

Hadron Structure and QCD - 2016 (HSQCD'2016)



Report of Contributions

Contribution ID: 1

Type: **not specified**

New approach in separate experimental determination of baryon EM form factors in time-like region

Presenter: DUBNICKA, Stanislav (Institute of Physics)

Session Classification: Monday Morning

Contribution ID: 2

Type: **not specified**

Opening

Monday, 27 June 2016 11:50 (10 minutes)

Session Classification: Monday Morning

Contribution ID: 3

Type: **not specified**

Recent advances in proton form factors

Monday, 27 June 2016 12:00 (30 minutes)

Presenter: TOMASI-GUSTAFSSON, Egle (CEA)

Session Classification: Monday Morning

Contribution ID: 4

Type: **not specified**

Proton radius precision measurement in electron-proton scattering

Monday, 27 June 2016 12:30 (30 minutes)

Presenter: VOROBYEV, Alexei (B.P. Konstantinov Petersburg Nuclear Physics Institute - PNPI
)

Session Classification: Monday Morning

Contribution ID: 5

Type: **not specified**

New approach in separate experimental determination of baryon EM form factors in time-like region

Monday, 27 June 2016 14:30 (30 minutes)

Presenter: DUBNICKA, Stanislav (Institute of Physics)

Session Classification: Monday Afternoon

Contribution ID: 6

Type: **not specified**

Proton charge radius and the proton electromagnetic form factors

Monday, 27 June 2016 15:00 (30 minutes)

Presenter: BARTOS, Erik (Institute of Physics of the Slovak Academy of Sciences)

Session Classification: Monday Afternoon

Contribution ID: 7

Type: **not specified**

Nucleon structure studies at HERMES experiment

Friday, 1 July 2016 11:30 (30 minutes)

Presenter: KOROTKOV, Vladislav

Session Classification: Friday Morning

Contribution ID: 8

Type: **not specified**

Symmetries of massive and massless neutrinos

Monday, 27 June 2016 16:30 (30 minutes)

Presenter: KIM, Young S (Univ. of Maryland)

Session Classification: Monday Evening

Contribution ID: 9

Type: **not specified**

Neutrino-4 experiment on search for sterile neutrino with multi-section model of detector

Monday, 27 June 2016 17:00 (30 minutes)

Presenter: SEREBROV, Anatoly (PNPI NRC KI)

Session Classification: Monday Evening

Contribution ID: **10**

Type: **not specified**

Euler-Lagrange equations for effective high-energy theory in QCD and gravity

Tuesday, 28 June 2016 09:30 (30 minutes)

Presenter: LIPATOV, Lev (Petersburg Nuclear Physics Institute)

Session Classification: Tuesday Morning

Contribution ID: **11**

Type: **not specified**

Properties of the Discrete BFKL Pomeron

Tuesday, 28 June 2016 10:00 (20 minutes)

Presenter: ROSS, Douglas (Southampton University)

Session Classification: Tuesday Morning

Contribution ID: 12

Type: **not specified**

BFKL Approach to Scattering Amplitudes

Tuesday, 28 June 2016 10:20 (20 minutes)

Presenter: PRYGARIN, Alexander (Ariel University)

Session Classification: Tuesday Morning

Contribution ID: 13

Type: **not specified**

Manifestations for BFKL evolution effects at collider energies

Presenter: KIM, Victor (St. Petersburg Nuclear Physics Institute - PNPI, Gatchina)

Session Classification: Tuesday Morning

Contribution ID: 14

Type: **not specified**

On Hermitian separability of NLO adjoint BFKL eigenvalue in super Yang-Mills theory

Tuesday, 28 June 2016 10:40 (20 minutes)

Presenter: BONDARENKO, Sergey (Ariel University)

Session Classification: Tuesday Morning

Contribution ID: 15

Type: **not specified**

Towards NLO computations in the Parton Reggeization Approach

Session Classification: Tuesday Morning

Contribution ID: 16

Type: **not specified**

Pair correlations in D-meson production at the LHCb within the framework of parton Reggeization approach

