td>
<td>4</td>
</tr>
</tbody>
</table>
Improved theoretical description of Mueller-Navelet jets at LHC .................................. 4
Toward Mueller-Tang jets at Next-to-leading order ......................................................... 4
Multi-jet production in the high energy limit at LHC ....................................................... 4
Unpolarized and linearly-polarized gluon distributions from JIMWLK evolution ............... 4
High Energy QCD at NLO: from light-cone wave function to JIMWLK evolution .......... 4
Very forward energy flow and jets in pp and pA at CMS ............................................. 4
Saturation effects in dijet production within Hybrid factorization .................................. 5
Discussion session: BFKL and saturation .................................................................... 5
EW, jets, and heavy flavour production at LHC .............................................................. 5
New measurements of jets in DIS and extraction of alpha_s at NNLO ......................... 5
Combined measurement of charm and beauty production in DIS and extraction of the charm and beauty quark masses ................................................................. 5
A Very Forward Hadron Spectrometer at the LHC ....................................................... 5
D* meson production in diffractive DIS ....................................................................... 6
Gluonium production .................................................................................................... 6
Prompt proton production in DIS at HERA .................................................................. 6
Discussion session: Jets, heavy quarks, photon, gluonium ........................................ 6
Production of one and two J/psi mesons at the LHC .................................................. 6
Exclusive light meson production at the LHC ............................................................... 6
Small x gluon from b bar and exclusive J/psi production at the LHC ......................... 6
Saturation of the resonance spectrum ......................................................................... 7
Recent results from totem ............................................................................................. 7
Precision REMORM/MBR diffraction predictions confront recent LHC data ............. 7
Hadronization of highly virtual partons: perturbative vs nonperturbative scenarios .... 7
Recent results from LHC ............................................................................................... 7
Deep Inverse of Soft Diffraction ................................................................................ 7
Discussion session: soft QCD and diffraction, vector mesons .................................... 8
Results from the combined CMS and TOTEM data taking and high-mass dilepton and diphoton production with the CMS-TOTEM Precision Proton Spectrometer ................. 8
Anomalous coupling and invisible objects studies ..................................................... 8
Gamma gamma gamma Z anomalous coupling studies .......................... 8
Measurements of exclusive production in ATLAS .............................. 8
Physics prospects and technical status of ATLAS Forward proton detectors .......................... 8
The CT-PPS project .......................... 8
ATLAS Forward Detectors: present and future .......................... 9
Turning the LHC Ring into a Discovery Machine .......................... 9
Discussion session: high mass diffraction and photon exchange processes .......................... 9
A model-independent extension of the Glauber-Velasco model of elastic pp scattering .......................... 9
QCD jets in pp, pA and AA collisions with CMS .......................... 9
Deep inelastic scattering as a probe of entanglement .......................... 9
Inelastic nuclear screening for different secondaries produced in p+Pb collisions at LHC energy .......................... 10
Recent results on photon-photon, photon-nuclear and heavy-ion collisions from ATLAS .......................... 10
Flow and event-by-event fluctuations in pp, pPb and PbPb collisions at CMS .......................... 10
J/Psi production in peripheral AA collisions .......................... 10
VHEeP workshop summary .......................... 10
Discussion session: Heavy ions .......................... 10
Prompt photon production in diffractive photoproduction .......................... 10
Measurement of the particle production properties in ATLAS .......................... 11
Minimum bias and underlying event measurements at CMS .......................... 11
Double parton scattering in CMS .......................... 11
Discussion session: Particle production, final states .......................... 11
Workshop conclusion .......................... 11
CEP results from LHCb .......................... 11
Concerto at Anfiteatro di Ponente .......................... 11
CEP results from LHCb .......................... 12
1
Registration

2
Registration

3
Welcome

PDFs, QCD fits, low x session I / 4

Parton distributions/phenomenology at low x

Corresponding Author: amanda.cooper-sarkar@physics.ox.ac.uk

PDFs, QCD fits, low x session I / 5

Does Nature Know about Perturbation Theory? A Study of HERA Deep Inelastic Scattering Data at Low Q^2

Corresponding Author: volodymyr.myronenko@desy.de

PDFs, QCD fits, low x session I / 6

Higher-twist corrections to gluon TMD factorization

Corresponding Author: balitsky@jlab.org

PDFs, QCD fits, low x session I / 7

CFT at Strong Coupling: From DIS to Inclusive Production

PDFs, QCD fits, low x session II / 8
tba

Corresponding Author: giovanni.chirilli@gmail.com

PDFs, QCD fits, low x session II / 9

XFitter

Corresponding Author: amanda.cooper-sarkar@physics.ox.ac.uk

PDFs, QCD fits, low x session II / 10

High precision measurements of the differential W and Z boson cross section and Z/top pair cross section ratios in ATLAS

