

ExHILP 2021



Report of Contributions

Contribution ID: 1

Type: **not specified**

QED in Astrophysics

Monday 13 September 2021 15:00 (1 hour)

Primary author: PHILIPPOV, Alexander

Presenter: PHILIPPOV, Alexander

Track Classification: Tutorial/Plenary talks

Contribution ID: 2

Type: **not specified**

Threshold effects in electron-positron pair creation from the vacuum

Monday 13 September 2021 16:00 (25 minutes)

Presenter: KRAJEWSKA, Katarzyna

Track Classification: Topical talks

Contribution ID: 3

Type: **not specified**

Progress towards realisation of QED-plasmas with high-intensity lasers

Friday 17 September 2021 10:30 (25 minutes)

Primary author: RIDGERS, Chris

Presenter: RIDGERS, Chris

Track Classification: Topical talks

Contribution ID: 4

Type: **not specified**

Welcome & Opening Remarks

Monday 13 September 2021 14:45 (15 minutes)

Contribution ID: 5

Type: **not specified**

Towards the measurement of the quantum-vacuum Lagrangian coupling coefficients using two counterpropagating super-intense laser pulses

Monday 13 September 2021 18:00 (25 minutes)

Primary author: ROSO, Luis

Presenter: ROSO, Luis

Track Classification: Topical talks

Contribution ID: 6

Type: **not specified**

Positrons - from creation to acceleration

Monday 13 September 2021 18:30 (25 minutes)

Primary author: VRANIC, Marija

Presenter: VRANIC, Marija

Track Classification: Topical talks

Contribution ID: 7

Type: **not specified**

Laser-Particle collider for high-energy high-intensity physics studies

Monday 13 September 2021 19:00 (25 minutes)

Primary author: BULANOV, Stepan

Presenter: BULANOV, Stepan

Track Classification: Topical talks

Contribution ID: 8

Type: **not specified**

Status of International Ultra-Intense Laser-Based Science: the Multi-Petawatt Physics Prioritization (MP3) workshop

Monday 13 September 2021 19:30 (25 minutes)

Primary author: ZUEGEL, Jonathan

Presenter: ZUEGEL, Jonathan

Track Classification: Topical talks

Contribution ID: 9

Type: **not specified**

How do simulations of intense laser-matter interactions work?

Tuesday 14 September 2021 12:30 (1 hour)

Primary author: BLACKBURN, Tom

Presenter: BLACKBURN, Tom

Track Classification: Tutorial/Plenary talks

Contribution ID: **10**

Type: **not specified**

From Theory to Experiment: Challenges and Opportunities in Strong-Field QED

Wednesday 15 September 2021 17:30 (1 hour)

Presenter: MEUREN, Sebastian

Track Classification: Tutorial/Plenary talks

Contribution ID: **11**

Type: **not specified**

The Ritus-Narozhny conjecture

Thursday 16 September 2021 12:30 (1 hour)

Primary author: ILDERTON, Anton

Presenter: ILDERTON, Anton

Track Classification: Tutorial/Plenary talks

Contribution ID: 12

Type: **not specified**

Higher fidelity benchmarking of the nonlinear Compton and Breit-Wheeler processes in a laser pulse

Monday 13 September 2021 16:30 (25 minutes)

Primary author: KING, Ben

Presenter: KING, Ben

Track Classification: Topical talks

Contribution ID: 13

Type: **not specified**

All-optical nonlinear Compton scattering experiments using a 4 PW laser system

*Tuesday 14 September 2021 09:00 (25 minutes)***Primary author:** HOJBOTA, Calin**Presenter:** HOJBOTA, Calin**Track Classification:** Topical talks

Contribution ID: 14

Type: **not specified**

Spin polarization effects of particles in ultraintense laser fields

Tuesday 14 September 2021 09:30 (25 minutes)

Primary author: LI, Jian-Xing

Presenter: LI, Jian-Xing

Track Classification: Topical talks

Contribution ID: 15

Type: **not specified**

Breit-Wheeler pair production by high-energy bremsstrahlung and intense laser radiation

Tuesday 14 September 2021 10:00 (25 minutes)

Primary author: GOLUB, Alina

Presenter: GOLUB, Alina

Track Classification: Topical talks

Contribution ID: 16

Type: **not specified**

FOR2783: Probing pair production in the non-perturbative regime

Tuesday 14 September 2021 10:30 (25 minutes)

