

CHILI2019 - Program

Monday, Dec 9th

9:00 - 9:30			Opening remarks
Session 1: Laser Plasma Interaction Chair: A. Zigler			
9:30 - 9:55	R. Kumar	Tata Inst., India	Spatiotemporal Dynamics of Relativistically Hot Plasmas:-Two-dimensional, Femtosecond Doppler Imaging and Giant Magnetic Field Evolution
9:55 - 10:20	H. Milchberg	U. Maryland, USA	Ultrashort spatio-temporal optical vortices (STOVs)
10:20 - 10:45	J. Rocca	Colorado State U., USA	Extreme plasma conditions from nanostructures irradiated with highly relativistic ultrafast laser pulses
10:45 - 11:10	R. Pompilli	LN Frascati, Italy	Plasma-based experiments at SPARC_LAB
11:10 - 11:50 Break			
Session 2a: Particle acceleration Chair: V. Malka			
11:50 - 12:15	J. Vieira	Universidade de Lisboa, Portugal	Superradiant emission by spatiotemporally shaped relativistic particle bunches
12:15 - 12:40	Y. Wan	Weizmann inst., Israel	key physics study of high quality laser driven ion acceleration
12:40 - 13:05	V. Bychenkov	Lebedev Physics Inst., Russia	Effective production of gammas, positrons and photonuclear particles from optimized electron acceleration by short laser pulses in low-density targets
13:05 - 13:25	P. Zhu	SIOM, China	Temporal contrast enhancement by a plasma-lens filter
Session 2b: Attosecond science Chair: G. Marcus			
11:50 - 12:15	B. Bergues	LMU, Munich, Germany	Single-shot Carrier-Envelope-Phase Measurements Made Easy
12:15 - 12:40	I. Litvinyuk	Griffith U., Australia	Frustrated tunneling ionization: Experimental observation of AC-Stark resonances in strong field excitation
12:40 - 13:00	B. Zon	Voronezh State U., Russia	1-, 2-, and 3-electron detachment of halogen-containing anions
13:00 - 13:20	O. Kfir	GAU Göttingen, Germany	Coupling free-electrons and whispering gallery modes
13:20 - 15:00 Lunch Break			
Session 3a: HEDP And ICF Chair: Z. Henis			
15:00 - 15:25	S. Regan	LLE, USA	Three-Dimensional Diagnostics for Inertial Confinement Fusion Research on OMEGA
15:25 - 15:45	N. Nissim	SNRC, Israel	Increased pre-compression for laser shock experiments on water
15:45 - 16:05	M. Fraenkel	SNRC, Israel	"Forward Radiators": Characterization of x-ray sources based on laser interaction with gold foil targets
16:05 - 16:30	S. Glenzer	SLAC, USA	Exploring matter at extreme conditions with an x-ray free-electron laser
Session 3b: HHG Chair: M. Kreuger			
15:00 - 15:20	B. Bernhardt	Graz University of Technology, Austria	Extreme Resolution Spectroscopy in the XUV
15:20 - 15:45	B. Schultze	TU Graz, Germany	Ultrafast coherent electron and spin dynamics in solids
15:45 - 16:05	G. Lerner	Technion, Israel	Selection rules in HHG: unified microscopic-macroscopic group theory and observation of new selection rules
16:05 - 16:25	O. Neufeld	Technion, Israel	Ultrafast detection of chirality and ring-currents by symmetry breaking high harmonic spectroscopy
16:30 - 17:00 Break			
Session 4:Facilities Chair: I. Pomerantz			
17:00 - 17:25	G. Korn	ELI-Beamlines, Czech Rep.	ELI Beamlines: Facility status and first results on laser driven secondary sources of x-rays and particles
17:25 - 17:45	T. Ditmire	National Energetics, Inc, USA	Design and Latest Performance of the Rep-Rated Multi-kJ L4 Laser at ELI-Beamlines
17:45 - 18:10	R. Assman	DESY, Germany	EuPRAXIA – A Conceptual Design for a Plasma Accelerator Facility
18:10 - 20:30 Reception and Poster Session			

