

International Workshop on New Opportunities for Particle Physics 2025

Report of Contributions

Contribution ID: 1

Type: **not specified**

Opening Speech

Friday, 18 July 2025 08:50 (10 minutes)

Contribution ID: 2

Type: **not specified**

Electroweak physics at high energies

Friday, 18 July 2025 09:00 (30 minutes)

Presenter: HAN, Tao (University of Pittsburgh)

Session Classification: Collider & BSM

Contribution ID: 3

Type: **not specified**

Physics reach at the cepc: in the scope of AI and detector technology advancement

Friday, 18 July 2025 09:30 (30 minutes)

Presenter: RUAN, Man-Qi (IHPE, CAS)

Session Classification: Collider & BSM

Contribution ID: 4

Type: **not specified**

Gravitational wave signal from the early universe

Friday, 18 July 2025 10:30 (30 minutes)

Presenter: WANG, Lian-Tao (University of Chicago)

Session Classification: Cosmology and Gravitational Wave

Contribution ID: 5

Type: **not specified**

Recent progress in cosmological collider and cosmological amplitudes

Friday, 18 July 2025 11:00 (30 minutes)

Presenter: XIANYU, Zhong-Zhi (Tsinghua University)

Session Classification: Cosmology and Gravitational Wave

Contribution ID: 6

Type: **not specified**

Generic spinning binaries from the scattering amplitude perspective

Friday, 18 July 2025 11:30 (30 minutes)

Presenter: TENG, Fei (Fudan University)

Session Classification: Cosmology and Gravitational Wave

Contribution ID: 7

Type: **not specified**

Cosmological implications of massive galaxy surveys

Friday, 18 July 2025 14:00 (30 minutes)

Presenter: ZHAO, Gong-Bo (NAOC)

Session Classification: Cosmology and Gravitational Wave

Contribution ID: 8

Type: **not specified**

Exploring the dark universe with the Euclid satellite

Friday, 18 July 2025 14:30 (30 minutes)

Presenter: KUNZ, Martin (University of Geneva)

Session Classification: Cosmology and Gravitational Wave

Contribution ID: 9

Type: **not specified**

Test of the Chern-Simons Theory with AliCPT

Friday, 18 July 2025 15:00 (30 minutes)

Presenter: LI, Hong (IHEP, CAS)

Session Classification: Cosmology and Gravitational Wave

Contribution ID: **10**

Type: **not specified**

Dark Energy and String Theory

Friday, 18 July 2025 16:30 (30 minutes)

Presenter: SHIU, Gary (University of Wisconsin-Madison)

Session Classification: Cosmology and Gravitational Wave

Contribution ID: 11

Type: **not specified**

Explain both DESI Dynamical Dark Energy and S8 Tension with Dark Axion and Dark Baryons Interactions

Friday, 18 July 2025 17:00 (30 minutes)

Presenter: LIN, Meng-Xiang (University of Pennsylvania)

Session Classification: Cosmology and Gravitational Wave

Contribution ID: 12

Type: **not specified**

Effective field theory of coupled dark energy and dark matter

Friday, 18 July 2025 17:30 (30 minutes)

Presenter: TSUJIKAWA , Shinji (Waseda University)

Session Classification: Cosmology and Gravitational Wave

Contribution ID: 13

Type: **not specified**

Observational signatures of extra dimensions and modified gravity theories in the light of EHT data

Friday, 18 July 2025 18:00 (30 minutes)

Presenter: NOZARI , Kourosh (University of Mazandran)

Session Classification: Cosmology and Gravitational Wave

Contribution ID: 14

Type: **not specified**

Theoretical perspectives on the late-time cosmic acceleration in light of latest observations

Presenter: CAI, Yi-Fu (University of Science and Technology of China)

Session Classification: Cosmology and Gravitational Wave

Contribution ID: 15

Type: **not specified**

TBD

Saturday, 19 July 2025 09:00 (30 minutes)

Presenter: HENN, Johannes M. (Munich Max Planck Institute)

Session Classification: Quantum Field Theory

Contribution ID: **16**

Type: **not specified**

TBD

Saturday, 19 July 2025 09:30 (30 minutes)

Presenter: ZHANG, Yang (University of Science and Technology of China)

Session Classification: Quantum Field Theory

Contribution ID: 17

Type: **not specified**

TBD

Saturday, 19 July 2025 10:30 (30 minutes)

Presenter: KOSOWER, David (IPhT, Saclay)

Session Classification: Quantum Field Theory

Contribution ID: **18**

Type: **not specified**

Mathematical Structures in Scattering Amplitudes

Saturday, 19 July 2025 11:00 (30 minutes)

Presenter: VOLOVICH, Anastasia (Brown University)

Session Classification: Quantum Field Theory

Contribution ID: 19

Type: **not specified**

Form factors in N=4 SYM and QCD

Saturday, 19 July 2025 11:30 (30 minutes)

Presenter: YANG, Gang (Institute of Theoretical Physics, CAS)

Session Classification: Quantum Field Theory

Contribution ID: 20

Type: **not specified**

RG-improved low-energy theorem for the effective Higgs-gluon-gluon coupling for simultaneous decoupling of several heavy quarks

Saturday, 19 July 2025 14:00 (30 minutes)

