50TH ANOMALOUS ABSORPTION CONFERENCE 2022

Agenda

Sunday, June 5

5:00P	Registration		Registartion Starts
7:00P	Reception		Social Hour

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Monday, June 6

7:00P	Registration		Registartion Continues
Indirect-Drive Physics			
Chair: Albright	**Albright**	Speaker	Title
8:30A	Invited	Ross	Creating an igniting plasma on the National Ignition Facility
9:00A	Invited	Divol	Origins of variability in indirect drive inertial confinement fusion implosions with capsule gain >1
9:30A	Oral	Turnbull	Beam Spary Thresholds in ICF-Relevant Plasmas
9:50A	Oral	Farmer	Progress towards an inline beam deflection model for use in a radiation-hydrodynamic code
10:10A	Break		
Direct Drive Physics			
Chair: Montgomery			
10:30A	Invited	Colaitis	3D Simulations Capture the Persistent Low-Mode Asymmetries Evident in Laser-Direct-Drive Implosions on OMEGA
11:00A	Oral	Goncharov	Physics requirements for high-gain inertial fusion target designs
11:20A	Oral	Barlow	Optimization of Polar Direct Drive Illumination for Mega-Joule Laser Facilities
11:40A	Oral	Viala	Study of cross-beam energy transfer in spherical strong shock polar direct-drive experiments at the NIF
12:00P	Oral	Liotard	Influence of the solid-to-plasma transition on the laser energy deposition in targets and subsequent hydrodynamics for direct drive inertial confinement fusion
12:30P	Lunch		

Chair: Froula		Speaker	Title
7:00P	Plenary	Kruer	Fifty Years of Anomalous Absorption Conferences: the meetings that grew up with the quest for fusion and new frontiers in high-energy density physics
8:30P	Poster		
	P1	Schmitt	Anomalous ablative energetics of direct drive implosions at the National Ignition Facility
	P2	Belyaev	Mitigating LPI and gold bubble expansion using foams
	P3	Lester	Developing an Infrastructure for Automated Tuning of Hohlraum Simulations
	P4	Larroche	Some paths to model plasma collisions in inertial confinement fusion experiments
	P5	Kuczek	The Impact of Fill Tube Geometry on Recent High Yield Implosions at the National Ignition Facility
	P6	Olsen	Design of a direct-drive experimental platform for exploring the effects of heterogeneous mix on fusion burn
	P7	Milovich	Using Aerogel Foams to Improve Performance in Low-Density Gas-Filled Hohlraum Designs
	P8	Maximov	Nonlinear laser-plasma coupling caused by two-plasmon decay and crossed-beam energy transfer
	P9	Haberberger	X-ray schlieren refraction imaging
	P10	Tsung	Higher Dimensional Effects in Laser Plasma Interactions Relevant to Inertial Fusion Energy

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Tuesday, June 7

Alternate Indirect Drive Physics Platforms			
Chair: Moody		Speaker	Title
8:30A	Invited	Higginson	Understanding and controlling capsule symmetry in near vacuum hohlraums at the National Ignition Facility
9:00A	Oral	Lemos	Specular Reflections ("glint") of the inner beams in a gas-filled cylindrical hohlraum
9:20A	Oral	Ho	High rR Mo-dopped Be heavy ablator high yield: Experimental design and implosion physics
9:40A	Oral	Luedtke	Developing Predictive Modeling of Laser-Plasma Interactions for X-ray Radiographic Imaging
10:00A	Break		
Source Development			
Chair: Weichman			
10:30A	Invited	Palaniyappan	
11:00A	Oral	Rinderknecht	Relativistically transparent magnetic filaments: A path to mega tesla fields and efficient gamma radiation
11:20A	Oral	Ramsey	Exact analytic solutions yielding flying-focus pulses
11:40A	Oral	Palastro	Nonlinear Thomson scattering with ponderomotive control
12:00P	Oral	Pierce	Arbitrarily structured laser pulses
12:30P	Lunch		

Chair: Turnbull		Speaker	Title
7:00P	Plenary	Edwards	Diffractive Plasma Optics for High-Power Lasers
8:30P	Poster		
	P10	Griff-McMahon	Magnetic Field Amplification in Underdense Plasma By Linearly Polarized Intense Laser Pulses
	P2	Brutus	Efficient Volumetric Diffractive Plasma Optics for Controlling High-Intensity Light
	P3	Fasano	Harmonic Generation in Reflection from Plasma Mirrors
	P4	Djordjevic	Transfer learning and multi-fidelity modeling of laser-driven particle acceleration
	P5	Qu	Creating observable QED collective plasma effects
	P6	Montgomery	X-ray Phase Contrast Imaging of Void Collapse in ICF Ablator Materials
	P7	Lezhnin	Focusability in the multi-pump Raman amplification of short laser pulses
	P8	Huang	High-yield and high-angular-fluence neutron generation from deuterons accelerated by laser-driven collisionless shock
	P9	Griffith	Increased Collective QED Signatures Throguh Particle Reflection
	P10	Weichman	Relativistically thermal plasma generation by magnetically assisted direct laser acceleration

