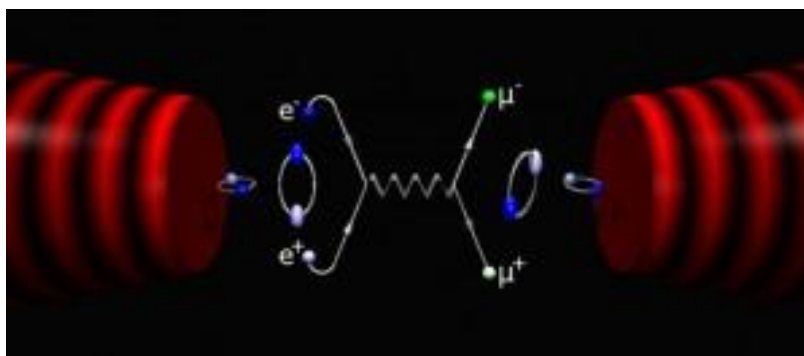


Scientific Program of the “Extreme High-Intensity Laser Physics” (ExHILP) Conference, at the Max Planck Institute for Nuclear Physics (MPIK) in Heidelberg, Germany, 21-24 July 2015



Tuesday, 21 July 2015

Morning Session (MPIK, Library Building, Otto Hahn Lecture Hall)		
9:00 – 9:30	Registration (lobby next to the Otto Hahn Lecture Hall)	
9:30 – 9:35	Keitel	Welcome and introduction to the Opening Lecture
9:35 – 10:30	Sandner	Opening Lecture: ELI - a concerted community effort to push today's intensity frontiers
10:30 – 10:35	Short break	
New High-Intensity Laser Facilities. Chairman: Jaroszynski		
10:35 – 11:05	Martin	CILEX-APOLLON project: status and projects
11:05 – 11:35	Coffee Break	
11:35 – 11:55	Galimberti	Multi-PW OPCPA laser development
11:55 – 12:15	Arkady Kim	Subexawatt laser project XCELS and new possibilities for extreme light physics
12:15 – 12:35	Labun	Texas Petawatt status and future
12:35 – 14:00	Lunch Break (EMBL Canteen; conference badge required)	

Tuesday, 21 July 2015

Afternoon Session (MPIK, Library Building, Otto Hahn Lecture Hall)

Pair Production (I). Chairman: Kämpfer

14:00 – 14:30	Alkofer	On the effect of time-dependent inhomogeneous magnetic fields in Sauter-Schwinger pair production
14:30 – 15:00	Ilderton	Nonperturbative pair production and complex instantons
15:00 – 15:20	Coffee Break	
15:20 – 15:50	Grobe	Pair-creation with space-time resolution
15:50 – 16:20	Schubert	Pair creation in time-dependent electric fields

Hot-Topics Talks. Chairman: Müller

16:20 – 16:40	Gies	Critical Schwinger pair production
16:40 – 16:55	Hebenstreit	Optimization of Schwinger pair production in colliding laser pulses
16:55 – 17:15	Coffee Break	
17:15 – 17:30	Meuren	Electron-positron photoproduction in strong laser fields: total probability, semiclassical description and recollision processes
17:30 – 17:45	d'Humieres	Possibility of pair creation in the collision of gamma-ray beams produced by high intensity laser plasma interaction
17:45 – 18:00	Villalba-Chavez	Light dark matter candidates in intense laser pulses

18:00 – 19:15 Dinner (EMBL Canteen)

19:15 Poster Session with beer and prezels
(MPIK, Library Building, Central Seminar Room)

Wednesday, 22 July 2015

Morning Session (MPIK, Library Building, Otto Hahn Lecture Hall)

Ionization and Relativistic Atomic Physics. Chairman: Hatsagortsyan

9:40 – 10:10	Walker	Photoelectron processes, spectra and scattering in ultrastrong fields
10:10 – 10:40	Paulus	Multiphoton multi-electron ionization of ions to high charge states
10:40 – 11:10	Eichmann	Strong-field Kapitza-Dirac scattering of neutral atoms
11:10 – 11:35	Coffee Break	
11:35 – 11:55	Maurer	Strong-field ionization beyond the long-wavelength limit of the dipole approximation
11:55 – 12:15	Florescu	Ionization of hydrogen by two-color pulses in the x-ray and soft x-ray domains
12:15 – 12:35	Fillion-Gordeau	Quantum relativistic dynamics and QED effects in many-center systems
12:35 – 14:00	Lunch Break (EMBL Canteen; conference badge required)	

