

| 28th Workshop on MHD Stability Control | | | | | |
|--|---|---|--|---|---|
| ID | Start | End | Thursday 10/3 | Friday 10/4 | Saturday 10/5 |
| Reception | 8:00 | 8:30 | Yang | Kostadinova | Kostadinova |
| Morning #1 | 8:30 | 10:00 | Berkery Wong Pankin Takemura | Hurst Orlov Chandra (R) Levesque | Boozer Guazzotto Elster Reiman (R) |
| Coffee #1 | 10:00 | 10:30 | | | |
| Morning #2 | 10:30 | 12:00 | Myers Turco (R) Barada Jiang (R) | Rothstein Benedett Van Mulders Xie | Yang All |
| Lunch | 12:00 | 13:30 | | | |
| Afternoon #1 | 13:30 | 15:00 | Dudkovskaia (R) Benjamin Boyes Hanson (R) | Poster / Tour Venue: Leach Science Center | Adjourn |
| Coffee #2 | 15:00 | 15:30 | | | |
| Afternoon #2 | 15:30 | 17:00 | Sabbagh Tobin Buston Ramirez Lee | | |
| Venue | | | Melton Student Center | Auburn University Hotel | |
| Auburn, Alabama: October 3-5, 2024 | | | | | |
| Invited talks | 22 minutes | Uninterrupted | | | |
| Contributed talks | 14 minutes | Uninterrupted | | | |
| Discussions | 26 minutes | On all previous talks, including clarifying questions | | | |
| Reception | 30 minutes | Talks from the organizers with light breakfast served in the back of the room | | | |
| Lunch | 90 minutes | Cafeteria on Thursday, use badges as ID. Delivered on Friday and Saturday | | | |
| Session title | Talk title | | Chair | | Assistant chair |
| Experiments A | 8:30 | 10:00 | Thursday | Levesque | Yang |
| Berkery | Stability Considerations for a Spherical Tokamak Advanced Reactor | | | | |
| Wong | Fishbone Instabilities and Their Impacts on Core Confinement in MAST and MAST-U | | | | |
| Pankin | Predicting ELM Stability in Spherical Tokamaks Using the Extended MHD NIMROD and M3D-C1 Codes | | | | |
| Takemura | Hysteresis in Mode Frequency Behavior during Acceleration and Deceleration in LHD | | | | |
| Experiments B | 10:30 | 12:00 | Thursday | Berkery | Benedett |
| Myers | Nonlinear Coupling and Interactions with Tearing Modes in QH-Mode Evolution in DIII-D | | | | |
| Turco | Non-linear oscillations and MHD activity in the ITER Baseline Scenario in DIII-D | | | | |
| Barada | ELM-free High Confinement Regime Obtained and Sustained in the Presence of a Benign $m/n=-4/-1$ | | | | |
| Jiang | Locked Mode in DIII-D | | | | |
| | Error field identification with rotating RMP fields | | | | |
| Simulation | 13:30 | 15:00 | Thursday | Hansen | Myers |
| Dudkovskaia | Neoclassical Tearing Mode Physics in the Presence of Impurity Ions | | | | |
| Benjamin | Towards Robust Asymptotic Equilibrium Behavior for Spectral 3D MHD Codes | | | | |
| Boyes | Ideal Kink Stability of Negative Triangularity Plasmas | | | | |
| Hanson | Simulating Feedback-controlled Error Field Correction | | | | |
| Special: DECAF | 15:30 | 17:00 | Thursday | Howell | Van Mulders |
| Sabbagh | Expanded Tokamak Disruption Event Characterization and Forecasting Research and Investigation of High Beta Plasmas in MAST-U | | | | |
| Tobin | Multi-tokamak Application of a VDE Forecasting Approach for Disruption Avoidance using DECAF | | | | |
| Buston Ramirez | Study of Electron Temperature Profile Evolution as a Plasma Disruption Predictor through Disruption Event Characterization and Forecasting (DECAF) Analysis | | | | |
| Lee | Investigation of Tokamak Control Leveraging Disruption Event Characterization and Forecasting (DECAF) in KSTAR | | | | |

| Session title | Talk title | | | Chair | Assistant chair |