Authors: A. V., Karpishkov; V. A., Saleev

Presenters: A. V., Karpishkov; V. A., Saleev

Session Classification: Tuesday Morning

Contribution ID: 17

Type: **not specified**

Model for non-perturbative inputs for parton distributions in KT-Factorization

Presenter: ERMOLAEV, Boris (Ioffe Physical Technical Institute of Russian Academy of Science)

Session Classification: Tuesday Morning

Contribution ID: **18**

Type: **not specified**

Heavy Flavour results from the ATLAS experiment

Presenter: MAEVSKIY, Artem (M.V. Lomonosov Moscow State University (RU))

Session Classification: Tuesday Morning

Contribution ID: **19**

Type: **not specified**

Latest Higgs Physics results from the ATLAS experiment

Tuesday, 28 June 2016 14:30 (30 minutes)

Presenter: BUZATU, Adrian (University of Glasgow (GB))

Session Classification: Tuesday Afternoon

Contribution ID: 20

Type: **not specified**

Highlights of top quark physics measurements at ATLAS

Presenter: CERRITO, Lucio (University and INFN Rome 2 (ITALY))

Session Classification: Tuesday Afternoon

Contribution ID: 21

Type: **not specified**

Search for new exotic phenomena with the ATLAS detector at the LHC

Tuesday, 28 June 2016 15:00 (30 minutes)

Presenter: LEVCHENKO, Mikhail (B.P. Konstantinov Petersburg Nuclear Physics Institute - PNPI)
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Session Classification: Tuesday Afternoon

Contribution ID: 22

Type: **not specified**

SUSY searches with the ATLAS detector

Tuesday, 28 June 2016 15:30 (30 minutes)

Presenter: DI SIMONE, Andrea (Albert-Ludwigs-Universitaet Freiburg (DE))

Session Classification: Tuesday Afternoon

Contribution ID: 23

Type: **not specified**

Search for electron EDM

Tuesday, 28 June 2016 16:20 (30 minutes)

Presenter: EZHOV, Victor (PNPI NRC KI)

Session Classification: Tuesday Evening

Contribution ID: 24

Type: **not specified**

Composite Higgs sector from vector-like techni-QCD

Tuesday, 28 June 2016 16:50 (25 minutes)

Presenter: PASECHNIK, Roman (Lund University)

Session Classification: Tuesday Evening

Contribution ID: 25

Type: **not specified**

QCD uncertainties for new BSM neutral particles in GeV range

Tuesday, 28 June 2016 17:15 (25 minutes)

Presenter: GORBUNOV, Dmitry (Russian Academy of Sciences (RU))

Session Classification: Tuesday Evening

Contribution ID: 26

Type: **not specified**

Manifestations for BFKL evolution effects at collider energies

Tuesday, 28 June 2016 11:20 (20 minutes)

Presenter: KIM, Victor (St. Petersburg Nuclear Physics Institute - PNPI, Gatchina)

Session Classification: Tuesday Morning

Contribution ID: 27

Type: **not specified**

Pair correlations in D-meson production at the LHCb within the framework of parton Reggeization approach

Tuesday, 28 June 2016 11:40 (20 minutes)

Presenter: KARPISHKOV, Anton (Samara State University)

Session Classification: Tuesday Morning

Contribution ID: 28

Type: **not specified**

Towards NLO computations in the Parton Reggeization Approach

Tuesday, 28 June 2016 12:00 (20 minutes)

The Parton Reggeization Approach (PRA) is the hybrid scheme of k_T -factorization which combines the gauge-invariant definition of hard-scattering matrix elements with Reggeized (off-shell) initial state partons, derived using L. N. Lipatov's effective theory for the Regge limit of QCD, and the Kimber-Martin-Ryskin scheme for the determination of unintegrated PDFs. The LO PRA description of multiscale observables, sensitive to the multiple hard emissions (dijet azimuthal decorrelations, p_T -spectra, polarization observables in Drell-Yan) was rather successful. However, the full NLO calculations are required to describe the observables, sensitive to soft emissions and to test the stability of the description w. r. t. NLO corrections.