Afternoon Session (MPIK, Library Building, Otto Hahn Lecture Hall)

Vacuum polarization. Chairman: Marklund

14:00 – 14:30	Heinzl	Quantum vacuum optics: An overview
14:30 – 14:50	King	Vacuum high harmonic generation in the shock regime
14:50 – 15:10	Karbstein	All-optical probes of quantum vacuum nonlinearity
15:10 – 18:30	Excursion	
18:30	Conference Dinner	

Thursday, 23 July 2015

Morning (MPIK, Library Building, Otto Hahn Lecture Hall)

Experimental Progresses on High-Intensity Laser-Matter Interaction. Chairman: Sarri

9:25 – 9:55	Jarozsynski	Radiation production from the LWFA and its relevance to high field physics
9:55 – 10:25	Umstadter	Narrow bandwidth and tunable hard x-rays from an all-laser-driven Thomson light source
10:25 – 10:45	Nam	Laser-driven particle acceleration with femtosecond PW lasers at CoReLS
10:45 – 11:15	Coffee Break	
11:15 – 12:15	Zepf	Institute Tea Colloquium: Experimental investigation of QED at high intensities. Chairman: Di Piazza
12:15 – 12:20	Short Break	
12:20 – 12:35	Andreev	Interaction of ultra-strong short laser pulse with ultralow density plasma
12:35 – 14:00	Lunch Break (EMBL Canteen; conference badge required)	

Afternoon Session (MPIK, Library Building, Otto Hahn Lecture Hall)

Pair Production (II). Chairman: Gies

14:00 – 14:30	Kämpfer	Pair production (dynamically-assisted Schwinger process)
14:30 – 14:50	Sang Pyo Kim	Spin resonance and pair production in rotating electric fields
14:50 – 15:10	Mackenroth	Trident pair production in intense laser fields
15:10 – 15:30	Coffee Break	

Tutorial-Talks Session. Chairman: Grobe

15:30 – 16:30	Müller	Strong-field pair production: An introduction with applications to two-color laser fields
16:30 – 16:45	Coffee break	
16:45 – 17:45	Sergei Bulanov	Radiation dominant regimes in EM wave interaction with electrons
17:45 – 19:00	Dinner (EMBL Canteen)	
19:00 – 20:00	Barty	Introduction to ultrahigh intensity lasers and their evolution

Friday, 24 July 2015

Morning Session (MPIK, Library Building, Otto Hahn Lecture Hall)

General aspects of strong-field QED in intense lasers. Chairman: Di Piazza

9:15 – 9:45	Marklund	Simulating intense laser-matter interactions
9:45 – 10:15	Fedotov	Qualitative considerations in intense-field QED
10:15 – 10:45	Berges	Lattice simulations of extremely high-intensity QED
10:45 – 11:15	Coffee Break	
Motion of electric charges and radiation in intense laser fields. Chairman: Heinzl		
11:15 – 11:35	Krajewska	Frequency comb generation from nonlinear Compton and Thomson scattering
11:35 – 11:55	Stepan Bulanov	High-intensity particle physics at PW-class lasers
11:55 – 12:10	Seipt	Narrowband inverse Compton scattering x- and gamma-ray sources at high laser intensities
12:10 – 12:25	Capdessus	The relation between momentum and velocity for radiating electrons
12:25 – 12:40	Bashinov	Impact of quantum effects on relativistic electron motion in a standing wave
12:40 – 14:00	Lunch Break (EMBL Canteen; conference badge required)	

Afternoon Session (MPIK, Library Building, Otto Hahn Lecture Hall)

Electromagnetic Cascades and Laser-Plasma Interaction. Chairman: Stepan Bulanov

14:00 – 14:30	Ridgers	Towards experimental measurements of nonlinear QED effects in ultra-intense laser-plasma interactions
14:30 – 15:00	Grech	Strong-field QED effects in PIC simulation
15:00 – 15:30	Coffee Break	
15:30 – 16:00	Elkina	Numerical methods for solving electron-positron cascade equations
16:00 – 16:20	Grismayer	Seeded QED cascades in ultra-intense laser fields: theory and self-consistent 3D QED-PIC simulations
16:20 – 16:35	Gu	Magnetic annihilation induced by relativistic laser-plasma interaction
16:35	Departure	

