

Excited QCD 2013

Sunday, 3 February 2013 - Saturday, 9 February 2013

Bjelasnica Mountain, Sarajevo



Book of Abstracts

Contents

| | |
|---------------------------------------------------------------------------------------------------------------|---|
| Scalar mesons and tetraquarks from twisted mass lattice QCD | 1 |
| Properties and composition of the $f_0(500)$ resonance | 1 |
| Light Hadron Physics at KLOE and KLOE-2 | 1 |
| Study of the K^+K^- final state interaction in proton – proton and electron – positron collisions | 1 |
| Light quark masses in multi-quark interactions | 1 |
| Gauge Fixing in Lattice QCD on Multi-GPUs | 1 |
| Meson Spectroscopy at CLAS12 | 1 |
| The NICA project at JINR, Dubna | 2 |
| The search for glueballs and hybrids | 2 |
| Future plans and perspectives for hadronic physics at the INFN Frascati National Laboratory | 2 |
| Hadronic contributions to the muon $g-2$ | 2 |
| Mesons in a Bethe-Salpeter approach in Rainbow-Ladder | 2 |
| Flow in p-Pb collisions at the LHC | 2 |
| Quantifying initial state fluctuations in heavy ion collisions | 2 |
| Latest QCD results from the ALICE experiment | 2 |
| Geometrical scaling in high energy collisions and its breaking | 2 |
| Particle Production at HERA | 3 |
| Lattice QCD based equation of state at finite baryon density | 3 |
| A First Estimate of Triply Heavy Baryon Masses from the pNRQCD Perturbative Static Potential | 3 |
| Latest QCD results on p+p collisions from CMS | 3 |
| Latest QCD results on Pb-Pb collisions from CMS | 3 |
| Event-by-event fluctuations and the correlation between early and late emitted particles | 3 |

| | |
|----------------------------------------------------------------------------------------------------------------------------------------|---|
| Tensor meson photoproduction on proton through the final state meson-meson interactions | 3 |
| $f_0(1370)$ and spectroscopy with glueballs | 3 |
| Scalar mesons and tetraquarks from twisted mass lattice QCD | 4 |
| Meson vacuum phenomenology in a three-flavor linear sigma model with (axial-)vector mesons | 4 |
| Glueballs in the Bethe-Salpeter Formalism | 4 |
| Hadron resonances from lattice QCD | 4 |
| Scalar mesons, $\pi\pi$ D-wave photoproduction and threshold parameters - all from the Roy like dispersion relations | 4 |
| Quarkonia suppression in quark-gluon plasma | 4 |
| QCD with two light dynamical Chirally Improved quarks | 4 |
| Calculating the analytic structure of QFT Green's functions on GPUs | 4 |
| Low mass scalar mesons in a simple effective model | 4 |
| Phenomenology of the Scalar-Isoscalar Resonances $f_0(1370)$, $f_0(1500)$ and $f_0(1710)$. . | 5 |
| Center Symmetry and Confinement | 5 |
| Differentiating between Δ and Y-string confinement: Can one see the difference in baryon spectra? | 5 |
| Simulation of Gauge-Higgs models using the worm algorithm | 5 |
| Restoration of axial symmetry at finite temperature and its connection with restoration of chiral symmetry and deconfinement | 5 |
| Heavy Ion Jets Measured by ATLAS | 5 |
| The role of the quark-gluon vertex in the QCD phase transition | 5 |
| Eta' multiplicity and the Witten-Veneziano relation at finite temperature | 5 |
| Inverse Magnetic Catalysis in dense matter | 6 |
| QCD-like theories under extreme conditions | 6 |
| QCD-like theories under extreme conditions | 6 |
| From field theory to superfluid hydrodynamics of dense quark matter | 6 |
| Mesonic correlations in non-local NJL - status report | 6 |
| Development of the Bonn-Gatchina partial wave analysis method and search for parity partners | 6 |
| Excited Hadrons, Heavy Quarks and QCD thermodynamics | 6 |

| | |
|-----------------------------------------------------------------------------------------------|---|
| Hadron Production in ISR and 2-photon annihilations at BABAR | 6 |
| Nucleon excited states | 7 |
| Odd parity dynamically generated baryon resonances with heavy flavor | 7 |
| Study of tetraquark system from meson-meson scattering with a color flip-flop model | 7 |
| Precision tests of QCD at HERA | 7 |
| Strange and charm meson masses from twisted mass lattice QCD | 7 |
| Recent results on $\Upsilon(5S)$ decays at Belle | 7 |
| Dilepton production in pion-nucleon collision | 7 |
| Overview of physics at FAIR | 7 |
| Opening Remarks | 7 |

