**U.S. Transport Task Force Workshop**

**Loew’s Annapolis Hotel**

**Annapolis, MD**

**USA**

**April 10-13, 2012**

**TTF PROGRAM**

|  |  |  |  |  |
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| **Mon., April 9** | **Tues., April 10** | **Wed., April 11** | **Thurs., April 12** | **Fri., April 13** |
|  | **Welcome / Logistics 8:15 AM**  (Ballroom B&C) |  |  | **Closing Plenary**  **8:15 AM**  **(**Ballroom B**)** |
|  | **Plenary Session I**  (Ballroom B&C) | **Plenary Session II**  (Ballroom B&C) | **Working Group Session I**  Core (Ballroom B)  Edge (Ballroom C)  Energetic Particle (Ballroom A) | **Working Group Session**  Core (Ballroom B)  Edge (Ballroom C)  Energetic Particle (Ballroom A) |
|  | **Break**  (Windjammer) | **Break**  (Windjammer) | **Break**  (Windjammer) | **Break**  (Windjammer) |
|  | **Plenary Session I**  (Ballroom B&C) | **Plenary Session II**  (Ballroom B&C) | **Working Group Session II**  Core (Ballroom B)  Edge (Ballroom C)  Energetic Particle (Ballroom A) | **Working Group Session**  Core (Ballroom B)  Edge (Ballroom C)  Energetic Particle (Ballroom A) |
|  | **Lunch** | **Lunch** | **Lunch** | **MEETING**  **ADJOURNS** |
|  | **Plenary Session I**  (Ballroom B&C) | **Plenary Session II**  (Ballroom B&C) | **Working Group Session III**  Core (Ballroom B)  Edge (Ballroom C)  Energetic Particle (Ballroom A) | **ECC Meeting**  (Windjammer) |
|  | **Break**  (Windjammer) | **Break**  (Windjammer) | **Break**  (Windjammer) |  |
|  | **Poster Session**  (Atrium) | **Poster Session**  (Atrium) | **Working Group Session IV**  Core (Ballroom B)  Edge (Ballroom C)  Energetic Particle (Ballroom A) | **ECC Meeting**  (Windjammer) |
| 6:30 pm - 8:00 pm  **Welcome Reception/**  **Registration**  (Atrium) | 6:30 pm - 9:30 pm  **Reception/Dinner**  **(**Ballroom B&C**)** |  |  |  |

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| **Date Tuesday, April 10, 2012** | | |
| **Plenary Session I – Physics of Low Torque Plasmas** | | **Plenary Presentations (Regatta Ballroom B&C)** | |
| **8:15–8:30** | **S. Kaye** | **Welcome / Logistics** | |
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| **8:30-12:00** | *Chairs:* J. Rice and G. Staebler |  | |
| 8:30 | M. Reinke | The curious case of toroidal rotation (25+5) | |
| 9:00 | J.-K. Park | Intrinsic rotation generation during L-H transition in NSTX ohmic plasmas (25+5) | |
| 9:30 | D. Brower | Intrinsic flow from magnetic-fluctuation-driven kinetic stress (25+5) | |
| **10:00-10:30** |  | *BREAK – Atrium A* | |
|  |  |  | |
| 10:30 | W. Solomon | Confinement properties of low torque plasmas in DIII-D (25+5) | |
| 11:00 | D. Schaffner | Observation of improved and degraded confinement with driven flow on the LAPD (25+5) | |
| 11:30 | H. Jhang | Role of external torque in the ion temperature profile de-stiffening and internal transport barrier formation (25+5) | |
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| **12:00-1:30** |  | *LUNCH* | |
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| **1:30-2:30** | *Chair:* J. Rice and G. Staebler |  | |
| 1:30 | D. Ernst | Nonlinear upshift of the threshold for trapped electron mode turbulence: experiments and simulation (25+5) | |
| 2:00 | J. Hillesheim | Observation of a critical gradient threshold for electron temperature fluctuations in low torque DIII-D plasmas (25+5) | |
| **2:30-3:15** | W. Solomon, J. Rice, G. Staebler | Summary and Discussion | |
| **3:15-3:30** |  | *BREAK – Atrium A* | |
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| **3:30-6:00** |  | Poster Session – (Atrium) | |
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| **6:30-9:30** |  | Reception / Dinner (Ballroom B&C) | |
| **6:30-7:15** |  | Cash Bar | |
| **7:15-9:30** |  | Dinner (Wine service with dinner, cash bar remains open) | |