Presenter: CHETYRKIN, Konstantin G. (INR, RAS)

Session Classification: Quantum Field Theory

Contribution ID: **21**

Type: **not specified**

TBD

Saturday, 19 July 2025 14:30 (30 minutes)

Presenter: MOULT, Ian (Yale University)

Session Classification: Quantum Field Theory

Contribution ID: 22

Type: **not specified**

Probing Non-perturbative Physics with Energy Correlators

Saturday, 19 July 2025 15:30 (30 minutes)

Presenter: LIU, Xiao-Hui (Beijing Normal University)

Session Classification: Quantum Field Theory

Contribution ID: 23

Type: **not specified**

Quantum Correctons in Two-Photon Processes

Saturday, 19 July 2025 15:00 (30 minutes)

Presenter: SHAO, Hua-Sheng (LPTHE Paris)

Session Classification: Quantum Field Theory

Contribution ID: 24

Type: **not specified**

Effective Theories and Collider Physics of Gauged $U(1)'$ Symmetries

Saturday, 19 July 2025 16:30 (30 minutes)

Presenter: YU, Felix (Johannes Gutenberg University of Mainz)

Session Classification: Collider & BSM

Contribution ID: 25

Type: **not specified**

Weak Supervision Techniques in Collider Physics

Saturday, 19 July 2025 17:00 (30 minutes)

Presenter: CHIANG, Cheng-Wei (National Taiwan University)

Session Classification: Collider & BSM

Contribution ID: 26

Type: **not specified**

Dark Matter interpretation of the Galactic Center Gamma-Ray Excess from the 16 years of Fermi-LAT data

Saturday, 19 July 2025 17:30 (30 minutes)

Presenter: SHIN, Seodong (Jeonbuk National University)

Session Classification: Collider & BSM

Contribution ID: 27

Type: **not specified**

Current Status and Future of Neutrino Physics

Sunday, 20 July 2025 09:00 (30 minutes)

Presenter: PETCOV, Serguey T. (SISSA/INFN, Trieste, Italy)

Session Classification: Neutrino and Particle Astrophysics

Contribution ID: 28

Type: **not specified**

From Neutrinos to QCD and Dark Matter: Looking Forward for Exciting Physics.

Sunday, 20 July 2025 09:30 (30 minutes)

Presenter: KLING, Felix (DESY)

Session Classification: Neutrino and Particle Astrophysics

Contribution ID: 29

Type: **not specified**

Recent Developments in Scattering Amplitudes

Sunday, 20 July 2025 10:30 (30 minutes)

Presenter: SPRADLIN, Marcus (Brown University)

Session Classification: Quantum Field Theory

Contribution ID: 30

Type: **not specified**

The canonical differential equations of the one-loop-like integrals

Sunday, 20 July 2025 11:00 (30 minutes)

Presenter: FENG, Bo (北京计算科学研究中心)

Session Classification: Quantum Field Theory

Contribution ID: 31

Type: **not specified**

Tame multi-leg Feynman integrals beyond one loop

Sunday, 20 July 2025 11:30 (30 minutes)

Presenter: MA, Yan-Qing (Peking University)

Session Classification: Quantum Field Theory

Contribution ID: 32

Type: **not specified**

Naturalness and the Hierarchy Problems

Sunday, 20 July 2025 14:00 (30 minutes)

Presenter: SHAPOSHNIKOV, Mikhail E. (EPFL)

Session Classification: Collider & BSM

Contribution ID: 33

Type: **not specified**

Entanglement suppression and emergent symmetries in hadron scattering

Sunday, 20 July 2025 14:30 (30 minutes)

Presenter: GUO, Feng-Kun (ITP, CAS)

Session Classification: Collider & BSM

Contribution ID: 34

Type: **not specified**

HEP Opportunities in the Quantum Era

Sunday, 20 July 2025 15:00 (30 minutes)

Presenter: LI, Ying-Ying (IHEP)

Session Classification: Collider & BSM

Contribution ID: 35

Type: **not specified**

Chiral perturbation theory for general BNV nucleon decay structures

Sunday, 20 July 2025 15:30 (30 minutes)

Presenter: MA, Xiao-Dong (SCNU)

Session Classification: Collider & BSM

Contribution ID: 36

Type: **not specified**

Periodic string formation and gravitational wave bursts

Sunday, 20 July 2025 16:30 (30 minutes)

Presenter: HUANG, Junwu (Perimeter Institute for Theoretical Physics)

Session Classification: Neutrino and Particle Astrophysics

Contribution ID: 37

Type: **not specified**

Axion mass prediction from cosmic string network

Sunday, 20 July 2025 17:00 (30 minutes)

Presenter: SON, Minho (KAIST)

Session Classification: Neutrino and Particle Astrophysics

Contribution ID: 38

Type: **not specified**

New Precision Experiments for Axion Dark Matter

Sunday, 20 July 2025 17:30 (30 minutes)

Presenter: ZHOU, Kevin (UC Berkeley)

Session Classification: Neutrino and Particle Astrophysics

Contribution ID: 39

Type: **not specified**

TBD

Friday, 18 July 2025 15:30 (30 minutes)

Presenter: SARIDAKIS, Emmanuel N.

Session Classification: Cosmology and Gravitational Wave