1

Scalar mesons and tetraquarks from twisted mass lattice QCD

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We study the light scalar mesons $a_0(980)$ and κ using $N_f = 2+1+1$ flavor twisted mass lattice QCD. In order to probe the internal structure of these scalar mesons, and in particular to identify, whether a sizeable tetraquark component is present, we use a large set of operators, including diquark-antidiquark, mesonic molecule and two-meson operators. We find that the low-lying states overlap essentially exclusively with two-meson states. This indicates that in the channels investigated no tightly bound four quark states of either molecular or diquark-antidiquark type exist.

59

Properties and composition of the $f_0(500)$ resonance

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60

Light Hadron Physics at KLOE and KLOE-2

61

Study of the K^+K^- final state interaction in proton – proton and electron – positron collisions

62

Light quark masses in multi-quark interactions

63

Gauge Fixing in Lattice QCD on Multi-GPUs

64

Meson Spectroscopy at CLAS12

65

The NICA project at JINR, Dubna

66

The search for glueballs and hybrids

67

Future plans and perspectives for hadronic physics at the INFN Frascati National Laboratory

68

Hadronic contributions to the muon $g-2$

69

Mesons in a Bethe-Salpeter approach in Rainbow-Ladder

70

Flow in p-Pb collisions at the LHC

71

Quantifying initial state fluctuations in heavy ion collisions

72

Latest QCD results from the ALICE experiment

73

Geometrical scaling in high energy collisions and its breaking

74

Particle Production at HERA

75

Lattice QCD based equation of state at finite baryon density

76

A First Estimate of Triply Heavy Baryon Masses from the pN-RQCD Perturbative Static Potential

77

Latest QCD results on p+p collisions from CMS

78

Latest QCD results on Pb-Pb collisions from CMS

79

Event-by-event fluctuations and the correlation between early and late emitted particles

80

Tensor meson photoproduction on proton through the final state meson-meson interactions

81

 $f_0(1370)$ and spectroscopy with glueballs

82

Scalar mesons and tetraquarks from twisted mass lattice QCD

83

Meson vacuum phenomenology in a three-flavor linear sigma model with (axial-)vector mesons

84

Glueballs in the Bethe-Salpeter Formalism

85

Hadron resonances from lattice QCD

86

Scalar mesons, ρ D-wave photoproduction and threshold parameters - all from the Roy like dispersion relations

87

Quarkonia suppression in quark-gluon plasma

88

QCD with two light dynamical Chirally Improved quarks

89

Calculating the analytic structure of QFT Green's functions on GPUs

90

Low mass scalar mesons in a simple effective model

91

Phenomenology of the Scalar-Isoscalar Resonances $f_0(1370)$, $f_0(1500)$ and $f_0(1710)$

92

Center Symmetry and Confinement

93

Differentiating between Δ and Y-string confinement: Can one see the difference in baryon spectra?

94

Simulation of Gauge-Higgs models using the worm algorithm

95

Restoration of axial symmetry at finite temperature and its connection with restoration of chiral symmetry and deconfinement

96

Heavy Ion Jets Measured by ATLAS

97

The role of the quark-gluon vertex in the QCD phase transition

98

Eta' multiplicity and the Witten-Veneziano relation at finite temperature

99

Inverse Magnetic Catalysis in dense matter

100

QCD-like theories under extreme conditions

101

QCD-like theories under extreme conditions

102

From field theory to superfluid hydrodynamics of dense quark matter

103

Mesonic correlations in non-local NJL - status report

104

Development of the Bonn-Gatchina partial wave analysis method and search for parity partners

105

Excited Hadrons, Heavy Quarks and QCD thermodynamics

106

Hadron Production in ISR and 2-photon annihilations at BABAR

107

Nucleon excited states

108

Odd parity dynamically generated baryon resonances with heavy flavor

109

Study of tetraquark system from meson-meson scattering with a color flip-flop model

110

Precision tests of QCD at HERA

111

Strange and charm meson masses from twisted mass lattice QCD

112

Recent results on $\Upsilon(5S)$ decays at Belle

113

Dilepton production in pion-nucleon collision

114

Overview of physics at FAIR

117

Opening Remarks