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Wednesday, June 8

Cross Beam Energy Transfer			
Chair: Palastro		Speaker	Title
8:30A	Invited	Nguyen	Cross-beam energy transfer saturation by ion-trapping-induced detuning
9:00A	Oral	Seaton	Theory and simulation of cross-beam energy transfer mitigation through increased laser bandwidth
9:20A	Oral	Yin	Nonlinear cross-beam energy transfer model for ICF/HED design codes
9:40A	Oral	Edgell	Polarization-smoothing-induced nonuniformity in direct-drive implosions on OMEGA
10:00A	Break		
Instabilities			
Chair: Colaitis			
10:30A	Invited	Milder	Direct measurement of the return current instability
11:00A	Oral	Rousseaux	Experimental evidence of enhanced density fluctuations in plasmas experiencing stimulated Raman scattering of picosecond and nanosecond laser pulses
11:20A	Oral	Myatt	Stimulated Raman side scattering--important at last!
11:40A	Oral	Rovere	Scaling of hot electron generation from two-plasmon decay instability
12:00P	Oral	Solodov	Hot-electron preheat and mitigation in polar-direct-drive experiments at the National Ignition Facility
12:30P	Lunch		
2:00P	Archery Tag (Group Game)		Please let Raka know if you want to join this group activity at registration.
6:00P			Group Photo
6:30P			BBQ Dinner

Agenda

Thursday, June 9

Magnetized plasmas			
Chair: Strozzi		Speaker	Title
8:30A	Invited	Vogman	A two-species quasilinear model for current-carrying magnetized plasmas and its validation using continuum kinetic simulations
9:00A	Oral	Winjum	Parameter scan of stimulated Raman scattering in magnetic fields
9:20A	Oral	Lee	Effect of small normalized magnetic fields on rescatter of stimulated Raman scattering in the kinetic regime
9:40A	Oral	Reichelt	Influence of Self-Generated Fields on Hot Electron Transport in NIF Hohlraums
10:00A	Break		
Alternative implosion platforms			
Chair: Olson			
10:30A	Invited	Sio	Progress on magnetized indirect-drive implosions at the National Ignition Facility
11:00A	Oral	Strozzi	Modeling the first Magetized NIF Hohlraum Implosions
11:20A	Oral	Moody	The magnetized indirect drive implosion project on NIF
11:40A	Oral	Pearcy	ARES Simulations of Inverted Corona Experiments at the OMEGA Laser Facility
12:00P	Oral	Sauppe	Uncovering 3D Features in Cylindrical Implosion Experiments using the FLASH Code
12:30P	Lunch		

Chair: **P. Michel**		Speaker	Title
7:00P	Plenary	Bates	Suppressing parametric instabilities in direct-drive inertial-confinement fusion plasmas using broadband laser light
8:30P	Poster		
	P1	Wen	Mitigation of inflationary stimulated Raman scattering with laser bandwidth
	P2	Chase	Stimulated Raman backscatter in the kinetic regime of lasers with orbital angular momentum
	P3		
	P4	Lee	Porting the particle-in-cell code OSIRIS to GPU-accelerated architectures
	P5	Ludwig	Bow shock formation in a plasma flowing across randomized laser beams
	P6	Joglekar	Unsupervised Discovery of Non-Linear Plasma Physics using Differentiable Kinetic Simulations
	P7		
	P8	Barfield	Measurements of anisotropic electron temperatures in magnetized gas-jet plasmas
	P9	Johnson	Experimental observation of the transition from electrostatic toward electromagnetic collisionless shocks in laser-driven plasmas
	P10	Leal	Modeling laser-driven ablative magnetothermal instability
	P11	Shaffer	An extended Vlasov-Fokker-Planck approach to laser absorption and ponderomotive transport effects

Agenda

Friday, June 10

Experimental platforms			
Chair: Bates		Speaker	Title
8:30A	Invited	Di Stefano	Modeling of a hybrid direct/indirect-drive scheme for producing complex hydrodynamic profiles involving co-propagating shocks
9:00A	Oral	Albright	Effects of mass ablation on fusion ignition and burn propagation in layered fusion capsules
9:20A	Oral	Epstein	Quantification and assessment of radiation-trapping efficiency in inertial confinement fusion implosion experiments based on characteristic quantities of simple models
9:40A	Oral	LeFevre	Experiments to study strongly coupled radiative shocks on the OMEGA laser
10:00A	Break		
Laser-plasma instabilities			
Chair: Milder			
10:30A	Oral	Simpson	High-energy two-color terahertz generation
10:50A	Oral	Weaver	Broad Bandwidth Laser Development for LPI mitigation at NRL
11:10A	Oral	Ludwig	Comparison of Optical Smoothing Techniques for Mitigation of Filamentation
11:30A	Oral	Cao	Predicting hot electron generation in inertial confinement fusion with particle-in-cell simulations
11:50P	Oral	Stark	Nonlinear Models for Coupling the Effects of Stimulated Raman Scattering to Inertial Confinement Fusion Design Codes
12:30P	Lunch		