|----------------------|---|--------------|-----------------|-----------------|------------------|
| Experiments C | 8:30 | 10:00 | Friday | Navratil | Zamkovska |
| Hurst | MHD Behavior of Non-disruptive MST Tokamak Plasmas up to Ten Times the Greenwald Limit | | | | |
| Orlov | Advancements in KSTAR 3D Edge Long-Pulse Tokamak Scenarios with Instability & Transport Control | | | | |
| Chandra | Dependence of Wall Stabilization and q_a on Sawtooth Triggering of Saturated 2/1 Tearing Modes from a Coupled Kink-tearing Mode in HBT-EP | | | | |
| Levesque | MHD Activity during Initial Operation of the Runaway Electron Mitigation Coil (REMC) in HBT-EP | | | | |
| Experiments D | 10:30 | 12:00 | Friday | Orlov | Eskew |
| Rothstein | Leveraging Automated Equilibria on MHD Stability Analysis and ML-based Active Tearing Mode Suppression in DIII-D | | | | |
| Benedett | Exploring Trends in Faraday-effect Polarimetric Measurements of the DIII-D Tokamak Core Magnetic Fields for Reactor-relevant Diagnostic and Control Applications | | | | |
| Van Mulders | Improved Reconstruction of Plasma Profiles and Equilibrium through Dynamic State Estimation: from TCV and AUG to ITER | | | | |
| Xie | Startup Runaway Electron Evolution and Interaction with MHD | | | | |
| Session title | Poster title | | | | |
| Poster | 13:30 | 17:00 | Friday | | |
| Andrew | Using Nonextensive Statistics and Spectral Theory to Characterize Anomalous Diffusion in Fusion Plasmas | | | | |
| Butt | 3D Plasma Response Investigation of Operational Space Expansions using a Self-consistent Integrated Modeling Framework | | | | |
| Chiriboga | Development of an $n = 1$ Optical Mode Tracking Feedback Control System on HBT-EP using a Deep Learning Neural Network | | | | |
| Da Silva | Experimental Study of the Toroidal Distribution of Energetic Electron Loss in the Presence of a Runaway Electron Mitigation Coil (REMC) | | | | |
| DeGrandchamp | MHD phenomenology of recent high q_{min} plasmas in DIII-D | | | | |
| Eskew | The Role of Island Bifurcation on Deconfinement of Energetic Electrons | | | | |
| Farre Kaga | Physics and Statistical Analysis of Machine Learning-based Tearing Mode Prediction, with Application to Experimental Tearing Mode Suppression in the DIII-D Advanced Inductive Scenario | | | | |
| Khavin | Development of ECE-I and ECE Synthetic Diagnostics in NIMROD | | | | |
| Kostadinova | Mechanisms for electron trapping and acceleration in magnetic islands | | | | |
| Messenger | Investigation of plasma disruptions in the Compact Toroidal Hybrid (CTH) Device | | | | |
| Zamkovska | A Cross-machine Model for Halo Current in DECAF as a Criterion for Deployment of Disruption | | | | |
| Session title | Talk title | | | Chair | Assistant chair |
| Theory | 8:30 | 10:00 | Saturday | Logan | Andrew |
| Boozer | Electric Field Effects during Disruptions | | | | |
| Guazzotto | Cylindrical Viscous Boundary Layer For Transonic Equilibrium | | | | |
| Elster | Two-Fluid Effects on Linear Tearing Mode Stability | | | | |
| Reiman | Development of a reliable quantitative prediction capability for magnetic island stabilization and destabilization will require experimental data from systematic parameter scans | | | | |
| Special: TRL | 10:30 | 12:00 | Saturday | | |
| Yang | Metrics for Progress in Tokamak Stability Control | | | | |
| All | Metrics for Progress in Tokamak Stability Control, Group Discussion | | | | |