Poster Session (Tuesday, 21 July 2015, 19:15)

Nr.	Surname	Name	Title
1	Ahmadiniaz	Naser	Master formula for nonlinear Compton scattering in scalar QED
2	Angioi	Alessandro	Nonlinear Compton scattering of ultrashort laser pulses by a superposition of Volkov states
3	Asavei	Theodor	Materials in extreme environments at ELI-NP
4	Balascuta	Septimiu	A large acceptance angle detector for the study of high energy non-linear Compton radiation.
5	Belov	Nikolay	Pair creation and annihilation with atoms and channeling nuclei
6	Blinne	Alexander	Pair production in rotating fields
7	Bobeica	Mariana	High throughput irradiation of biological samples with laser accelerated particle beams
8	Carneiro	Pedro	QED vacuum polarization solver
9	Efimenko	Evgeny	QED cascades and pair plasma dynamics in a converging E-dipole laser wave
10	Ghenuche	Petru	High field physics and quantum electrodynamics at ELI-NP
11	Horný	Vojtěch	Generation of ultrashort x-ray pulses using 20 TW laser system at PALS facility
12	Jansen	Oliver	Monte-Carlo simulations on the two-photon Breit-Wheeler process
13	Jobunga	Eric Ouma	Non-dipole effects in multiphoton ionization using short-wavelength intense laser pulses
14	Kadlecova	Hedvika	Gravitational waves in the area of laser plasma interaction
15	Kasper	Valentin	Schwinger pair production with ultracold atoms
16	Kharin	Vasily	Numerical modeling of the electron-positron cascades in the strong electromagnetic fields
17	Kohlfürst	Christian	Phase-space description of effective mass signatures in the multiphoton regime of pair production
18	Labun	Lance	Effective theory for laser acceleration of electrons
19	Lezhnin	Kirill	Effect of electromagnetic pulse transverse inhomogeneity on ion acceleration by radiation pressure
20	Li	Jianxing	Robust signatures of quantum radiation reaction and ultrashort gamma-ray pulses with an electron beam in a focused laser

Nr.	Surname	Name	Title
21	Lyu	Qingzheng	The application of complex scaling approach to the pair creation
22	Martins	Joana	Radiation emission in the transition from the classical to the quantum regime
23	Molchanov	Vladimir	Temporal profiling of the ultrashort laser pulses by dispersive acoustooptic methods
24	Muraviev	Alexander	Generation of gigantic quasistationary magnetic fields in an electron-positron plasma created in colliding laser pulses
25	Neagu	Liviu	Nuclear experiments at Extreme Light Infrastructure-Nuclear Physics (ELI-NP) driven with dual 10 PW laser beam
26	Ploumistakis	Ioannis	Numerical comparison of Popov and Breit-Wheeler schemes on laser vacuum breakdown for pair creation
27	Rykovanov	Sergey	Photon yield optimization for nonlinear Thomson scattering
28	Schlenvoigt	Hans-Peter	Detection of vacuum birefringence
29	Seegert	Nico	Photon propagation in inhomogeneous electromagnetic background fields
30	Serebryakov	Dmitry	Plasma edge dynamics in ultraintense laser field
31	Seto	Keita	A phenomenological model of radiation reaction at ELI-NP
32	Skoromnik	Oleg	Justification of the single-mode approximation for a finite-duration laser pulse interacting with an electron
33	Strobel	Eckhard	Semi-classical Schwinger pair production in rotating electric fields
34	Tamburini	Matteo	Plasma-based generation and control of a single few-cycle high-energy and ultrahigh intensity laser pulse
35	Kumar	Naveen	Control of single and collective particle dynamics via radiation reaction force
36	Vranic	Marija	Weakly quantum regime with 1-10 PW lasers through Compton scattering
37	Wang	Hongyong	Signatures of quantum radiation reaction in laser-electron-beam collisions
38	Wistisen	Tobias	Interference effect in nonlinear Compton scattering
39	Wu	Yuanbin	Generalized Breit-Wheeler process in the collision of a photon with a bifrequent laser wave
40	Wöllert	Anton	Laser-induced pair production: magnetic field and spin effects
41	Teeny	Nicolas	Laser-induced tunnel ionization: tunneling time and relativistic effects
42	Bauke	Heiko	Spin dynamics in relativistic light-matter interaction