

Sherwood Fusion Theory Conference 2024

Poster session 1 : Monday 13:00 to 15:30

P1.01	Rahul Gaur (Princeton)	Novel Stellarator Design using the DESC Optimization Suite (Invited talk)
P1.02	David Hatch (Texas)	Enhancing fusion performance by control of edge density and temperature: a novel approach to core edge integration (Invited talk)
P1.03	Rinkle Juneja (ORNL)	Machine learning informed multi-scale fracture modeling in tungsten plasma-facing materials (Invited talk)
P1.04	Kyungjin Kim (ORNL)	Coupled core, edge pedestal and SOL modeling in super H-mode experiments on DIII-D towards self-consistent simulation (Invited talk)
P1.05	Orso Meneghini (GA)	The FUSE framework and its use for fusion power plant design optimization (Invited talk)
P1.06	Haley Wilson (Columbia)	Using integrated modeling to explore the core operational space around a reactor-class negative triangularity tokamak (Invited talk)
P1.07	Cami Collins (ORNL)	Overview of the Fusion REactor Design and Assessment (FREDA) Project
P1.08	Fatima Ebrahimi (PPPL)	The CETOP (Center for Edge of Tokamak OPTimization) SciDAC-5 project and nonlinear ELMs
P1.09	Christopher Hansen (Columbia)	Machine learning for validation of high-fidelity simulations of ELMs and optimization of ELM-free reactor design
P1.10	Jacob King (Fiat Lux)	Algorithms for accelerated computing with extended-MHD modeling
P1.11	Andreas Kleiner (PPPL)	Benchmark of extended-MHD codes for edge stability in ELMy and non-ELMing H-modes
P1.12	Pablo Rodriguez-Fernandez (MIT)	Surrogate modeling as a pathway to enable high-fidelity predictions of tokamak performance
P1.13	Adelle Wright (Wisconsin-Madison)	Overview of new high-fidelity and scalable stellarator modeling efforts at UW-Madison
P1.14	Ilon Joseph (LLNL)	On Electric and Thermodynamic Polarization of Magnetically Confined Plasmas (Invited talk)
P1.15	Brad Shadwick (Nebraska-Lincoln)	Gauge Invariance (Invited talk)
P1.16	William Barham (Texas)	A structure-preserving discretization of Maxwell's equations in nonlinear media
P1.17	Joshua Burby (Texas)	Hamiltonian Stellarator Reduced MHD
P1.18	Nathaniel Ferraro (PPPL)	New Capabilities for Stellarator Modeling with M3D-C1
P1.19	Jack Gabriel (W&M)	Kinetic discontinuous Galerkin method to model neutral particle dynamics
P1.20	Nikolai Gorelenkov (PPPL, Princeton)	REVISITED QUASI-LINEAR SIMULATION OF FAST ION RELAXATION IN ITER MEDIATED BY ALFVÉN INSTABILITIES
P1.21	Federico Halpern (GA)	Anti-symmetric spectral moments of the Vlasov-Poisson equation
P1.22	Siena Hurwitz (Maryland)	Efficient Calculation of and Coil Shape Optimization for Lorentz Forces
P1.23	Joseph Jepson (Columbia)	Numerical stability of a Chapman-Enskog-like (CEL) continuum kinetic closure scheme in NIMROD when using multiple Fourier modes in toroidal angle
P1.24	Patrick Kim (Princeton)	Towards Semi-Implicit Methods for the GX Gyrokinetics Code
P1.25	Evdokiya Kostadinova (Auburn)	Application of spectral theory to the study of anomalous diffusion in fusion plasmas
P1.26	Philip Morrison (Texas)	Filtered Hamiltonian Reduction and PIC Codes

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P1.27	Felix Parra (PPPL)	Advances in plasma-wall boundary conditions for gyrokinetic and fluid simulations
P1.28	Sanket Patil (Wisconsin-Madison)	Efficient preconditioning for stellarator MHD and benchmarking of NIMSTELL for tearing modes in W7-A
P1.29	Carl Sovinec (Wisconsin-Madison)	Progress and challenges for spectral-element magnetohydrodynamics for stellarators
P1.30	Xianzhu Tang (LANL)	Physics of collisional-radiative modeling and its neural network surrogates for fusion plasmas
P1.31	Gabriel Woodbury Saudeau (Auburn)	Numerical calculation of 3D free-boundary MHD equilibria
P1.32	Ben Zhu (LLNL)	Flux-coordinate independent (FCI) method and its implications in boundary plasma modeling