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| **Date Wednesday, April 11, 2012** | | | | |
| **Plenary Session II – Experimental characterization of the H-mode pedestal structure and transport processes, and comparison with modeling and theory** | | | **Plenary Presentations (Regatta Ballroom B&C)** |
| **8:30-10:20** | | *Chair:* R. Maingi | Experiment |
| 8:30 | | R. Groebner | Coordinated experimental, modeling and theoretical investigation of pedestal structure in FY2011 joint research target on pedestal physics |
| 9:20 | | J. Hughes | Developing predictive capability for the tokamak pedestal: Experiment and modeling on Alcator C-Mod |
| 9:50 | A. Diallo | | Evolution of the pedestal transport and characterization of the edge fluctuations during the ELM cycle on NSTX |
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| **10:20-10:35** | |  | *BREAK – Atrium A* |
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| **10:35-12:30** | | *Chair:* T. Rognlien | Theory |
| 10:35 | | P. Snyder | Developing and testing the EPED pedestal model as part of the 2011 Joint Research Target |
| 11:05 | | C.S. Chang | New bootstrap current formula for diverted edge pedestal |
| 11:35 | | E. Wang | Linear gyrokinetic analysis of a DIII-D H-mode pedestal near ideal ballooning threshold |
| 12:05 | | R. Maingi & T. Rognlien | Combined discussion |
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| **12:30-2:00** | |  | *LUNCH* |
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| **2:45-3:15** | | *Chair:* R. Maingi & T. Rognlien |  |
| 2:00 | | S. Parker | Bootstrap current destabilization of the kinetic ballooning mode in the tokamak edge pedestal |
| 2:25 | | W. Stacey | Interpretation of diffusive and non-diffusive transport in the tokamak edge pedestal |
| 2:50 | | R. Maingi & T. Rognlien | Discussion |
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| **3:15 -3:30** | |  | *BREAK – Atrium A* |
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| **3:30-6:00** | |  | Poster Session (Atrium) |
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| **Date Thursday, April 12, 2012** | | |
| **Core Transport Working Sessions and Discussion (Regatta Ballroom B)** | | |
| **8:30-10:00** | *Chair*: L. Schmitz | **Session I – 2012 Joint Research Target** |
| 8:30 | A. White | Overview of the 2012 JRT on core transport validation |
| 8:50 | L. Schmitz | JRT Discussion |
| 9:20 | Z. Lin | Gyrokinetic particle simulations of collisionless trapped electron turbulence |
| 9:40 | C. Fiore | The effect of intrinsic flow drive in the production of C-Mod internal transport barriers |
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| **10:00-10:20** |  | *BREAK – Atrium A* |
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| **10:20-12:10** | *Chair*: C. Holland | **Session II – Core/V&V Joint on 2012 JRT** |
| 10:20 | N. Howard | Quantitative comparison of experimental impurity transport with nonlinear gyrokinetic simulation on Alcator C-Mod |
| 10:40 | R. Bravenec | Comparisons of GYRO and GS2 including ExB flow shear |
| 11:10 | T. Rafiq | Validation study of MMM7.1 anomalous transport module |
| 11:30 | B. Grierson | Comparison of core deuterium ion toroidal and poloidal rotation to neoclassical theory |
| 11:50 | C. Holland/L. Schmitz | Discussion |
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| **12:10-1:20** |  | *LUNCH* |
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| **1:20-3:00** | *Chair*: G. Staebler | **Session III – Transport in Core/Edge Transition Regime** |
| 1:20 | J. Kinsey | TGLF modeling and gyro simulations of the L-mode near edge region |
| 1:40 | C. Holland | Development and analysis of a core transport and turbulence validation database |
| 2:00 | Y. Kosuga | Structure-driven turbulence in ‘No man’s Land’: A bound for fluctuation amplitude in drift hole - zonal flow system |
| 2:20 | J. Rice | Rotation reversals, energy confinement saturation and non-diffusive heat transport in Alcator C-Mod ohmic plasmas |
| 2:40 | G. Staebler | Discussion |
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| **3:00-3:30** |  | *BREAK – Atrium A* |
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| **3:30-5:30** | *Chair*: J. Rice | **Session IV – Discussion of Future Plans and Action Items** |
| 3:30 | Staebler/Schmitz/Holland | Discussion |

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| **Date Friday April 13, 2012** | | |
| **Momentum/Core Working Sessions and Discussion (Regatta Ballroom B)** | | |
| **8:30 – 10:10** | *Chair:* P. Diamond | **Session V – Joint Core/Momentum on Zonal Flows and GAMs** |
| 8:30 | L. Wang | Zonal flow driven by coupling between drift waves and ion acoustic waves |
| 8:50 | O. Gurcan | Spectral dynamics and Predator-Prey oscillations in simple (and more complicated) models of plasma turbulence |
| 9:10 | L. Vermare | Modulation of GAM frequency observed on Tore Supra using Doppler backscattering |
| 9:30 | K. Makwana | Role of stable modes in zonal flow regulated turbulence |
| 9:50 | P. Diamond | Discussion |
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| **10:15-10:30** |  | *BREAK – Atrium A* |
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| **10:30-12:30** | *Chair*: W. Solomon | **Session VI – Intrinsic Rotation and Momentum Transport** |
| 10:30 | S. Muller | Boundary conditions for intrinsic rotation: kinetic calculations of angular momentum transport by a neutral gas in contact with a spinning plasma |
| 10:50 | S. Ku | Momentum transport of full-f ITG turbulence simulation in realistic tokamak geometry including separatrix |
| 11:10 | P.-C. Hsu | Structure of turbulent momentum flux in quasi-2d system with multi-scale shearing field |
| 11:30 | S. Thakur | Suppression of drift wave turbulence and zonal flow formation by changing axial boundary conditions in a linear magnetized plasma device |
| 11:50-12:30 | W. Solomon/P. Diamond | **Discussion + Future Plans and Action Items** |