Primary author: SALGADO, Felipe

Presenter: SALGADO, Felipe

Track Classification: Topical talks

Contribution ID: 17

Type: **not specified**

Impact of the laser spatio-temporal shape on Breit-Wheeler pair production

Tuesday 14 September 2021 13:30 (25 minutes)

Primary author: RICONDA, Caterina

Presenter: RICONDA, Caterina

Track Classification: Topical talks

Contribution ID: **18**

Type: **not specified**

Overview of the LUXE experiment and its physics case

Wednesday 15 September 2021 15:00 (25 minutes)

Primary author: HEINEMANN, Beate

Presenter: HEINEMANN, Beate

Track Classification: Topical talks

Contribution ID: **19**

Type: **not specified**

The detector system in LUXE

Wednesday 15 September 2021 15:30 (25 minutes)

Primary author: TAL HOD, Noam

Presenter: TAL HOD, Noam

Track Classification: Topical talks

Contribution ID: 20

Type: **not specified**

SLAC E-320: Probing Strong-Field QED at FACET-II

Wednesday 15 September 2021 18:30 (25 minutes)

Primary author: GERSTMAYR, Elias

Presenter: GERSTMAYR, Elias

Track Classification: Topical talks

Contribution ID: **21**

Type: **not specified**

The 3PW NSF ZEUS user facility

Wednesday 15 September 2021 19:00 (25 minutes)

Primary author: WILLINGALE, Louise

Presenter: WILLINGALE, Louise

Track Classification: Topical talks

Contribution ID: 22

Type: **not specified**

SF QED capabilities at BELLA PW: second beamline overview

Wednesday 15 September 2021 19:30 (25 minutes)

Primary author: TURNER, Marlene

Presenter: TURNER, Marlene

Track Classification: Topical talks

Contribution ID: 23

Type: **not specified**

Experimental search for Vacuum Diffraction using high-power laser and XFEL

Thursday 16 September 2021 09:00 (25 minutes)

Primary author: SEINO, Yudai

Presenter: SEINO, Yudai

Track Classification: Topical talks

Contribution ID: 24

Type: **not specified**

Focusing of high-precision polarized X-rays for the detection of vacuum birefringence

Thursday 16 September 2021 09:30 (25 minutes)

Primary author: SCHMITT, Annika Tamara

Presenter: SCHMITT, Annika Tamara

Track Classification: Topical talks

Contribution ID: 25

Type: **not specified**

High-intensity laser probes of quantum vacuum nonlinearity

Thursday 16 September 2021 10:00 (25 minutes)

Primary author: MOSMAN, Elena

Presenter: MOSMAN, Elena

Track Classification: Topical talks

Contribution ID: 26

Type: **not specified**

Experimental estimates of photon background in a potential light-by-light scattering study

*Thursday 16 September 2021 10:30 (25 minutes)***Primary author:** DOYLE, Leonard**Presenter:** DOYLE, Leonard**Track Classification:** Topical talks

Contribution ID: 27

Type: **not specified**

First-order strong-field QED processes including the damping of particle states

*Thursday 16 September 2021 13:30 (25 minutes)***Primary author:** PODSZUS, Tobias**Presenter:** PODSZUS, Tobias**Track Classification:** Topical talks

Contribution ID: 28

Type: **not specified**

Status of Breit-Wheeler experiment preparations at CALA

Friday 17 September 2021 09:00 (25 minutes)

Primary author: KARSCH, Stefan

Presenter: KARSCH, Stefan

Track Classification: Topical talks

Contribution ID: 29

Type: **not specified**

Interaction of Electromagnetic Waves in a Vacuum

*Friday 17 September 2021 09:30 (25 minutes)***Primary author:** SASOROV, Pavel**Presenter:** SASOROV, Pavel**Track Classification:** Topical talks

Contribution ID: 30

Type: **not specified**

Resummations in Strong-Field QED

Friday 17 September 2021 10:00 (25 minutes)

Primary author: TORGRIMSSON, Greger

Presenter: TORGRIMSSON, Greger

Track Classification: Topical talks

Contribution ID: 31

Type: **not specified**

Nonlinear, Strong-Field QED SLAC Experiment E-144

*Friday 17 September 2021 11:00 (25 minutes)***Primary author:** MCDONALD, Kirk**Presenter:** MCDONALD, Kirk**Track Classification:** Topical talks