Corresponding Author: nataliia.zakharchuk@desy.de

PDFs, QCD fits, low x session II / 11

Spin dependent parton distributions

Corresponding Author: barbara.badelek@cern.ch

PDFs, QCD fits, low x session II / 12

Discussion session: PDFs, QCD fits, low x

Corresponding Authors: amanda.cooper-sarkar@physics.ox.ac.uk, a.d.martin@durham.ac.uk

Jets and final state session I / 13

3-parton production in DIS at small x

Corresponding Author: jamal.jalilian-marian@baruch.cuny.edu

Jets and final state session I / 14

Measurement of the inclusive jet, dijet, and photon production in ATLAS

Corresponding Author: josu.cantero.garcia@cern.ch
Jets and final state session I / 15

Four-jet production in High Energy Factorization plus Parton Showers

Corresponding Author: mirkos.serino@gmail.com

Jets and final state session I / 16

Measurement of inclusive jet, dijet and photon production in CMS

Corresponding Author: deniz.sunar.cerci@cern.ch

Jets and final state session II / 17

PDF results from CMS V+jets measurements

Corresponding Author: achim.geiser@cern.ch

Jets and final state session II / 18

Production of electroweak bosons on association with jets in ATLAS

Corresponding Author: stefania.spagnolo@le.infn.it

Jets and final state session II / 19

Dihadron production, heavy-quark pair production, dijet and multi-jet production

Corresponding Author: francescogiovanni.celiberto@fis.unical.it

Jets and final state session II / 20

Dipole description of diffractive dijet and quarkonia production

Corresponding Author: roman.pasechnik@thep.lu.se

Jets and final state session II / 21
Discussion session: PDFs, jets, QCD fits, photon

Corresponding Authors: amanda.cooper-sarkar@physics.ox.ac.uk, achim.geiser@cern.ch, enrico.tassi@cern.ch, a.d.martin@durham.ac.uk

BFKL and saturation session I / 22

Probing BFKL dynamics in Mueller-Navelet jet production and in very forward J/psi and backward jet production at the LHC

Corresponding Author: lech.szymanowski@ncbj.gov.pl

BFKL and saturation session I / 23

Improved theoretical description of Mueller-Navelet jets at LHC

Corresponding Author: colferai@fi.infn.it

BFKL and saturation session I / 24

Toward Mueller-Tang jets at Next-to-leading order

BFKL and saturation session I / 25

Multi-jet production in the high energy limit at LHC

BFKL and saturation session I / 26

Unpolarized and linearly-polarized gluon distributions from JIMWLK evolution

Corresponding Author: cyrille.marquet@cern.ch

BFKL and saturation session II / 27

High Energy QCD at NLO: from light-cone wave function to JIMWLK evolution
BFKL and saturation session II / 28

**Very forward energy flow and jets in pp and pA at CMS**

*Corresponding Author*: pierre.vanmechelen@ua.ac.be

---

BFKL and saturation session II / 29

**Saturation effects in dijet production within Hybrid factorization**

*Corresponding Author*: tolga.altinoluk@ncbj.gov.pl

---

BFKL and saturation session II / 30

**Discussion session: BFKL and saturation**

*Corresponding Authors*: pierre.vanmechelen@ua.ac.be, cyrille.marquet@cern.ch

---

Jets, heavy quark, final states session I / 31

**EW, jets, and heavy flavour production at LHCb**

*Corresponding Author*: kmueller@physik.uzh.ch

---

Jets, heavy quark, final states session I / 32

**New measurements of jets in DIS and extraction of alpha_s at NNLO**

*Corresponding Author*: shekeln@mail.desy.de

---

Jets, heavy quark, final states session I / 33

**Combined measurement of charm and beauty production in DIS and extraction of the charm and beauty quark masses**

*Corresponding Author*: achim.geiser@cern.ch

---

Jets, heavy quark, final states session I / 34

**A Very Forward Hadron Spectrometer at the LHC**
Corresponding Author: michael.albrow@cern.ch

Jets, heavy quark, final states session II / 35

**D* meson production in diffractive DIS**

Corresponding Author: pierre.vanmechelen@ua.ac.be

Jets, heavy quark, final states session II / 36

**Gluonium production**

Corresponding Author: ugo.gastaldi@cern.ch

Jets, heavy quark, final states session II / 37

**Prompt proton production in DIS at HERA**

Corresponding Author: volodymyr.myronenko@desy.de

Jets, heavy quark, final states session II / 38

**Discussion session: Jets, heavy quarks, photon, gluonium**

Corresponding Authors: enrico.tassi@cern.ch, achim.geiser@cern.ch

Vector meson session / 39

**Production of one and two J/\(\psi\) mesons at the LHC**

Corresponding Author: antoni.szczurek@ifj.edu.pl

Vector meson session / 40

**Exclusive light meson production at the LHC**

Corresponding Author: maciej.trzebinski@cern.ch

Vector meson session / 41
Small x gluon from b bar and exclusive J/psi production at the LHC

