First workshop on ”Perceiving the Emergence of Hadron Mass through AMBER@CERN” (EHM2020/1)

Monday, 30 March 2020 - Thursday, 2 April 2020

Book of Abstracts
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to the workshop</td>
<td>1</td>
</tr>
<tr>
<td>Measurable Expressions of EHM</td>
<td>1</td>
</tr>
<tr>
<td>On the hadron mass decomposition</td>
<td>1</td>
</tr>
<tr>
<td>Meson Structure: Drell-Yan session</td>
<td>1</td>
</tr>
<tr>
<td>Drell-Yan measurement at AMBER - Studying the hadrons structure</td>
<td>1</td>
</tr>
<tr>
<td>Pion parton distribution functions in a symmetry-preserving approach</td>
<td>1</td>
</tr>
<tr>
<td>Pion and Kaon Valence-Quark Parton Distributions from Lattice QCD</td>
<td>1</td>
</tr>
<tr>
<td>Structure of Mesons and its impact on Baryons one</td>
<td>1</td>
</tr>
<tr>
<td>Pion structure in Nambu–Jona-Lasinio: phenomenology</td>
<td>2</td>
</tr>
<tr>
<td>Parton distribution functions and beyond</td>
<td>2</td>
</tr>
<tr>
<td>Pion and Kaon parton distributions from their light-front wave functions</td>
<td>2</td>
</tr>
<tr>
<td>The structure of pion from first-principles calculation in lattice QCD</td>
<td>2</td>
</tr>
<tr>
<td>3D imaging of pion and kaon on the light front</td>
<td>2</td>
</tr>
<tr>
<td>Calculation of pion/kaon-nucleus induced Drell-Yan process from a basis light-front approach</td>
<td>2</td>
</tr>
<tr>
<td>Charmonium measurements with AMBER – a tool for accessing the meson PDFs</td>
<td>3</td>
</tr>
<tr>
<td>Constraining pion PDFs with Jpsi production</td>
<td>3</td>
</tr>
<tr>
<td>Quark mass function from a OGE-type interaction in Minkowski space</td>
<td>3</td>
</tr>
<tr>
<td>Prompt photon production and diffractive scattering at AMBER</td>
<td>3</td>
</tr>
<tr>
<td>Hadron Spectroscopy at AMBER</td>
<td>3</td>
</tr>
<tr>
<td>Spectroscopy via Lattice QCD</td>
<td>3</td>
</tr>
<tr>
<td>An Experimental Observable to Trace the Mass from pQCD to Strong QCD</td>
<td>4</td>
</tr>
<tr>
<td>Insight into EHM from Nucleon Resonance Electroexcitation and the Meson Structure Studies</td>
<td>4</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Continuum functional methods to study strong-QCD in new generation facilities</td>
<td>4</td>
</tr>
<tr>
<td>Meson Spectroscopy</td>
<td>4</td>
</tr>
<tr>
<td>Parton distribution of nucleon</td>
<td>4</td>
</tr>
<tr>
<td>talk</td>
<td>4</td>
</tr>
<tr>
<td>Introduction to round table discussion</td>
<td>4</td>
</tr>
<tr>
<td>Round table discussion</td>
<td>5</td>
</tr>
<tr>
<td>Future plans</td>
<td>5</td>
</tr>
<tr>
<td>Hybrid mesons in the framework of DSEs</td>
<td>5</td>
</tr>
<tr>
<td>Meson spectroscopy from a basis light-front approach</td>
<td>5</td>
</tr>
<tr>
<td>talk</td>
<td>5</td>
</tr>
<tr>
<td>Power corrections to the Drell-Yan and Charmonium qT–spectra at moderate transverse momenta from Reggeized Partons</td>
<td>5</td>
</tr>
<tr>
<td>Two issues concerning the pion structure function</td>
<td>5</td>
</tr>
</tbody>
</table>
Introduction to the workshop