Tuesday, Dec 10th

8:50 - 9:00			Announcements
Session 5: Attosecond science Chair: E. Frumker			
9:00 - 9:25	P. Hommelhoff	FAU, Erlangen, Germany	Attosecond physics – with graphene, needle tips and photonics-based laser acceleration
9:25 - 9:50	M. Nisoli	Politecnico di Milano, Italy	Attosecond spectroscopy of bio-relevant molecules
9:50 - 10:10	C. Heide	FAU, Erlangen, Germany	Attosecond-fast electron dynamics in graphene
10:10 - 10:30	V. Yakovlev	MPQ, Garching, Germany	Solids after ultrafast strong-field excitation
10:30 - 11:00 Break			
Session 6a: Extreme fields Chair: D. Kaganovitch			
11:00 - 11:20	T. Yu	National University of Defense Technology, Changsha, China	Brilliant γ -ray emission and dense e-e+ pair production in near-critical-density plasmas
11:20 - 11:40	B. Hafizi	NRL, USA	Advances in Strong-Field QED Theory of Pair Creation
11:40 - 12:00	D. Gordon	NRL, USA	Laser Plasma Acceleration for Strong Field QED Experiments
12:00 - 12:20	I. Pomerantz	Tel-Aviv U., Israel	Probing the Boiling Point of the Vacuum of Quantum Electrodynamics at the EU.XFEL
Session 6b: Attosecond science Chair:			
11:00 - 11:20	G. Shoulga	Tel-Aviv U., Israel	Anomalous phase matching of high-harmonic generation through inter sub-cycle interference
11:20 - 11:40	S. Rozen	Weizmann inst., Israel	Controlling sub-cycle instantaneous optical chirality in the photoionization of chiral molecules
11:40 - 12:00	M. Kreuger	Technion, Israel	Electronic wavefunctions probed by all-optical attosecond interferometry
12:00 - 12:20	D. Zimin	MPQ, Garching, Germany	Sampling of light waveforms by sub-cycle carrier injection and control in solids
12:20 - 14:00 Lunch Break			
Session 7a: radiation sources Chair:			
14:00 - 14:25	L. Schachter	Technion, Israel	Dielectric Laser Accelerator: Accomplishments and Challenges
14:25 - 14:45	E. Raicher	Max Planck Institute for nuclear physics, Heidelberg, Germany	Radiation emission by an ultrarelativistic electron interacting with counterpropagating laser beams
14:45 - 15:10	A. Gover	Tel-Aviv U., Israel	Quantum Wavefunction Interactions of Free Electrons with Light and Matter and the wave-particle duality
Session 7b: ICF and HEDP Chair: T. Pikuz			
14:00 - 14:20	E. Marley	LLNL, USA	Using x-ray spectroscopy to quantify mix and plasma conditions in ignition experiments using W-doped HDC capsules at the NIF
14:20 - 14:40	Z. Henis	SNRC, Israel	Time-dependent modeling of photoionization fronts in nitrogen
14:40 - 15:00	N. Sapir	SNRC, Israel	Measurements and calculations of x-ray emission from thick gold disk targets irradiated by normally incident laser
15:10 - 15:50 Break + Commercial presentations			
Session 8: wakefield acceleration Chair: V. Bychenkov			
15:50 - 16:15	J. Kieffer	NRS-EMT, Canada	Experimental scaling laws for LWFA-based betatron X-ray emission
16:15 - 16:40	A. Dopp	LMU, Munich, Germany	Advanced electron and X-ray sources using laser wakefield acceleration
16:40 - 17:05	O. Lundh	Lund U., Sweden	Manipulating electrons in a wakefield accelerator
17:05 - 17:25	V. Horný	Chalmers University of Technology, Sweden	Generation of ultrashort electron bunch trains by trapping into multiple periods of plasma wakefields
19:00 - Social dinner			

Wednesday, Dec 11th

8:50 - 9:00

Announcements

Session 9: ICF and HEDP Chair: M. Fraenkel

9:00 - 9:25	R. Betti	LLE, USA	Overview of the cryogenic implosion campaign on the OMEGA laser
9:25 - 9:50	M. Koenig	LULI - CNRS, CEA, France	Rayleigh-Taylor instabilities in High Energy Density Physics : from linear growth to turbulence
9:50 - 10:15	J. Moody	LLNL, USA	Progress in hohlraum experiments and plans for magnetized HED science on NIF
10:15 - 10:40	D. Batani	U. Bordeaux, France	Progress in understanding the physics of the shock ignition approach to laser inertial confinement fusion