The issues of double-counting subtraction for the real NLO corrections, and rapidity divergences for virtual NLO corrections will be described in the talk. The different regularization schemes for rapidity divergences will be discussed. The application of the covariant regularization scheme by [A. S. Vera, M. Hentschinski, 2012] to the case of Reggeized quarks will be presented.

Presenter: NEFEDOV, Maxim (Samara State University)

Session Classification: Tuesday Morning

Contribution ID: 29

Type: **not specified**

Model for non-perturbative inputs for parton distributions in KT-Factorization

Tuesday, 28 June 2016 12:20 (20 minutes)

Presenter: ERMOLAEV, Boris (Ioffe Physical Technical Institute of Russian Academy of Science)

Session Classification: Tuesday Morning

Contribution ID: **30**

Type: **not specified**

Heavy Flavour results from the ATLAS experiment

Friday, 1 July 2016 10:30 (20 minutes)

Presenter: MAEVSKIY, Artem (M.V. Lomonosov Moscow State University (RU))

Session Classification: Friday Morning

Contribution ID: 31

Type: **not specified**

Chiral imbalance in QCD and QCD inspired models

Monday, 27 June 2016 15:30 (30 minutes)

Presenter: ANDRIANOV, Alexander (Saint Petersburg State University)

Session Classification: Monday Afternoon

Contribution ID: 32

Type: **not specified**

Holographic Wilson loops in anisotropic Quark gluon plasma

Wednesday, 29 June 2016 09:50 (20 minutes)

Presenter: AGEEV, Dmitry (Steklov MI)

Session Classification: Wednesday Morning

Contribution ID: 33

Type: **not specified**

Correlation measurement of particle interaction at STAR

Wednesday, 29 June 2016 10:10 (30 minutes)

Presenter: LEDNICKY, Richard (Joint Institute for Nuclear Research, Dubna, Russia)

Session Classification: Wednesday Morning

Contribution ID: 34

Type: **not specified**

Recent results of elliptic flow and femtoscopy measurements from STAR

Wednesday, 29 June 2016 10:40 (20 minutes)

Presenter: NIGMATKULOV, Grigory (National Research Nuclear University MEPhI)

Session Classification: Wednesday Morning

Contribution ID: 35

Type: **not specified**

Nuclear shadowing in photoproduction of light and heavy vector mesons in ultraperipheral collisions of heavy ions at the LHC

Wednesday, 29 June 2016 09:30 (20 minutes)

Presenter: GUZEY, Vadim (PNPI NRC KI)

Session Classification: Wednesday Morning

Contribution ID: 36

Type: **not specified**

Search for new symmetries: self-similarity of strangeness production

Wednesday, 29 June 2016 11:50 (20 minutes)

Presenter: TOKAREV, Mikhail (Joint Institute for Nuclear Research)

Session Classification: Wednesday Morning

Contribution ID: 37

Type: **not specified**

45-year-long way to the cold superdense baryonic matter

Wednesday, 29 June 2016 11:20 (30 minutes)

Presenter: CHIMANSKII, Stepan (Joint Institute for Nuclear Research (JINR))

Session Classification: Wednesday Morning

Contribution ID: **38**

Type: **not specified**

Pi0 production in Cu+Au collisions at 200 GeV with PHENIX

Wednesday, 29 June 2016 12:10 (20 minutes)

Presenter: ZHARKO, Sergey (SPbPU)

Session Classification: Wednesday Morning

Contribution ID: 39

Type: **not specified**

HARDPING MC generator for proton and lepton collisions with nuclei

Wednesday, 29 June 2016 12:30 (20 minutes)

Presenter: SUETIN, Daniil (SPbPU & PNPI NRC KI)

Session Classification: Wednesday Morning

Contribution ID: 40

Type: **not specified**

Non-Abelian vortex in four dimensions as a critical string on a conifold

Thursday, 30 June 2016 09:30 (30 minutes)

Presenter: YUNG, Alexei (Petersburg Nuclear Physics Institute)