Corresponding Author: a.d.martin@durham.ac.uk

Vector meson session / 42

Saturation of the resonance spectrum

Corresponding Author: jenk@bitp.kiev.ua

Soft QCD and diffraction session / 43

Recent results from totem

Corresponding Author: tamas.ferenc.csorgo@cern.ch

Soft QCD and diffraction session / 44

Precision REMORM/MBR diffraction predictions confront recent LHC data

Corresponding Author: konstantin.goulianos@cern.ch

Soft QCD and diffraction session / 45

Hadronization of highly virtual partons: perturbative vs nonperturbative scenarios

Corresponding Author: boris.kopeliovich@usm.cl

Soft QCD and diffraction session / 46

Recent results from LHCf

Corresponding Author: eugenio.berti@cern.ch

Soft QCD and diffraction session / 47

Deep Inverse of Soft Diffraction

Corresponding Author: matti.mikael.mieskolainen@cern.ch
Soft QCD and diffraction session / 48

Discussion session: soft QCD and diffraction, vector mesons

Corresponding Authors: antoni.szczurek@ifj.edu.pl, michael.albrow@cern.ch

Diffraction at high lumi and photon exchange session I / 49

Results from the combined CMS and TOTEM data taking and high-mass dilepton and diphoton production with the CMS-TOTEM Precision Proton Spectrometer

Corresponding Author: mjimurray@ku.edu

Diffraction at high lumi and photon exchange session I / 50

Anomalous coupling and invisible objects studies

Corresponding Author: christophe.royon@cern.ch

Diffraction at high lumi and photon exchange session I / 51

Gamma gamma gamma Z anomalous coupling studies

Corresponding Author: c.baldenegro@cern.ch

Diffraction at high lumi and photon exchange session I / 52

Measurements of exclusive production in ATLAS

Corresponding Author: roberto.iuppa@cern.ch

Diffraction at high lumi and photon exchange session II / 53

Physics prospects and technical status of ATLAS Forward proton detectors

Corresponding Author: benedetto.giacobbe@cern.ch

Diffraction at high lumi and photon exchange session II / 54
The CT-PPS project

Corresponding Author: valentina.sola@cern.ch

Diffraction at high lumi and photon exchange session II / 55

ATLAS Forward Detectors: present and future

Corresponding Author: laura.fabbri@cern.ch

Turning the LHC Ring into a Discovery Machine

Corresponding Author: risto.orava@cern.ch

Discussion session: high mass diffraction and photon exchange processes

Corresponding Authors: maciej.trzebinski@cern.ch, christophe.royon@cern.ch

Heavy ion session I / 58

A model-independent extension of the Glauber-Velasco model of elastic pp scattering

Corresponding Author: tamas.ferenc.csorgo@cern.ch

Heavy ion session I / 59

QCD jets in pp, pA and AA collisions with CMS

Corresponding Author: matthew.nguyen@cern.ch

Heavy ion session I / 60

Deep inelastic scattering as a probe of entanglement

Corresponding Author: dmitri131@gmail.com
Inelastic nuclear screening for different secondaries produced in p+Pb collisions at LHC energy

Corresponding Author: carlos.merino@usc.es

Recent results on photon-photon, photon-nuclear and heavy-ion collisions from ATLAS

Corresponding Author: martin.spousta@cern.ch

Flow and event-by-event fluctuations in pp, pPb and PbPb collisions at CMS

Corresponding Author: damir.devetak@cern.ch

J/Psi production in peripheral AA collisions

VHEeP workshop summary

Corresponding Author: allen.christopher.caldwell@cern.ch

Discussion session: Heavy ions

Corresponding Authors: jamal.jalilian-marian@baruch.cuny.edu, matthew.nguyen@cern.ch

Prompt photon production in diffractive photoproduction -
Corresponding Authors: alessia.bruni@bo.infn.it, marcella.capua@cern.ch

Particle production and final state session I / 68

Measurement of the particle production properties in ATLAS
Corresponding Author: alessia.bruni@bo.infn.it

Particle production and final state session I / 69

Minimum bias and underlying event measurements at CMS
Corresponding Author: salim.cerci@cern.ch

Particle production and final state session I / 70

Double parton scattering in CMS
Corresponding Author: deniz.sunar.cerci@cern.ch

Particle production and final state session II / 71

Discussion session: Particle production, final states
Corresponding Authors: deniz.sunar.cerci@cern.ch, mjmurray@ku.edu

72

Workshop conclusion

Diffraction at high lumi and photon exchange session II / 73

CEP results from LHCb
Corresponding Author: katharina.mueller@sub.uni-goettingen.de

74

Concerto at Anfiteatro di Ponente
Performance of Orchestra Filarmonica Pugliese

Vector meson session / 75

CEP results from LHCb

Corresponding Author: kmueller@physik.uzh.ch