10:40 - 11:20 Break

Session 10a: Laser plasma interaction Chair: B. Hafizi

11:20 - 11:40	S. Ricaud	Thales, France	10 PetaWatt Laser System for Extreme Light Physics
11:40 - 12:00	D. Kaganovich	NRL, USA	Plasma optics for focusing and guiding of high power lasers
12:00 - 12:20	H. VINCENTI	CEA, Université Paris-Saclay, France	Achieving extreme light intensities using optically- structured relativistic plasma mirrors

Session 10b: Attosecond Science Chair: Y. Shamir

11:20 - 11:40	P. Komm	HUJI, Israel	Parametric Generation – Laser Amplification of Carrier to Envelope Phase Locked Ultrashort Pulses in the Mid-Infrared, A Tool for X-Ray HHG
11:40 - 12:00	O. Kneller	Weizmann inst., Israel	Interferometric attosecond lock-in measurement of extreme ultraviolet circular dichroism
12:00 - 12:20	E. Ridente	MPQ, Garching, Germany	IR-Visible light waveform synthesizer with electro-optic field characterization

12:20 - 14:00 Lunch Break

Session 11a: Particle acceleration Chair: U. Schramm

14:00 - 14:20	W. Wang	National University of Defense Technology, Changsha, China	Proton focusing driven by laser triggered Coulomb explosion
14:20 - 14:40	A. Pazzaglia	Politecnico di Milano, Italy	A theoretical model of laser-driven ion acceleration from near-critical double-layer targets
14:40 - 15:00	D. Zou	National University of Defense Technology, Changsha, China	Relativistic high-order-mode laser pulse generation from plasma waveguide and its application in laser ion acceleration

Session 11b: ICF and HEDP Chair: M. Koenig

14:00 - 14:20	R. Shepherd	LLNL, USA	Exploring dense plasma properties utilizing ultrashort pulse lasers and plasma spectroscopy
14:20 - 14:40	P. Michel	LLNL, USA	Overview of current laser-plasma interaction efforts for ICF on the National Ignition Facility
14:40 - 15:00	A. Shimony	NRCN, Israel	Exploring the Self-Similar Stage of the Rayleigh-Taylor Instability via LLNL's NIF Discovery Science Experiments

15:00 - 15:40 Break

Session 12: Laser-plasma interaction Chair: O. Lundh

15:40 - 16:05	U. Schramm	HZDR, Germany	Advancing laser plasma accelerators by means of femto-scale diagnostics
16:05 - 16:30	T. Wang	SIOM, China	New effects of femtosecond laser filament guided discharges
16:30 - 16:55	J. Papeer	HUJI, Israel	Generation of extended, long lived plasma channels in air: Towards remote lightning manipulation by lasers
16:55 - 17:15	N. Fisch	PPPL, USA	Recent Studies in High-Intensity Laser Propagation