Session Classification: Thursday Morning

Contribution ID: 41

Type: **not specified**

Gauge invariant approach to quark dynamics with polygonal Wilson lines

Thursday, 30 June 2016 10:00 (30 minutes)

Presenter: SAZDJIAN, Hagop (University Paris-Sud)

Session Classification: Thursday Morning

Contribution ID: 42

Type: **not specified**

Puzzling production of heavy flavored hadrons

Thursday, 30 June 2016 10:30 (30 minutes)

The masses of cryptoexotic pentaquarks with hidden beauty are estimated phenomenologically using the results by the LHCb collaboration which discovered recently the cryptoexotic pentaquarks with hidden charm [1]. The expected masses of the hidden beauty pentaquarks are about 10.8 GeV and 10.7 GeV in the limit of some kind of heavy quark symmetry [2]. The states with hidden strangeness considered in similar way have masses about 2.37 GeV and 2.30 GeV, by several hundreds of MeV higher than states discussed previously in connection with the relatively light positive strangeness pentaquark Θ^+ [3, 4]. Empirical data on spectra of pentaquarks can be used to get information about quarkonia interaction with nucleons. The results obtained for the case of heavy flavors are in fair agreement with model of isospin (pion) exchange between flavored baryons and anti-flavored vector mesons, proposed by Karliner and Rosner, and in qualitative agreement with the bound state version of the chiral soliton model. The influence of the change of soliton dimension (squeezing) on the energy of quantized states is investigated.

Presenter: KOPELIOVICH, Boris (UTFSM)**Session Classification:** Thursday Morning

Contribution ID: 43

Type: **not specified**

High precision data on pion-proton elastic cross-section

Thursday, 30 June 2016 16:20 (30 minutes)

EPECUR experiment finished processing of pion-nucleon data recorded before the fire at the ITEP proton synchrotron in 2011. More than 9000 cross section data points with extraordinary accuracy of 1% are presented both for positive and negative pion scattering on protons in the energy range 820-1330 MeV/c. The data are arranged in 2 degree angular intervals with approximately 5 MeV/c energy step.

Negative pion-proton results reveal hints to a narrow resonance-like structure near 1680 MeV. Possible explanations of such effect are discussed in the talk.

A search for narrow structures was also performed in inclusive inelastic data with one or two charged tracks in the acceptance of the setup. Yet no effect of any significance is observed.

Today EPECUR nearly finished preparations for the second stage of the experiment and is considering several possibilities for continuation of the experiment with medium energy pion beams.

Presenter: SVIRIDA, Dmitry (ITEP)

Session Classification: Thursday Evening

Contribution ID: 44

Type: **not specified**

Search for narrow resonances in πp elastic scattering from the EPECUR experiment

Thursday, 30 June 2016 16:50 (30 minutes)

Presenter: KOZLENKO, Nikolay (PNPI NRC KI)

Session Classification: Thursday Evening

Contribution ID: 45

Type: **not specified**

Numerical values of f^F , f^D , f^S coupling constants in SU(3) invariant interaction Lagrangian of vector-meson nonet with $1/2^+$ octet baryons

Presenter: ADAMUSCIN, Cyril (Slovak Academy of Sciences (SK))

Session Classification: Thursday Evening

Contribution ID: 46

Type: not specified

Mass spectra of singly bottom baryon Ω_b^- - using the Hypercentral Constituent Quark Model

Thursday, 30 June 2016 17:20 (20 minutes)