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| **Date Thursday, April 12, 2012** | | |
| **Edge Physics Working Sessions and Discussion (Regatta Ballroom C)** | | |
| **8:30 – 10:00** | *Chair:*  R. Groebner | **Session I – Pedestal Structure - Turbulence** |
| 8:30 | D. Smith | Parametric dependencies of low-k turbulence in NSTX H-mode pedestals |
| 8:50 | J. Walk | Characterization of the Pedestal in Alcator C-Mod ELMing H-Modes and Comparison to the EPED Model |
| 9:10 | I. Czeigler | Interactions between the Quasi- and Weakly-Coherent-Modes and edge flows in Alcator C-Mod |
| 9:30 | R. Vann | Using electron Bernstein wave emission as an edge diagnostic |
| 9:50 | D. Fulton | Gyrokinetic particle simulation of linear instabilities in DIII-D pedestal plasmas |
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| **10:15-10:30** |  | *BREAK – Atrium A* |
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| **10:30-12:15** | *Chair*: J. Canik | **Session II – Pedestal Structure – Particle Transport and Sources** |
| 10:30 | W. Xiao | Pedestal Particle Transport Study using Perturbation Method Perturbation Method in HL-2A and KSTAR |
| 10:50 | J. Lang | Effect of neutral particle source and sink on pedestal turbulence and transport |
| 11:10 | A. Pankin | Effects of Transient Fluxes on the H-mode Pedestal Stability |
| 11:30 | Y. Sechrest | Gas Puff Imaging observations of ELM precursors in NSTX |
| 11:50 | R. Groebner/J. Canik | Discussion |
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| **12:15 – 1:30** |  | *LUNCH* |
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| **1:30-3:00** | *Chair*: C.S. Chang | **Session III – 3D Physics and RMP Fields – Joint Session** |
| 1:30 | J. Callen | RMP effects on pedestal plasma transport |
| 2:00 | S. Mordijk | Particle transport changes as a result of RMPs |
| 2:20 | T. Rognlien | Plasma edge-SOL transport simulations including quasilinear stochastic transport due to resonant magnetic perturbations |
| 2:40 | T. Evans/C.S. Chang | Discussion |
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| **3:00-3:30** |  | *BREAK – Atrium A* |
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| **3:30-5:30** | *Chair*: J. Myra | **Session IV – SOL Transport** |
| 3:30 | R. Kube | Large amplitude blob propagation in the SOL of Alcator C-Mod and comparison to theoretical models |
| 3:50 | D. Russell | Reduced-model (SOLT) simulations of the EDA H-mode at Alcator C-Mod |
| 4:10 | S. Zweben | Effects of Biased Electrodes in the Divertor Plate Region of NSTX |
| 4:30 | X. Tang | Parallel transport and profile of boundary plasmas with a low recycling wall |
| 4:50 | B. Friedman | Energy dynamics in a simulation of LAPD turbulence |
| 5:10 | J. Myra | Discussion |

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| **Date Friday April 13, 2012** | | |
| **Edge Physics Working Sessions and Discussion (Regatta Ballroom C)** | | |
| **8:30 – 10:30** | *Chair:* S. Parker | **Session V – Edge/SOL Fluctuations** |
| 8:30 | P. Diamond | Spatio-Temporal Evolution of the L→H Transition |
| 8:50 | A. Hubbard | Threshold conditions for transitions to I-mode and H-mode with unfavourable ion drift direction |
| 9:10 | G. Xu | The role of oscillatory zonal flows in the L-H transition near threshold conditions and the formation of a small-ELM regime |
| 9:30 | P. Manz | Energetic interaction between turbulence and shear flows during L-H transition in the EAST tokamak |
| 9:50 | S. Parker | Discussion |
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| **10:15-10:30** |  | *BREAK – Atrium A* |
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| **10:30-11:15** | T. Rognlien/R. Maingi | **Develop Plans/Action Items – Full Group** |