Contribution ID: 32

Type: **not specified**

Challenges in characterizing QED processes in Ritus-Narozhny nonperturbative regime

*Friday 17 September 2021 11:30 (25 minutes)***Primary author:** FEDOTOV, Alexander**Presenter:** FEDOTOV, Alexander**Track Classification:** Topical talks

Contribution ID: **33**

Type: **not specified**

REMO

Contribution ID: 35

Type: **not specified**

Effects of electron beam geometry on pair production in laser-electron scattering

Tuesday 14 September 2021 11:10 (5 minutes)

Presenter: AMARO, Óscar

Session Classification: REMO Poster Session

Track Classification: Posters

Contribution ID: 36

Type: **not specified**

Worldline fermion propagator dressed with N photons

*Wednesday 15 September 2021 16:05 (5 minutes)***Presenter:** BANDA, Victor**Session Classification:** REMO Poster Session**Track Classification:** Posters

Contribution ID: 39

Type: **not specified**

LCFA for radiation in a time-dependent electric field: applicability and corrections

Tuesday 14 September 2021 11:40 (5 minutes)

Presenter: GELFER, Evgeny

Session Classification: REMO Poster Session

Track Classification: Posters

Contribution ID: 40

Type: **not specified**

Enhanced Gamma-Photon Generation Through Laser-Solid Interaction in the Relativistic λ_3 Regime

*Tuesday 14 September 2021 11:45 (5 minutes)***Presenter:** HADJISOLOMOU, Prokopis**Session Classification:** REMO Poster Session**Track Classification:** Posters

Contribution ID: 41

Type: **not specified**

Demonstrating monoenergetic electrons using using dual-stage gas cell

Tuesday 14 September 2021 11:20 (5 minutes)

Presenter: HARSH, Harsh

Session Classification: REMO Poster Session

Track Classification: Posters

Contribution ID: 42

Type: **not specified**

Electron-positron pair production by an ultra-intense laser pulse focused by relativistic flying mirror

*Tuesday 14 September 2021 11:00 (5 minutes)***Presenter:** JEONG, Tae Moon**Session Classification:** REMO Poster Session**Track Classification:** Posters

Contribution ID: 43

Type: **not specified**

Reaching high laser intensity by a radiating electron

Tuesday 14 September 2021 11:25 (5 minutes)

Presenter: JIRKA, Martin

Session Classification: REMO Poster Session

Track Classification: Posters

Contribution ID: 44

Type: **not specified**

Measurement of pulse front tilt by a wavelength-resolved wavefront sensor

Tuesday 14 September 2021 11:50 (5 minutes)

Presenter: KIM, Yeong Gyu

Session Classification: REMO Poster Session

Track Classification: Posters

Contribution ID: 45

Type: **not specified**

Optical Signatures of Quantum Vacuum Nonlinearities in the Strong Field Regime

Tuesday 14 September 2021 11:05 (5 minutes)

Presenter: KLAR, Leonhard

Session Classification: REMO Poster Session

Track Classification: Posters

Contribution ID: 46

Type: **not specified**

Dynamically assisted tunneling via high-intensity fields

Tuesday 14 September 2021 11:30 (5 minutes)

Presenter: KOHLFÜRST, Christian

Session Classification: REMO Poster Session

Track Classification: Posters

Contribution ID: 47

Type: **not specified**

Relativistic modified Bessel-Gaussian beam generated from plasma-based beam braiding

*Tuesday 14 September 2021 11:35 (5 minutes)***Presenter:** LEI, Bifeng**Session Classification:** REMO Poster Session**Track Classification:** Posters

Contribution ID: 48

Type: **not specified**

The QED four-photon amplitudes off-shell

Wednesday 15 September 2021 16:20 (5 minutes)

Presenter: LOPEZ LOPEZ, Misha Arturo

Session Classification: REMO Poster Session

Track Classification: Posters

Contribution ID: 49

Type: **not specified**

Applications of Bayesian Inference in Radiation Reaction Experiments

*Tuesday 14 September 2021 11:55 (5 minutes)***Presenter:** LOS, Eva**Session Classification:** REMO Poster Session**Track Classification:** Posters

Contribution ID: 50

Type: **not specified**

High-brilliance ultra-narrow-band x-rays via electron radiation in colliding laser pulses