The mass spectra of singly bottom baryon Ω -b is determined using the Hypercentral Constituent Quark Model [1]. We first determine ground state masses and then established the radial(L=0) and orbital (L=1,2,3) excited state masses. The confinement potential is assumed in the hyper central co-ordinates of the coulomb plus power potential for un- equal masses. We also introduced first order correction to the potential. $\Omega - b$ with quark content ssb has SU(3) 6 F symmetry. Our calculated mass spectra for $\Omega - b$ is obtained by varying potential index ν value from 0.5 to 2.0. Only ground state is found till now experimentally [2] $m_{\Omega - b} = 6048.8 \pm 3.2$ MeV with J P = $\frac{1}{2}^+$. Recent Lattice QCD re- sults [3] are $m_{\Omega - (1/2)^+} = 6056(47)(20)$ MeV and $m_{\Omega - (3/2)^+} = 6085(47)(20)$ are close to b b our results $m_{\Omega - (1/2)^+} = 6048$ MeV and $m_{\Omega - (3/2)^+} = 6086$ MeV at potential index $\nu = 1.0$. b b Radially excited states are calculate for J P = calculated for $\frac{5}{2}^+ + \frac{7}{2}^+ + \frac{1}{2}^- + \frac{3}{2}^- + \frac{5}{2}^- + \frac{7}{2}^- + \frac{9}{2}^-$, $\frac{1}{2}^+$, $\frac{3}{2}^+$, $\frac{5}{2}^+$, $\frac{7}{2}^+$, $\frac{9}{2}^+$, $\frac{1}{2}^-$, $\frac{3}{2}^-$, $\frac{5}{2}^-$, $\frac{7}{2}^-$, $\frac{9}{2}^-$ and orbitally excited states are at $\nu=1.0$. We also plot Regge trajectory($M^2 \rightarrow n$) for higher excited states. We also compare our results with other theoretical models [4, 5, 6] and they are in good agreement.

Presenter: RAI, Ajay Kumar (Sardar Vallabhbhai Nat. Inst. of Technology-Surat)

Session Classification: Thursday Evening

Contribution ID: 47

Type: **not specified**

Spectroscopy and decay properties of D meson

Thursday, 30 June 2016 17:40 (20 minutes)

Presenter: KHER, Virendrasinh (Polytechnic Maharaja Sayajirao Univ. of Baroda)

Session Classification: Thursday Evening

Contribution ID: 48

Type: **not specified**

Charmonium spectroscopy

Presenter: DEVLANI, Nayneshkumar (Polytechnic, The M S University of Baroda)

Session Classification: Thursday Evening

Contribution ID: 49

Type: **not specified**

Compact pentaquark structure

Session Classification: Thursday Afternoon

Contribution ID: 50

Type: **not specified**

Simple estimates of the masses of pentaquarks with hidden beauty or strangeness

Thursday, 30 June 2016 14:30 (30 minutes)

Presenter: KOPELIOVICH, Vladimir (INR RAS)

Session Classification: Thursday Afternoon

Contribution ID: 51

Type: **not specified**

Legendre analysis of hadronic reactions

Thursday, 30 June 2016 15:00 (20 minutes)

Modern experimental facilities and detectors provide tremendous volume of detailed data. For double-hadron reactions, they are usually presented as a set of many panels for, e.g., angular distributions at many particular energies. Such presentation loses visuality, and its physical content may be extracted only through some model-dependent treatment. Instead, we suggest to use expansion into the Legendre series with a relatively small number of essential coefficients. This approach was applied in several experimental investigations and demonstrated its higher visualization. The talk presents some general properties of the Legendre coefficients which allow to extract physical information even without any model-dependent assumptions.

Presenter: AZIMOV, Yakov**Session Classification:** Thursday Afternoon

Contribution ID: 52

Type: **not specified**

The Bonn-Gatchina analysis of the pion-nucleon and photon-nucleon collision reactions

Thursday, 30 June 2016 15:20 (20 minutes)

Presenter: SARANTSEV, Andrey (Bonn University)

Session Classification: Thursday Afternoon

Contribution ID: 53

Type: **not specified**

Search for light-quark exotics at GRAAL

Thursday, 30 June 2016 15:40 (20 minutes)

Presenter: KUZNETSOV, Viacheslav (Kyungpook National University)

Session Classification: Thursday Afternoon

Contribution ID: 54

Type: **not specified**

Recent highlights of Electroweak and QCD studies with the ATLAS detector

Tuesday, 28 June 2016 12:40 (30 minutes)

Presenter: BALDIN, Evgenii (Budker Institute of Nuclear Physics (RU))