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| **Date Thursday, April 12, 2012** | | |
| **Energetic Particles Working Group Sessions and Discussion (Regatta Ballroom A)** | | |
| **8:30-10:15** | *Chair*: G.Y. Fu | **Session I** |
|  | E. Fredrickson | Fast ion energy loss during TAE avalanches in NSTX |
|  | D. Darrow | Stochastic loss of neutral beam ions during TAE avalanches in NSTX |
|  | J. Koliner | Fast particle confinement and Alfvénic instabilities during neutral beam injection on the RFP |
|  | L. Lin | Neutral-beam-driven instabilities and their impact on beam ions in a Reversed Field Pinch |
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| **10:15-10:30** |  | *BREAK – Atrium A* |
|  |  |  |
| **10:30-12:00** | *Chair*: G.Y. Fu | **Session II** |
|  | G.Y. Fu | M3D-K Simulation of Beam-Driven Alfven Modes in DIIID |
|  | E.M. Bass | Gyrokinetic effects on linear Alfvén eigenmode structure and transport |
|  | W. Deng | Gyrokinetic particle simulations of reversed shear Alfv en eigenmodes in DIII-D tokamak |
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| **12:00-1:30** |  | *LUNCH* |
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| **1:30 – 3:00** | *Chair*: G.Y. Fu | **Session III** |
|  | M. Lesur | Nonlinear instabilities driven by coherent phase-space structures |
|  | K. Ghantous | Revisiting Line Broadened Burst Model: Applications on TAE-EP Interaction |
|  | H. Zhang | Nonlinear Frequency Chirping of b-induced Alfven Eigenmode |
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| **3:00 – 3:30** |  | *BREAK – Atrium A* |
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| **3:30 – 5:00** | *Chair*: G.Y. Fu | **Session IV** |
|  | F. Hinton | Effect of superbanana diffusion on fusion reactivity in stellarator |
|  | G. Kramer | Full gyro-orbit simulations of the interaction between Neutral Beam Ions and High Harmonic Fast Waves in NSTX. |
|  | M. Pueschel | Gyrokinetic Fast Particle Simulations in Tokamak Geometries |
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| **5:00-5:30** | All | **Discussion of future plans and Action Items** |