Tuesday 14 September 2021 12:00 (5 minutes)

Presenter: LYU, Qingzheng

Session Classification: REMO Poster Session

Track Classification: Posters

Contribution ID: 51

Type: **not specified**

Self-consistent simulations of positron creation and acceleration in a plasma channel

*Tuesday 14 September 2021 12:05 (5 minutes)***Presenter:** MARTINEZ, Bertrand**Session Classification:** REMO Poster Session**Track Classification:** Posters

Contribution ID: 52

Type: **not specified**

Multiloop calculations in QED in a strong constant crossed field

*Tuesday 14 September 2021 12:15 (5 minutes)***Presenter:** MIRONOV, Arseny**Session Classification:** REMO Poster Session**Track Classification:** Posters

Contribution ID: 53

Type: **not specified**

X-ray vacuum diffraction at finite spatio-temporal offset

Tuesday 14 September 2021 12:10 (5 minutes)

Presenter: OUDE WEERNINK, Ricardo

Session Classification: REMO Poster Session

Track Classification: Posters

Contribution ID: 54

Type: **not specified**

Simulation study of spatial-temporal properties of a relativistic electron beam at the collision-point with a high-intensity laser pulse : Relevant to nonlinear Compton Scattering experiment at CoReLS

*Tuesday 14 September 2021 12:20 (5 minutes)***Presenter:** PATHAK, Vishwa Bandhu**Session Classification:** REMO Poster Session**Track Classification:** Posters

Contribution ID: 55

Type: **not specified**

Relativistically Transparent Magnetic Filaments: a path to megaTesla fields for SF-QED experiments

Wednesday 15 September 2021 16:10 (5 minutes)

Presenter: RINDERKNECHT, Hans

Session Classification: REMO Poster Session

Track Classification: Posters

Contribution ID: 56

Type: **not specified**

Quantum vacuum processes in the extremely intense fields of relativistic plasma mirror sources

*Tuesday 14 September 2021 12:25 (5 minutes)***Presenter:** SAINTE-MARIE, Antonin**Session Classification:** REMO Poster Session**Track Classification:** Posters

Contribution ID: 57

Type: **not specified**

Mathematical determination of temperature on a cuboid crystal in photoacoustic interaction

*Tuesday 14 September 2021 12:25 (5 minutes)***Presenter:** SARODE, Abhijit P.**Session Classification:** REMO Poster Session**Track Classification:** Posters

Contribution ID: 58

Type: **not specified**

Sauter-Schwinger effect for colliding laser pulses

Tuesday 14 September 2021 12:25 (5 minutes)

Presenter: SCHUETZHOLD, Ralf

Session Classification: REMO Poster Session

Track Classification: Posters

Contribution ID: 59

Type: **not specified**

Are there phase transitions in strong-field regimes?

Wednesday 15 September 2021 16:15 (5 minutes)

Presenter: SHI, Yuan

Session Classification: REMO Poster Session

Track Classification: Posters

Contribution ID: 60

Type: **not specified**

Physical origin of different dynamical stages of the quasiparticle distribution function during pair production by ultrashort laser pulses

*Tuesday 14 September 2021 12:25 (5 minutes)***Presenter:** SINGH, Manoranjan**Session Classification:** REMO Poster Session**Track Classification:** Posters

Contribution ID: 61

Type: **not specified**

Generation of quasimonoenergetic positron beams in chirped laser fields

*Tuesday 14 September 2021 12:25 (5 minutes)***Presenter:** TANG, Suo**Session Classification:** REMO Poster Session**Track Classification:** Posters

Contribution ID: 62

Type: **not specified**

Numerical Simulations of Ponderomotive Scattering as a Means of High Intensity Measurement

Tuesday 14 September 2021 12:25 (5 minutes)

Presenter: TETER, Thomas

Session Classification: REMO Poster Session

Track Classification: Posters

Contribution ID: 63

Type: **not specified**

Strong interplay between superluminosity and radiation friction during direct laser acceleration of electrons within a magnetic filament

Wednesday 15 September 2021 16:00 (5 minutes)

Presenter: YEH, I-Lin

Session Classification: REMO Poster Session

Track Classification: Posters

Contribution ID: 72

Type: **not specified**

Reaching high laser intensity by a radiating electron

Presenter: JIRKA, Martin