

Workshop on Multi-front Exotic phenomena in Particle and Astrophysics (MEPA 2022)

Friday, 16 December 2022 - Monday, 19 December 2022

Book of Abstracts

Contents

Open discussion	1
Open talk	1
Workshop opening	1
Dark Photon & Millicharged Particle Theory Talk 1	1
Dark Light	1
Dark Quest	1
LDMX	1
Dark Photon & Millicharged Particle Theory Talk 2	2
Dark Photon & Millicharged Particle Theory Talk 3	2
Dark MESA	2
NA64	2
Dark SHINE	2
Theory of non-topological soliton	2
FCP search in DAMPE	2
FCP search in ATLAS	3
Detection of Topological and Non-Topological Solitons with Gravitational Waves	3
Looking for charged (meta)stable particles in MoEDAL	3
Monopole search project using Magnetometer and plastic scintillator	3
Results and Prospects for Muon $g-2$ Experiment at Fermilab	3
大亚湾和江门实验新物理研究	3
Hunting High-Quality Axions	3
Magnetic mass of the photon	3
Hunting Axions with EHT Polarimetry Measurements	4

Searching for Solar Axions with PandaX Detectors	4
Explore the ultralight dark matter by radio telescope	4
High sensitivity axion dark matter experiments at IBS-CAPP above 1 GHz	4
Recent Results from IceCube and Next Generation Neutrino Telescopes	4
The muEDM experiment at PSI	4
New physics search in e+e- colliders	4
Anomaly inspired new physics searches	5
Hadronic system reconstruction at CEPC and searching for NP	5

1

Open discussion

3

Open talk

Goldstone bosons, dark photons, millicharges and monopoles.

6

Workshop opening

Dark Photon & Millicharged particle / 7

Dark Photon & Millicharged Particle Theory Talk 1

Corresponding Author: zhaoyue@physics.utah.edu

Dark Photon & Millicharged particle / 8

Dark Light

Corresponding Author: kpachal@triumf.ca

Dark Photon & Millicharged particle / 9

Dark Quest

Corresponding Author: yongbin.feng@cern.ch

Dark Photon & Millicharged particle / 10

LDMX

Corresponding Author: gtf9nz@virginia.edu

Dark Photon & Millicharged particle / 11

Dark Photon & Millicharged Particle Theory Talk 2

Corresponding Author: hcwangxiaoping@buaa.edu.cn

Dark Photon & Millicharged particle / 12

Dark Photon & Millicharged Particle Theory Talk 3

Corresponding Author: anhp@mail.tsinghua.edu.cn

Dark Photon & Millicharged particle / 13

Dark MESA

Corresponding Author: doria@uni-mainz.de

Dark Photon & Millicharged particle / 14

NA64

Corresponding Author: benjamin.banto.oberhauser@cern.ch

Dark Photon & Millicharged particle / 15

Dark SHINE

Corresponding Author: ivychen8@sjtu.edu.cn

Magnetic Monopole & Q-Ball / 16

Theory of non-topological soliton

Magnetic Monopole & Q-Ball / 17

FCP search in DAMPE

Corresponding Author: weiyf@ustc.edu.cn

Magnetic Monopole & Q-Ball / 18

FCP search in ATLAS

Corresponding Author: wuyusheng@ustc.edu.cn

Magnetic Monopole & Q-Ball / 19

Detection of Topological and Non-Topological Solitons with Gravitational Waves

Corresponding Author: huaike.guo@gmail.com

Magnetic Monopole & Q-Ball / 20

Looking for charged (meta)stable particles in MoEDAL

Corresponding Author: vasiliki.mitsou@cern.ch

Magnetic Monopole & Q-Ball / 21

Monopole search project using Magnetometer and plastic scintillator

Corresponding Author: qinglin@ustc.edu.cn

Other Exotic Particle Search / 22

Results and Prospects for Muon $g-2$ Experiment at Fermilab

Other Exotic Particle Search / 23

大亚湾和江门实验新物理研究

Axion / 24

Hunting High-Quality Axions

Axion / 25

Magnetic mass of the photon

Axion / 26

Hunting Axions with EHT Polarimetry Measurements

Corresponding Author: yifan.chen@itp.ac.cn

Axion / 27

Searching for Solar Axions with PandaX Detectors

Corresponding Author: xinningzeng@sjtu.edu.cn

Axion / 28

Explore the ultralight dark matter by radio telescope

Axion / 29

High sensitivity axion dark matter experiments at IBS-CAPP above 1 GHz

Other Exotic Particle Search / 30

Recent Results from IceCube and Next Generation Neutrino Telescopes

Corresponding Author: zhangfydphy@sjtu.edu.cn

Other Exotic Particle Search / 31

The muEDM experiment at PSI

Corresponding Author: kimsiang84@sjtu.edu.cn

Other Exotic Particle Search / 32

New physics search in e^+e^- colliders

Corresponding Author: dayu@nju.edu.cn

Other Exotic Particle Search / 33

Anomaly inspired new physics searches

Other Exotic Particle Search / 34

Hadronic system reconstruction at CEPC and searching for NP

Corresponding Author: manqi.ruan@ihep.ac.cn