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| **POSTER SESSIONS – Tuesday, April 10, 2012** | | | | |
| **3:30-5:45 PM** | | | **Atrium** | |
| P1 | Ogata | Douglas | | Investigating non-diffusive transport in drift wave turbulence |
| P2 | Reynolds-Barredo | Jose | | Study of intermittent coherent regions in the phase of k modes for 2D drift wave DTEM turbulence simulations |
| P3 | Newman | David | | Initiation and dynamical co-evolution of electron and ion channel transport barriers |
| P4 | Terry | Paul | | On the effect of damped modes on transport |
| P5 | Yi | Sumin | | Role of turbulence spreading in flow generation and transport |
| P6 | Zhao | Lei | | Inter-species collisionless energy transfer by drift wave-zonal flow turbulence |
| P7 | Smith | Sterling | | Probing electron stiffness and critical gradients in experiment and simulation |
| P8 | Kim | Chang-Bae | | Induction of advective turbulent flux in Hasegawa-Mima fluctuations driven by noise |
| P9 | Guttenfelder | Walter | | Testing TGLF for spherical tokamaks |
| P10 | Carmody | Daniel | | Gyrokinetic modeling of microinstabilities in the Reversed Field Pinch |
| P11 | Brower | David | | Core density fluctuations and plasma flow in the HSX stellarator |
| P12 | Porkolab | Miklos | | Transport and gyrokinetic analysis in the Linear Ohmic Confinement (LOC) regime in Alcator C-Mod |
| P13 | Ennever | Paul | | The effects of main ion dilution on transport and turbulence ohmic plasmas in Alcator C-Mod and comparisons with gyrokinetic simulations |
| P14 | Liao | Ken | | Transport of helium as an impurty and as a main ion in Alcator C-mod |
| P15 | Reinke | Matthew | | Anomalous up/down asymmetry of Ar16+ emission in Alcator C-Mod Ohmic plasmas |
| P16 | Rowan | William | | Transport of light, trace impurities in Alcator C-Mod |
| P17 | Scotti | Filippo | | Study of carbon and lithium neoclassical transport in ELM-Free H-Mode discharges in NSTX |
| P18 | White | Anne | | Evolution of core turbulence across the L-I transition in Alcator C-Mod |
| P19 | Ren | Yang | | Response of electron-scale turbulence and thermal transport to continuous ExB shear ramping-up |
| P20 | Yu | Liubing | | Electronics characterization and data correction for far infrared tangential interferometry and polarimetry (FIReTIP) on NSTX |
| P21 | Marinoni | Alessandro | | Plasma fluctuations in ion stiffness experiments sampled by the Phase Contrast Imaging diagnostic |
| P22 | Baver | Derek | | ArbiTER: a flexible eigenvalue solver for fluid and kinetic problems in general topologies |
| P23 | Vadlamani | Srinath | | Progress of parallel validation tools for fusion simulations as applied to synthetic diagnostic efforts |
| P24 | Light | Adam | | Turbulent stress measurements using imaging techniques |
| P25 | Wang | Weixing | | Flow shear driven turbulent transport in tokamak plasmas |
| P26 | Bortolon | Alessandro | | High frequency Alfven Eigenmode activity in presence of low frequency and static magnetic perturbations on NSTX |
| P27 | Liu | Deyong | | M3D-K simulations of beam-ion-driven Alfven modes on NSTX |
| P28 | Podesta | Mario | | Parametric study of chirping TAE modes in NSTX |
| P29 |  |  | |  |
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| P31 |  |  | |  |
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| **POSTER SESSIONS – Wednesday, April 11, 2012** | | | | |
| **3:30-5:45 PM** | | | **Atrium** | |
| P1 | Aydemir | Ahmet | | Poloidally asymmetric edge electric fields and their effect on the L-H transition power threshold |
| P2 | Lee | Christopher | | L-I-H Transition with Avalanche Noise |
| P3 | Ma | Yunxing | | Comprehensive study of H-mode access in the Alcator C-Mod tokamak: density, toroidal field and divertor geometry dependence |
| P4 | Battaglia | Devon | | Connection between neoclassical pedestal physics and the L-H power threshold scaling |
| P5 | Yagi | Masatoshi | | Simulation study of L-H transition with self-consistent integrated modelling of core and SOL-divertor transport |
| P6 | Schmitz | Lothar | | The role of zonal flows and predator-prey oscillations in the L-H and H-L transition |
| P7 | Xu | Min | | Vortex-mediated energy, momentum, and charge transport at the edge of a L-mode tokamak plasma |
| P8 | Fedorczak | Nicolas | | A possible model for the dependence of the Low to High mode power threshold with the plasma geometry |
| P9 | Hayes | Tiffany | | A correlation between turbulence and parallel flows in a linear device |
| P10 | Canik | John | | Linear microstability properties of the NSTX pedestal without and with lithium coated PFCs |
| P11 | Davis | Evan | | BOUT simulations of edge turbulence in Alcator C-Mod's EDA H-mode |
| P12 | Fu | Xiangrong | | Turbulent impurity transport modeling for C-Mod |
| P13 | Kruger | Scott | | Verification of bootstrap current models |
| P14 | Rost | Jon | | Phase contrast imaging measurements of short wavelength turbulence generated in the QH-mode edge on DIII-D |
| P15 | Wan | Weigang | | Micro-instabilities of tokamak edge pedestal |
| P16 | Maingi | Rajesh | | The steps by which lithium wall coatings lead to ELM suppression in NSTX |
| P17 | Boyle | Dennis | | Evolution of ELM-free pedestal structure with lithium wall coatings in NSTX |
| P18 | Churchill | Michael | | Poloidal flows and in-out impurity density asymmetries in the pedestal region |
| P19 | Dorf | Mikhail | | Progress with the COGENT edge kinetic code: neoclassical and initial divertor-geometry simulations |
| P20 | Kim | Jayhyun | | Effects of vertical jogging of plasma column and edge electron heating on plasma confinement in the KSTAR device |
| P21 | Rhee | Tongnyeol | | On interpreting perturbative experiments on pedestal transport using supersonic molecular beam injection |
| P22 | Wang | Huiqian | | Comparison of a new small ELM and type-III ELM in EAST H-mode plasmas |
| P23 | Yan | Zheng | | Pedestal density fluctuation characteristics and dynamics during a poloidal beta scan |
| P24 | Myra | James | | Edge sheared flows and blob dynamics |
| P25 | Gentle | Kenneth | | Turbulent structures and turbulence suppression in the helimak |
| P26 | Guo | Zehua | | Wave-particle interaction in parallel transport of long mean-free-path scape-off layer plasmas |
| P27 | Joseph | Ilon | | Drift-MHD model for transport induced by external magnetic perturbations |
| P28 | Wilcox | Robert | | Measurement of Reynolds stress flow drive in the HSX stellarator |
| P29 | Evans | Todd | | Changes in fluctuations and transport due to toroidal phase variations of nonaxisymmetric magnetic perturbations in DIII-D |
| P30 | Moyer | Richard | | Response of the radial electric field and rotation to externally applied magnetic perturbations |
| P31 | Chang | Choong-Seock | | Unveiling the kinetic mechanism for RMP penetration in diverted edge geometry |
| P32 |  |  | |  |
| P33 |  |  | |  |
| P34 |  |  | |  |



