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on Inertial Fusion Sciences and Applications

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Nara

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Abstracts



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THALES

IFSA2013 Technical Program

Monday, September 9, 2013

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14:20	O.Mo_A6 P. A. Amendt	<i>Rugby hohlraum campaign on the National Ignition Facility: status and comparison with modeling</i>	 8
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14:20 O.Tu_B7	N. Iwata	<i>Laser-matter interaction in cluster medium in the radiation dominated regime: Particle acceleration and radiation</i>		139
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15:40 **Coffee break**

16:00 **Poster session (ctd)**

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17:20	O.Tu_A15	V. B. Rozanov	<i>Direct Drive Targets for the Megajoule Installation UFL-2M</i>	236
17:40	O.Tu_A16	E. Lefebvre	<i>Science and code validation program to secure ignition on the Laser</i>	237

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17:00	O.Tu_B10	S. M. Weng	<i>Efficient generation of high quasi-monoenergetic ion fluence for hole-boring fast ignition using temporally tailored intense laser pulses</i>	239
17:20	O.Tu_B11	S. Sakabe	<i>Single-Shot Ultrafast Electron Diffraction and Electron Deflectometry Using Electrons Accelerated by an Intense Femtosecond Laser Pulse</i>	240
17:40	O.Tu_B12	S. Karsch	<i>Stable and tunable laser-wakefield acceleration and x-ray generation</i>	241

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16:40	O.Tu_C9	X. Ouyang	<i>Precise Diagnostics for Shen Guang II upgrade facility</i>	242
17:00	O.Tu_C10	D. B. Sinar	<i>Inertial Confinement Fusion Experiments on the Sandia Z Facility Using Magnetically-Driven Targets</i>	243
17:20	O.Tu_C11	K. J. Peterson	<i>Evaluation of instability growth, mitigation, and stabilization techniques in magnetized liner inertial fusion targets</i>	244
17:40	O.Tu_C12	R. D. McBride	<i>Beryllium liner implosion experiments on the Z accelerator in preparation for Magnetized Liner Inertial Fusion (MagLIF)</i>	245

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9:30	OP.We_A3	P. B. Radha	<i>Overview of Direct-Drive-Implosion Physics: Results from OMEGA and the</i>	251
10:00	OP.We_A4	R. Betti	<i>Progress in Shock Ignition at the Laboratory for Laser Energetics</i>	252

10:30 **Coffee break**

Oral session B2 (Noh Theatre)

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11:10	O.We_A6	H. Sawada	<i>Areal density measurement of imploded cone-in-shell targets using monochromatic Cu K-alpha Radiography</i>	254
11:30	O.We_A7	Y. Arikawa	<i>The diagnostics of the energy coupling efficiency in the fast ignition integrated experiment</i>	255
11:50	O.We_A8	C. McGuffey	<i>Transport of High Intensity Laser-driven Proton Beams in Solid-density, Isochorically Heated Matter</i>	256

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11:10 O.We_B2	L. Chen	<i>Generation of Electron Beam and Betatron X-Ray from Laser-Driven Atomic Clusters</i>	258
11:30 O.We_B3	K. B. Fournier	<i>Recent Advances in Ultra-Low-Density Foams for Multi-KeV X-Ray Sources</i>	259
11:50 O.We_B4	T. Nakamura	<i>Laser-driven gamma-ray source via radiation reaction effect</i>	260

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10:50 O.We_C1	J. D. Kilkenny	<i>Understanding the Stagnation and Burn of High Convergence Implosions of the NIF</i>	261
11:10 O.We_C2	F. Merrill	<i>Neutron imaging results from ICF experiments at NIF</i>	262
11:30 O.We_C3	Z. Zhang	<i>Quantitative Kα line spectroscopy for energy transport in ultra-intense laser plasma interaction</i>	263
11:50 O.We_C4	R. Tommasini	<i>Radiographic measurements of areal density and areal density non-uniformities of ICF implosions</i>	264

12:00 **Lunch break**

12:30 **Bus departure to KPSI and ILE [Tour route A]**

13:30 **Bus departure to KPSI [Tour route B]**

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8:30 OP.Th_A1	J.-L. Miquel	<i>The Laser Mega-Joule: LMJ & PETAL status and Program Overview</i>	267
9:00 OP.Th_A2	X.-T. He	<i>The updated advancements of inertial confinement fusion program in China</i>	268
9:30 OP.Th_A3	D. J. Hoarty	<i>The first data from the Orion laser; measurements of the spectrum from hot dense plasma</i>	269
10:00 OP.Th_A4	M. C. Herrmann	<i>Overview of the High Energy Density Science Program on the Z Facility at Sandia National Laboratories</i>	270

10:30 **Coffee break**

Oral session D2 (Noh Theatre)