Session Classification: Tuesday Morning

Contribution ID: 55

Type: **not specified**

Precision measurements with W and Z/gamma* bosons with the ATLAS detector

Friday, 1 July 2016 10:50 (20 minutes)

Presenter: ZAKHARCHUK, Nataliia (Deutsches Elektronen-Synchrotron (DE))

Session Classification: Friday Morning

Contribution ID: 56

Type: **not specified**

Analyzing New Physics in the semileptonic decay of B-meson into D-meson

Friday, 1 July 2016 12:00 (20 minutes)

Presenter: TRAN, Chien Thang (JINR)

Session Classification: Friday Morning

Contribution ID: 57

Type: **not specified**

Leptonic B meson decays with emission of a photon in the final state

Friday, 1 July 2016 12:20 (20 minutes)

Presenter: KOZACHUK, Anastasiia (M.V. Lomonosov Moscow State University (RU))

Session Classification: Friday Morning

Contribution ID: 58

Type: **not specified**

Fundamental fermions as compositions of massless preons: confinement mechanism beyond the standard model

Friday, 1 July 2016 12:40 (20 minutes)

Presenter: GONCHAROV, Yuri (SPbPU)

Session Classification: Friday Morning

Contribution ID: 59

Type: **not specified**

Impact Factors for Reggeon-Gluon Transitions in the Infrared Region

Friday, 1 July 2016 14:30 (30 minutes)

Presenter: FADIN, Victor (Budker Institute of Nuclear Physics)

Session Classification: Friday Afternoon

Contribution ID: **60**

Type: **not specified**

Differential equations approach to perturbative calculations

Friday, 1 July 2016 15:00 (30 minutes)

Presenter: LEE, Roman (Budker Institute of Nuclear Physics)

Session Classification: Friday Afternoon

Contribution ID: **61**

Type: **not specified**

Gell-Mann–Low Equation for Nonabelian Gauge Theories

Friday, 1 July 2016 15:30 (30 minutes)

Presenter: Dr PIVOVAROV, Grigory (Russian Academy of Sciences (RU))

Session Classification: Friday Afternoon

Contribution ID: 62

Type: **not specified**

Quantum critical Higgs

Tuesday, 28 June 2016 17:40 (25 minutes)

Presenter: LEE, Seung Joon (Korea University (KR))

Session Classification: Tuesday Evening

Contribution ID: 63

Type: **not specified**

Exclusive J/ψ process tamed to probe the low x gluon: power correction

Thursday, 30 June 2016 12:30 (20 minutes)

Presenter: RYSKIN, Mikhail (Petersburg Nuclear Physics Institute)

Session Classification: Thursday Morning

Contribution ID: 64

Type: **not specified**

Measurement of the inelastic cross section at 13TeV

Thursday, 30 June 2016 11:20 (30 minutes)

Presenter: SEN, Sercan (Istanbul Technical University (TR))

Session Classification: Thursday Morning

Contribution ID: 65

Type: **not specified**

Soft and Hard Diffraction at 7 TeV observed with CMS

Thursday, 30 June 2016 11:50 (20 minutes)

Presenter: KUZNETSOVA, Katerina (B.P. Konstantinov Petersburg Nuclear Physics Institute - PNPI)
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Session Classification: Thursday Morning

Contribution ID: 66

Type: **not specified**

Recent results on diffraction at HERA

Thursday, 30 June 2016 12:10 (20 minutes)

Presenter: VAZDIK, Iakov (Lebedev Physical Institute)

Session Classification: Thursday Morning

Contribution ID: 67

Type: **not specified**

Two scales in Bose-Einstein hadron correlations

Thursday, 30 June 2016 12:50 (20 minutes)

Presenter: RYSKIN, Mikhail (Petersburg Nuclear Physics Institute)

Session Classification: Thursday Morning

Contribution ID: **68**

Type: **not specified**

HARDPING MC generator for proton and lepton collisions with nuclei

Session Classification: Friday Morning

Contribution ID: **69**

Type: **not specified**

talk1

Session Classification: test1