**TTF List of Presentations**

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| **Oral** | **Poster** | **Primary Author Last Name** | **Primary Author First Name** | **Title** |
|  | Wed-P1 | Aydemir | Ahmet | Poloidally asymmetric edge electric fields and their effect on the L-H transition power threshold |
| EP-II |  | Bass | Eric | Gyrokinetic effects on linear Alfven eigenmode structure and transport |
|  | Wed-P4 | Battaglia | Devon | Connection between neoclassical pedestal physics and the L-H power threshold scaling |
|  | Tues-P22 | Baver | Derek | ArbiTER: a flexible eigenvalue solver for fluid and kinetic problems in general topologies |
|  | Tues-P26 | Bortolon | Alessandro | High frequency Alfven eigenmode activity in presence of low frequency and static magnetic perturbations on NSTX |
|  | Wed-P17 | Boyle | Dennis | Evolution of ELM-free pedestal structure with lithium wall coatings in NSTX |
| Core-II |  | Bravenec | Ron | Comparisons of GYRO and GS2 including ExB flow shear |
| P1 |  | Brower | David | Intrinsic flow from magnetic-fluctuation-driven kinetic stress |
|  | Tues-P11 | Brower | David | Core density fluctuations and plasma flow in the HSX stellarator |
| Edge-III |  | Callen | James D | RMP effects on pedestal plasma transport |
|  | Wed-P10 | Canik | John | Linear microstability properties of the NSTX pedestal without and with lithium coated PFCs |
|  | Tues-P10 | Carmody | Daniel | Gyrokinetic modeling of microinstabilities in the Reversed Field Pinch |
| P2 |  | Chang | Choong-Seock | New bootstrap current formula for diverted edge pedestal |
|  | Wed-P31 | Chang | Choong-Seock | Unveiling the kinetic mechanism for RMP penetration in diverted edge geometry |
|  | Wed-P18 | Churchill | Michael | Poloidal flows and in-out impurity density asymmetries in the pedestal region |
| Edge-I |  | Cziegler | Istvan | Interactions between the Quasi- and Weakly-Coherent-Modes and edge flows in Alcator C-Mod |
| EP-I |  | Darrow | Douglass | Stochastic loss of neutral beam ions during TAE avalanches in NSTX |
|  | Wed-P11 | Davis | Evan | BOUT simulations of edge turbulence in Alcator C-Mod's EDA H-mode |
| EP-II |  | Deng | Wenjun | Gyrokinetic particle simulations of reversed shear Alfven eigenmodes in DIII-D tokamak |
| P2 |  | Diallo | Ahmed | Evolution of the pedestal transport and characterization of the edge fluctuations during the ELM cycle on NSTX |
| Edge-V |  | Diamond | Patrick | Spatio-temporal evolution of the L→H transition |
|  | Wed-P19 | Dorf | Mikhail | Progress with the COGENT edge kinetic code: neoclassical and initial divertor-geometry simulations |
|  | Tues-P13 | Ennever | Paul | The effects of main ion dilution on transport and turbulence ohmic plasmas in Alcator C-Mod and comparisons with gyrokinetic simulations |
| P1 |  | Ernst | Darin | Nonlinear upshift of the threshold for trapped electron mode turbulence: experiments and simulation |
|  | Wed-P29 | Evans | Todd | Changes in fluctuations and transport due to toroidal phase variations of nonaxisymmetric magnetic perturbations in DIII-D |
|  | Wed-P8 | Fedorczak | Nicolas | A possible model for the dependence of the Low to High mode power threshold with the plasma geometry |
| Core-I |  | Fiore | Catherine | The effect of intrinsic flow drive in the production of C-Mod internal transport barriers |
| EP-I |  | Fredrickson | Eric | Fast-ion energy loss during TAE avalanches in the National Spherical Torus Experiment |
| Edge-IV |  | Friedman | Brett | Energy dynamics in a simulation of LAPD turbulence |
| EP-II |  | Fu | Guoyong | M3D-K simulation of beam-driven Alfven modes in DIII-D |
|  | Wed-P12 | Fu | Xiangrong | Turbulent impurity transport modeling for C-Mod |
| Edge-I |  | Fulton | Daniel | Gyrokinetic particle simulation of linear instabilities in DIII-D pedestal plasmas |
|  | Wed-P25 | Gentle | Kenneth | turbulent structures and turbulence suppression in the Helimak |
| EP-III |  | Ghantous | Katy | Revisiting line broadened QL model: application on TAE-EP interaction |
| Core-II |  | Grierson | Brian | Comparison of core deuterium ion toroidal and poloidal rotation to neoclassical theory |
| P2 |  | Groebner | Richard | Coordinated experimental, modeling and theoretical investigation of pedestal structure in FY2011 joint research target on pedestal physics |
|  | Wed-P26 | Guo | Zehua | Wave-particle interaction in parallel transport of long mean-free-path scape-off layer plasmas |
| Core-V |  | Gurcan | Ozgur | Spectral dynamics and predator-prey oscillations in simple (and more complicated) models of plasma turbulence |
|  | Tues-P9 | Guttenfelder | Walter | Testing TGLF for spherical tokamaks |
|  | Wed-P9 | Hayes | Tiffany | A correlation between turbulence and parallel flows in a linear device |
| P1 |  | Hillesheim | Jon | Observation of a critical gradient threshold for electron temperature fluctuations in low torque DIII-D plasmas |
| EP-IV |  | Hinton | Fred | Effect of superbanana diffusion on fusion reactivity in stellarators |