Thursday, Dec 12th: Organized sightseeing tour

Posters

1	M. Ben-Dov	SNRC, Israel	Geometrical ray decomposition of a divergent non- Gaussian laser beam
2	F. Bisesto	INFN, Italy	The FLAME laser at SPARC_LAB: results and perspectives
3	V. Chernov	Voronezh State U., Russia	Laser-induced deformation of many-atomic molecules: Influence on Franck-Condon factors
4	I. Cohen	Tel-Aviv U., Israel	Intense laser-generation of photo-nuclear reactions with “Exploding foils”
5	N. Cohen	Technion, Israel	Wake field of an electron bunch moving parallel to a dielectric cylinder
6	G. Costa	Laboratori Nazionali di Frascati, Italy	Laser pulse guiding tests with different capillary configurations at SPARC_LAB
7	M. Elkind	Tel-Aviv U., Israel	Radiation damage studies using intense lasers
8	M. Even Tzur	Technion, Israel	Universal scaling law of symmetry breaking in Floquet systems: application to harmonic generation spectroscopy
9	A. Feist	U. Göttingen, Germany	Quantum coherent optical transverse and longitudinal shaping of free electron beams
10	M. Galletti	Universidade de Lisboa, Portugal	Experimental scaling of ultra-fast electron beams generated by high-intensity laser-solid matter interactions
11	V. Gasilov	KIAM, RAS, Russia	Laser beam coupling with capillary discharge plasma for laser wakefield acceleration: models and simulations
12	Y. Gershuni	Tel-Aviv U., Israel	A Gatling Gun Target Delivery System for High Intensity Laser Irradiation Experiments
13	K. Gope	HUJI, Israel	N-NO & NN-O bond cleavage dynamics in the N2O2+
14	R. Halifa-Levi	Tel-Aviv U., Israel	Single-shot Coherent Diffractive Imaging in Reflection Geometry
15	L. Hofmann	Class 5 Photonics , Germany	Femtosecond 100 W-level OPCPAs from 800 nm to 2 μm
16	A. Kornev	Voronezh State U., Russia	Dynamic polarizabilities of diatomics
17	E. Levine	Weizmann inst., Israel	Density Tapering Implementation for Emittance Growth Reduction in Laser-Plasma Electron Acceleration
18	D. Levy	Weizmann inst., Israel	Gas-foil target for ion acceleration
19	P. Michel	LLNL, USA	Recent developments in plasma photonics: polarization
20	S. Moustazis	Technical University of Crete, Greece	Numerical evaluation of the necessary conditions to ignite fusion in laser-driven p11B plasma by strong alpha heating effect
21	S. Moustazis	Technical University of Crete, Greece	High Power “Nuclear Batteries” Based on p11B Fusion Plasma in Compact Magnetic Device
22	I. Neuberger	SNRC, Israel	Hot electron generation from a hole target for external electron injection into a laser-based accelerator
23	G. Oren	SNRC, Israel	Numerically designing a novel perforated diamond anvil for laser-driven shock wave experiment
24	A. Pandey	Université Paris-Saclay, France	Impure infrared vortex driven High harmonic generation
25	T. Pikuz	Osaka University, Japan	X-ray spectroscopic evidence of observation the Fe-plasma with GJ/cm ³ energy density in experiment at PW-class J-KAREN-P laser facility
26	E. Porat	Tel-Aviv U., Israel	Towards direct-laser-production of relativistic surface harmonics
27	Y. Ralchenko	NIST, USA	Detailed Atomic Modeling of a Hot Dense Copper Plasma Resonantly Photo-Pumped with an XFEL
28	Z. Refaeli	SNRC, Israel	Ultrashort Pump from Aperiodic Nonlinear Frequency Converter for enhancing μ-Joule OPA contrast
29	S. RICAUD	Thales, France	10 PetaWatt Laser System for Extreme Light Physics
30	F. Sanson	Université Paris-Saclay, France	High-charge XUV Vortex beam: generation and Hartmann
31	P. Sasorov	ELI-Beamlines, Czech Rep.	Synergic Cherenkov-Compton radiation as manifestation of QED vacuum polarization in a strong electromagnetic field
32	A. Shaham	HIL Applied medical, Israel	Extending the scanning range of a third-order cross correlator using a temporally delayed replica of the test pulse
33	Z. Shpilman	SNRC, Israel	Measurement of L-shell emission from mid-Z targets at non-LTE conditions using Transmission Grating Spectrometer and Dante power diagnostics
34	S. Smartsev	Weizmann inst., Israel	Axiparabola: long-focal depth high resolution mirror for broadband high intensity lasers
35	S. Tata	Weizmann inst., Israel	Recombination and Electron Attachment in Plasma Generated by a High Intensity Laser
36	D. Thorn	LLNL, USA	MASS-TEMPERATURE DISTRIBUTIONS WITHIN ICF IMPLOSIONS ON THE NATIONAL IGNITION FACILITY
37	M. Vrbova	Czech Technical University in	Hybrid pumping of EUV nitrogen laser

38 T. Wistisen	Max-Planck-Institut für Kernphysik, Saupfercheckweg, Germany	Numerical approach to the semiclassical method of radiation emission for the case of arbitrary electron spin and photon polarization
39 D. Xue	SIOM, China	Fundamental, second and third harmonic wave diagnosis based on multi-wavelength coherent phase modulation
40 X. Yang	National University of Defense Technology, Changsha, China	Control of fast electrons in dense plasmas
41 D. Zhang	SIOM, China	Focal spot deterioration analysis of plasma mirrors for high power ultra-short laser systems
42 B. Zon	Voronezh State U., Russia	Theory of dissociative tunneling ionization and Coulomb explosion
43 B. Zon	Voronezh State U., Russia	Influence of effective energy in a laser pulse on the probability of a multiphoton process

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