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11:10 O.Th_A6	R. Fedosejevs	<i>Backscatter Instabilities in Long Scale Length Shock Ignition Plasma</i>	272
11:30 O.Th_A7	J. Sanz	<i>Structural stability analysis of the ultra-intense laser/plasma interaction: explaining multiple results for the same simulations and experiments</i>	273
11:50 O.Th_A8	M. Sherlock	<i>The Role of Fast-Electron-Driven Wake-Fields in the Heating of Solid Targets Irradiated by Intense Lasers</i>	274

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11:30 O.Th_B3	Y. Li	<i>Strong terahertz generation from relativistic laser-solid interactions</i>	277
11:50 O.Th_B4	W.-M. Wang	<i>Terahertz radiation by two-color lasers with the second laser at an arbitrary harmonic</i>	278

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10:50 O.Th_C1	A. Faenov	<i>High-resolution X-ray Spectromicroscopy Diagnostics of Plasma Produced by High Contrast Femtosecond Laser Pulse Irradiation of Submicron Clusters</i>	279
11:10 O.Th_C2	S. A. Pikuz	<i>Exotic dense-matter states pumped by a relativistic laser plasma in the radiation-dominated regime</i>	280
11:30 O.Th_C3	H. Chen	<i>New Results on the Laser Produced Relativistic Electron-Positron Pair Plasma Research</i>	281
11:50 O.Th_C4	M. Lobet	<i>Intense gamma-ray and pair production in laser-driven dense plasmas</i>	282

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14:00 O.Th_A10	J. D. Salmonson	<i>A 1D Hot Spot Mix Model for Diagnosing Performance of NIF Ignition Experiments</i>	284
14:20 O.Th_A11	S. Wilks	<i>Kinetic and Multi-Species Effects Relevant to Hot Spot Ignition</i>	285

14:40 O.Th_A12	A. E. Turrell	<i>The theory and simulation of discrete, large-angle Coulomb collisions</i>		286
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13:40 O.Th_B5	Y. Sakawa	<i>Laboratory astrophysical experiments using Gekko XII laser system</i>		287
14:00 O.Th_B6	T. Morita	<i>Measurement of electrostatic field associated with a shock formed in laser-produced counter-streaming plasmas</i>		288
14:20 O.Th_B7	C. Michaut	<i>Highly Radiative Shocks on the Laser Integration Line</i>		289
14:40 O.Th_B8	F. Wang	<i>Experimental evidence and theoretical investigation of photoionized plasma under x-ray radiation produced by an intense laser</i>		290
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13:35 Opening Address of IAEA-TM				
13:40 O.Th_C5	J. M. Perlado	<i>Physics and Technology for Engineering and Power Plant in Laser Fusion Energy Systems under Repetitive Operation</i>		291
14:00 O.Th_C6	A. R. Paramo	<i>Focal distance variation due to neutron dose on silica final lenses for IFC</i>		292
14:20 O.Th_C7	Y. Hirooka	<i>Buffer Gas Effects on Aerosol Formation and Hydrogen Co-deposition</i>		293
14:40 O.Th_C8	Y. Kitagawa	<i>Progress toward a unified experimental kJ-machine CANDY</i>		294
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P.Th_2	V. V. Vatulin	<i>Theoretical study of hydrodynamic processes in indirect drive foams on "Iskra 5" iodine laser</i>		296
P.Th_4	S. T. Faik	<i>2D radiation-hydrodynamic simulations of hohlraum targets driven by intense laser beams</i>		297
P.Th_5	M. N. Chizhkov	<i>The 2D simulation of cryogenic target compression and thermonuclear burn for the asymmetry of a radiation field in Rugby-type hohlraum</i>		298
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P.Th_68	K. Yamanoi	<i>VUV fluorescence from Nd- and Er-doped glass-scintillator</i>	358
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15:40 **Coffee break**

16:00 **Poster session (ctd)**

Oral session B3 (Noh Theatre)

16:40 O.Th_A13	K. Mima	<i>Magnetized Fast ignition (MFI) and Laser Plasma Interactions in Strong Magnetic Field</i>	361
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17:00 O.Th_A14 J. J. Honrubia	<i>Enhancement of fast electron energy deposition by external magnetic fields</i>		362
17:20 O.Th_A15 T. Johzaki	<i>Electron Beam Guiding by Strong Longitudinal Magnetic Field</i>	.....	363
17:40 O.Th_A16 H. Nagatomo	<i>Compression of the Magnetic field in a Coned-guided Implosion</i>		364

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16:40 O.Th_B9 T. Mohammad	<i>Laser Driven Ion Acceleration Experiments at RRCAT, INDIA</i>		365
17:00 O.Th_B10 A. Arefiev	<i>New mechanisms for generating super-ponderomotive electrons in laser-irradiated targets</i>	.....	366
17:20 O.Th_B11 S. Bedacht	<i>Thin Cryogenic Hydrogen Targets for Laser and Particle Beams</i>	.....	367
17:40 O.Th_B12 P. Antici	<i>Laser ion acceleration with low density targets: a new path towards high intensity, high energy and high current ion beams</i>	.....	368

Oral session J2+K/IAEA (Conference Room 3&4)