| Core-III |  | Holland | Christopher | Development and analysis of a core transport and turbulence validation database |
| Core-II |  | Howard | Nathan | Quantitative comparison of experimental impurity transport with nonlinear gyrokinetic simulation on Alcator C-Mod |
| Core-VI |  | Hsu | Pei-Chun | Structure of turbulent momentum flux in quasi-2D system with multi-scale shearing field |
| Edge-V |  | Hubbard | Amanda | Threshold conditions for transitions to I-mode and H-mode with unfavourable ion drift direction |
| P2 |  | Hughes | Jerry | Developing predictive capability for the tokamak pedestal: Experiment and modeling on Alcator C-Mod |
| P1 |  | Jhang | Hogun | Role of external torque in the ion temperature profile de-stiffening and internal transport barrier formation |
|  | Wed-P27 | Joseph | Ilon | Drift-MHD model for transport induced by external magnetic perturbations |
|  | Tues-P8 | Kim | Chang-Bae | Induction of advective turbulent flux in Hasegawa-Mima fluctuations driven by noise |
|  | Wed-P20 | Kim | Jayhyun | Effects of vertical jogging of plasma column and edge electron heating on plasma confinement in the KSTAR device |
| Core-III |  | Kinsey | Jon | TGLF modeling and gyro simulations of the l-mode near edge region |
| EP-I |  | Koliner | Jonathan | Fast particle confinement and alfvenic instabilities during neutral beam injection on the RFP |
| Core-III |  | Kosuga | Yusuke | Structure-driven turbulence in ‘No man’s Land’: A bound for fluctuation amplitude in drift hole - zonal flow system |
| EP-IV |  | Kramer | Gerrit J. | Full gyro-orbit simulations of the interaction between Neutral Beam Ions and High Harmonic Fast Waves in NSTX |
|  | Wed-P13 | Kruger | Scott | Verification of bootstrap current models |
| Core-VI |  | Ku | Seung-Hoe | Momentum Transport of Full-f ITG turbulence simulation in realistic tokamak geometry including separatrix |
| Edge-IV |  | Kube | Ralph | Large amplitude blob propagation in the SOL of Alcator C-Mod and comparison to theoretical models |
| Edge-II |  | Lang | Jianying | Effect of neutral particle source and sink on pedestal turbulence and transport |
|  | Wed-P2 | Lee | Christopher | L-I-H transition with avalanche noise |
| EP-III |  | Lesur | Maxime | Nonlinear instabilities driven by coherent phase-space structures |
|  | Tues-P14 | Liao | Ken | Transport of helium as an impurty and as a main ion in Alcator C-mod |
|  | Tues-P24 | Light | Adam | Turbulent stress measurements using imaging techniques |
| EP-I |  | Lin | Liang | Neutral-beam-driven instabilities and their impact on beam ions in a Reversed Field Pinch |
| Core-I |  | Lin | Zhihong | Gyrokinetic particle simulations of collisionless trapped electron turbulence |
|  | Tues-P27 | Liu | Deyong | M3D-K simulations of beam-ion-driven Alfven modes on NSTX |
|  | Wed-P3 | Ma | Yunxing | Comprehensive study of H-mode access in the Alcator C-Mod tokamak: density, toroidal field and divertor geometry dependence |
|  | Wed-P16 | Maingi | Rajesh | The steps by which lithium wall coatings lead to ELM suppression in NSTX |
| Core-V |  | Makwana | Kirit | Role of stable modes in zonal flow regulated turbulence |
| Edge-V |  | Manz | Peter | Energetic interaction between turbulence and shear flows during L-H transition in the EAST tokamak |
|  | Tues-P21 | Marinoni | Alessandro | Plasma fluctuations in ion stiffness experiments sampled by the Phase Contrast Imaging diagnostic |
| Edge-III |  | Mordijck | Saskia | Particle Transport Changes as a result of RMPs |
|  | Wed-P30 | Moyer | Richard | Response of the radial electric field and rotation to externally applied magnetic perturbations |
| Core-VI |  | Muller | Stefan | Boundary conditions for intrinsic rotation: Kinetic calculations of angular momentum transport by a neutral gas in contact with a spinning plasma |
|  | Wed-P24 | Myra | James | Edge sheared flows and blob dynamics |
|  | Tues-P3 | Newman | David | Initiation and dynamical co-evolution of electron and ion channel transport barriers |
|  | Tues-P1 | Ogata | Douglas | Investigating non-diffusive transport in drift wave turbulence |
| Edge-II |  | Pankin | Alexei | Effects of transient fluxes on the H-mode pedestal stability |
| P1 |  | Park | Jong-Kyu | Intrinsic rotation generation during ohmic L-H transition in nstx ohmic plasmas |
| P2 |  | Parker | Scott | bootstrap current destabilization of the kinetic ballooning mode in the tokamak edge pedestal |
|  | Tues-P28 | Podesta | Mario | Parametric study of chirping TAE modes in NSTX |
|  | Tues-P12 | Porkolab | Miklos | Transport and gyrokinetic analysis in the linear ohmic confinement (LOC) regime in Alcator C-Mod |
| EP-IV |  | Pueschel | M.J. | Gyrokinetic fast particle simulations in tokamak geometries |
| Core-II |  | Rafiq | Tariq | Validation study of MMM7.1 anomalous transport module |
| P1 |  | Reinke | Matthew | The curious case of toroidal rotation |