Measurable Expressions of EHM

On the hadron mass decomposition

Corresponding Author: cedric.lorce@polytechnique.edu

Meson Structure: Drell-Yan session

Drell-Yan measurement at AMBER - Studying the hadrons structure

Corresponding Author: marcia@lip.pt

Pion parton distribution functions in a symmetry-preserving approach

Corresponding Author: mhding@nankai.edu.cn

Pion and Kaon Valence-Quark Parton Distributions from Lattice QCD

Corresponding Author: hwlin@pa.msu.edu
Afternoon session / 13

Structure of Mesons and its impact on Baryons one

Corresponding Author: cedric.mezrag@cea.fr

Afternoon session / 14

Pion structure in Nambu–Jona-Lasinio: phenomenology

Corresponding Author: aurorecourtoy@gmail.com

Afternoon session / 15

Parton distribution functions and beyond

Corresponding Author: khepani@gmail.com

Afternoon session / 16

Pion and Kaon parton distributions from their light-front wave functions

Corresponding Author: jose.rodriguez@dfaie.uhu.es

Afternoon session / 17

The structure of pion from first-principles calculation in lattice QCD

Corresponding Author: dgr@jlab.org

Afternoon session / 18

3D imaging of pion and kaon on the light front

Corresponding Author: shichao0820@gmail.com

Afternoon session / 19

Calculation of pion/kaon-nucleus induced Drell-Yan process from a basis light-front approach
Corresponding Author: xbzhao@impcas.ac.cn

Afternoon session / 20

Charmonium measurements with AMBER – a tool for accessing the meson PDFs

Corresponding Author: stephane.platchkov@cern.ch

Afternoon session / 21

Constraining pion PDFs with Jpsi production

Corresponding Author: wen-chen.chang@cern.ch

Afternoon session / 22

Quark mass function from a OGE-type interaction in Minkowski space

Corresponding Author: elmar.biernat@tecnico.ulisboa.pt

Afternoon session / 23

Prompt photon production and diffractive scattering at AMBER

Corresponding Author: alexey.guskov@cern.ch

Afternoon session / 24

Hadron Spectroscopy at AMBER

Corresponding Author: bgrube@ph.tum.de

Afternoon session / 25

Spectroscopy via Lattice QCD

Corresponding Author: rbriceno@jlab.org
Afternoon session / 26

**An Experimental Observable to Trace the Mass from pQCD to Strong QCD**

*Corresponding Author: gothe@sc.edu*

Afternoon session / 27

**Insight into EHM from Nucleon Resonance Electroexcitation and the Meson Structure Studies**

*Corresponding Author: mokeev@jlab.org*

Afternoon session / 28

**Continuum functional methods to study strong-QCD in new generation facilities**

*Corresponding Author: jsegovia@upo.es*

Afternoon session / 29

**Meson Spectroscopy**

*Corresponding Author: vmathieu@ucm.es*

Afternoon session / 30

**Parton distribution of nucleon**

*Corresponding Author: gao@thphys.uni-heidelberg.de*

Afternoon session / 31

**talk**

*Corresponding Author: binosi@ectstar.eu*

Afternoon session / 32

**Introduction to round table discussion**
Afternoon session / 33

Round table discussion

Afternoon session / 34

Future plans

Corresponding Author: denisov@to.infn.it

Afternoon session / 35

Hybrid mesons in the framework of DSEs

Corresponding Author: xusshep@gmail.com

Afternoon session / 36

Meson spectroscopy from a basis light-front approach

Corresponding Author: xzhao@impcas.ac.cn

Afternoon session / 37

talk

Corresponding Author: phycui@nju.edu.cn

Afternoon session / 38

Power corrections to the Drell-Yan and Charmonium qT–spectra at moderate transverse momenta from Reggeized Partons

Corresponding Author: saleev@samsu.ru

Afternoon session / 39
Two issues concerning the pion structure function

Corresponding Author: lei.chiong@gmail.com