16:40 O.Th_C9 Y. Kozaki	<i>Conceptual Design of Laser Fusion Experimental Reactor (LIFT) Based on Fast Ignition Scheme</i>	.....	369
17:00 O.Th_C10 T. Norimatsu	<i>Release of Real Size, Fast Ignition Target from Sabot</i>	.....	370
17:20 O.Th_C11 R. Tsuji	<i>Development of Position Measurement Unit for Flying IFE Target</i>	.....	371
17:40 O.Th_C12 A. Iwamoto	<i>Performance of the new apparatus for fuel layering demonstration of FIREX targets</i>		372

18:30 **Welcome (Hotel Nikko Nara)**

19:00 **Banquet (Hotel Nikko Nara)**

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8:30 T.Fr_A1 J. Hanner	<i>Alternative Approaches to High Energy Density Fusion</i>		375
9:00 T.Fr_A2 R. Petrasso	<i>Revisiting Shock-driven Exploding Pushers: Insights into Fields and Plasma Flows, Nucleosynthesis, and Kinetic Effects</i>	.....	376

Plenary session 5 (Noh Theatre)

9:30 OP.Fr_A3 D. H. H. Hoffmann	<i>Ion-Beam Plasma Interaction and High Energy Density Physics at GSI and FAIR in Darmstadt</i>	.....	377
10:00 OP.Fr_A4 H.-S. Park	<i>Laboratory astrophysical collisionless shock experiments on Omega and NIF</i>	.....	378

10:30 **Coffee break**

Oral session D3+E+R (Noh Theatre)

10:50 O.Fr_A5 W. Gayzac	<i>Ion energy loss at maximum stopping power in a laser-generated plasma</i>	.....	379
11:10 O.Fr_A6 A. P. Ortnier	<i>Heavy ions energy loss experiments in dense plasma using hohlraum targets</i>	.....	380
11:30 O.Fr_A7 E. G. Hill	<i>Non-LTE Radiation Transport in the Modelling of Implosions</i>	.....	381
11:50 O.Fr_A8 M. B. Schneider	<i>ViewFactor Experiments on the National Ignition Facility</i>	.....	382

Oral session N3+O (Conference Room 1&2)

10:50 O.Fr_B1 R. Yurchak	<i>Simulations of HED laboratory astrophysics experiments of nested jets and accretions shocks in cataclysmic variables with the FLASH code</i>	.....	383
11:10 O.Fr_B2 M. J.-E. Manuel	<i>Generating Collimated Magnetized Plasma Flows Relevant to Astrophysical</i>	.....	384
11:30 O.Fr_B3 G. Gregori	<i>X-ray measurement of the structure of strongly driven carbon at LCLS</i>	.....	385
11:50 O.Fr_B4 F. Dorchies	<i>Structural investigation of SiO2 at extreme temperature and density using Si K-edge XANES</i>		386

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10:50 O.Fr_C1 Y. Inubushi	<i>Performance of SACLA for high energy density science</i>		387
11:10 O.Fr_C2 H. Yoneda	<i>Interaction of intense X-ray laser pulse with solid materials</i>	.....	388
11:30 O.Fr_C3 T. Kluge	<i>Probing of Complex Interaction Dynamics of Ultra-Intense Lasers with Solid Matter with XFELs</i>	.....	389
11:50 O.Fr_C4 N. Tanaka	<i>Spectroscopic measurements of ablation plasma generated with laser-driven intense extreme ultraviolet (EUV) light</i>		390

12:10 **Lunch break**

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13:40 O.Fr_A9 J. S. Ross	<i>Rugby Hohlraum Experiments on the National Ignition Facility</i>		391
14:00 O.Fr_A10 A. N. Simakov	<i>Beryllium Ignition Target Design for Indirect Drive NIF Experiments</i>	.....	392
14:20 O.Fr_A11 R. E. Olson	<i>Alternative Hot Spot Formation Techniques in Inertial Confinement Fusion Capsule Implosions</i>	.....	393

14:40 O.Fr_A12	L. J. Perkins	<i>Application of Compressed Magnetic Fields to Ignition and Burn on the National Ignition Facility</i>		394
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13:40 O.Fr_B5	S. Atzeni	<i>Energy and wavelength scaling of shock-ignited targets: Options for increasing target robustness</i>		395
14:00 O.Fr_B6	A. R. Piriz	<i>Ablation driven by hot electrons in shock ignition</i>		396
14:20 O.Fr_B7	P. D. Nicolai	<i>Multi-dimensional simulations of high-pressure shock formation driven by fast-electron energy deposition resolved over the hydrodynamic time and space scales</i>		397
14:40 O.Fr_B8	H. Cai	<i>Study on the transport of a relativistic electron beam in plasmas</i>		398
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14:00 O.Fr_C6	S. Sebban	<i>Advances in OFI soft x-ray lasers at LOA</i>		400
14:20 O.Fr_C7	M. Nishikino	<i>Observation of the surface dynamics of femtosecond laser ablation by time-resolved soft x-ray imaging technique</i>		401
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16:20	Student prize ceremony			
	Closing ceremony			