|  | Tues-P15 | Reinke | Matthew | Anomalous up/down asymmetry of Ar16+ emission in Alcator C-Mod Ohmic plasmas |
|  | Tues-P19 | Ren | Yang | Response of electron-scale turbulence and thermal transport to continuous ExB shear ramping-up |
|  | Tues-P2 | Reynolds-Barredo | Jose | Study of intermittent coherent regions in the phase of k modes for 2D drift wave DTEM turbulence simulations |
|  | Wed-P21 | Rhee | Tongnyeol | On interpreting perturbative experiments on pedestal transport using supersonic molecular beam injection |
| Core-III |  | Rice | John | Rotation reversals, energy confinement saturation and non-diffusive heat transport in Alcator C-Mod ohmic plasmas |
| Edge-III |  | Rognlien | Thomas | Plasma edge-SOL transport simulations including quasilinear stochastic transport due to resonant magnetic perturbations |
|  | Wed-P14 | Rost | Jon | Phase Contrast Imaging measurements of short wavelength turbulence generated in the QH-mode edge on DIII-D |
|  | Tues-P16 | Rowan | William | Transport of light, trace impurities in Alcator C-Mod |
| Edge-IV |  | Russell | David | Reduced-model (SOLT) simulations of the EDA H-mode at Alcator C-Mod |
| P1 |  | Schaffner | David | Observation of improved and degraded confinement with driven flow on the LAPD |
|  | Wed-P6 | Schmitz | Lothar | The role of zonal flows and predator-prey oscillations in the L-H and H-L ransition |
|  | Tues-P17 | Scotti | Filippo | Study of carbon and lithium neoclassical transport in ELM-Free H-mode discharges in NSTX |
| Edge-II |  | Sechrest | Yancey | Gas Puff Imaging observations of ELM precursors in NSTX |
| Edge-I |  | Smith | David | Parametric dependencies of low-k turbulence in NSTX H-mode pedestals |
|  | Tues-P7 | Smith | Sterling | Probing electron stiffness and critical gradients in experiment and simulation |
| P2 |  | Snyder | Philip | Developing and testing the EPED pedestal model as part of the 2011 Joint Research Target |
| P1 |  | Solomon | Wayne | confinement properties of low torque plasmas in DIII-D |
| P2 |  | Stacey | Bill | Interpretation of diffusive and non-diffusive transport in the tokamak edge pedestal |
| Edge-IV |  | Tang | Xianzhu | Parallel transport and profile of boundary plasmas with a low recycling wall |
|  | Tues-P4 | Terry | Paul | On the effect of damped modes on transport |
| Core-VI |  | Thakur | Saikat | Suppression of drift wave turbulence and zonal flow formation by changing axial boundary conditions in a linear magnetized plasma device |
|  | Tues-P23 | Vadlamani | Srinath | Progress of parallel validation tools for fusion simulations as applied to synthetic diagnostic efforts |
| Edge-I |  | Vann | Roddy | Using electron Bernstein wave emission as an edge diagnostic |
| Core-V |  | Vermare | Laure | Modulation of GAM frequency observed on Tore Supra using Doppler backscattering |
| Edge-I |  | Walk | John | Characterization of the pedestal in Alcator C-Mod ELMing H-modes and comparison to the EPED model |
|  | Wed-P15 | Wan | Weigang | Micro-instabilities of tokamak edge pedestal |
| P2 |  | Wang | Eric | Linear gyrokinetic analysis of a DIII-D H-mode pedestal near ideal ballooning threshold |
|  | Wed-P22 | Wang | Huiqian | Comparison of a new small ELM and type-III ELM in EAST H-mode plasmas |
| Core-V |  | Wang | Lu | Zonal flow driven by coupling between drift waves and ion acoustic waves |
|  | Tues-P25 | Wang | Weixing | Flow shear driven turbulent transport in tokamak plasmas |
| Core-I |  | White | Anne | Overview of the 2012 JRT on core transport validation |
|  | Tues-P18 | White | Anne | Evolution of core turbulence across the L-I transition in Alcator C-Mod |
|  | Wed-P28 | Wilcox | Robert | Measurement of Reynolds stress flow drive in the HSX stellarator |
| Edge-II |  | Xiao | Weiwen | Pedestal particle transport study using perturbation method perturbation method in HL-2A and KSTAR |
| Edge-V |  | Xu | Guosheng | the role of oscillatory zonal flows in the L-H transition near threshold conditions and the formation of a small-ELM regime |
|  | Wed-P7 | Xu | Min | Vortex-mediated energy, momentum, and charge transport at the edge of a L-mode tokamak plasma |
|  | Wed-P5 | Yagi | Masatoshi | Simulation study of L-H transition with self-consistent integrated modelling of core and SOL-divertor transport |
|  | Wed-P23 | Yan | Zheng | Pedestal density fluctuation characteristics and dynamics during a poloidal beta scan |
|  | Tues-P5 | Yi | Sumin | Role of turbulence spreading in flow generation and transport |
|  | Tues-P20 | Yu | Liubing | electronics characterization and data correction for far infrared tangential interferometry and polarimetry (FIReTIP) on NSTX |
| EP-III |  | Zhang | Huasen | Nonlinear frequency chirping of beta-induced Alfven eigenmode |
|  | Tues-P6 | Zhao | Lei | Inter-species collisionless energy transfer by drift wave-zonal flow turbulence |
| Edge-IV |  | Zweben | Stewart | Effects of biased electrodes in the divertor plate region of NSTX |
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