## B1 [Diagnostics, Simulation and Data Science]

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Recent progress on tungsten spectra study using high performance spectroscopic systems in EAST tokamak Plasma Diagnostics and Control with Tracer Encapsulated Solid Pellet (TESPEL) in Magnetically Confined High-Temperature Plasmas X Ray Diagnostics for high energy electrons using Tungsten Pellets The distribution of the parallel electron-current at the boundary of plasma on J-TEXT Investigation of Hard X-Ray emission in Lower Hybrid Wave Experiments on the TST-2 Spherical Tokamak Development of a Virtual FVC System and Forward Model for Shattered Pellet Injection Tracking in KSTAR Method for Optimizing the Layout of Equilibrium Magnetic Sensors and a Real-Time Status Monitoring System in Tokamak Devices Recent progress and future prospects of kinetic-magnetohydrodynamic hybrid simulations using the MEGA code Development of the Gyrokinetic-MHD Hybrid Code cuGMEC and Its Nonlinear Simulations of Alpha Particle-driven Alfven Eigenmodes in ITER Strong toroidal electric field generation during sawtooth crashes Development of a static tokamak equilibrium solver and design of cloverleaf configuration Turbulence simulation with a bounce-averaged kinetic electron model in general tokamak geometry Towards visualizing multi-dimensional gyrokinetic simulation data Effect of ion mass on ExB Electron Drift Instability investigated by 2D PIC simulation Recent progress in plasma modeling for streamers and electrical propulsion Development of fast neutral alkali beam for edge plasma parameters measurement on EAST and CFQS Neutron In-situ calibration technology for future D-T fusion devices Electro-optic sensing technique for plasma diagnosis Recent progress in advanced diagnostics for Thailand Tokamak-1 Advances in the Design of the Dispersion Interferometer System for the Burning Plasma Tokamak in China Laser Induced Breakdown Spectroscopy (LIBS) based wall monitoring diagnostic for ADITYA-U tokamak Experimental Plan for Measuring Fluctuations in the Velocity Distribution Function of Relativistic Electrons Using Electron Cyclotron Emission Spectra in the Spherical Tokamak FIRST The influence of 3D magnetic topology on the divertor power exhaust Three-dimensional nonlinear modeling of tokamak plasmas with applied Magnetic Perturbations Characterization of Hall MHD turbulence as wave turbulence Energy-consistent discontinuous Galerkin schemes for the visco-resistive magnetohydrodynamic equations New integrator for relativistic equations of motion for charged particles High-speed jets behind a quasi-parallel shock: 2-D hybrid simulations A Generalized External Circuit Model for high order Electrostatic IFE-PIC codes Advanced Laser-Doppler Spectroscopy with Twisted Wavefront for Plasma Flow Measurements Emission and absorption-based plasma diagnostic techniques for number density detection: Basics and Examples Collective Thomson scattering for non-equilibrium plasma measurements Electric field measurements by coherent anti-Stokes Raman scattering in visible region Performance prediction of upgrading lithium beam emission spectroscopy to sodium beam emission spectroscopy diagnostic on EAST Development of calibration method of electron cyclotron emission radiometer for optically-thin magnetized plasma Flow field dynamics in an atmospheric pressure plasma jet: A tale of turbulence and transition The current driven by the electromagnetic Ion Temperature Gradient turbulence Global gyrokinetic simulations of isotope effects for future tokamak plasma core and pedestal Extension and application of the gyrokinetic code GKV to space plasmas Twisted THz generation via LG laser pulse in magnetized plasma Impedance matching of pulse modulated capacitively coupled plasmas Extending Simulation-Based Insights to Experiments: A Comprehensive Approach to Atmospheric Pressure Streamer Discharge Studies A comprehensive collisional radiative modelling of singly ionized iodine plasma for Plasma Diagnostics Lane Dynamics in 3D Pair Ion Plasmas: Influence of external forces Synthetic diagnostics for fluctuation detection in toroidal plasmas Computational and experimental analysis of H-atom-assisted non-thermal conversion of methane-hydrogen plasma to acetylene Evaluation method of fine particle charge and measurement of spatial electric field in Ar plasma using optical tweezers method Development of hyperspectral camera for auroral imaging using Galvanometer-mirror-scanning optics Conceptual design of a Doppler Backscattering diagnostic for the EXL-50U spherical tokamak Laser Fusion Research Center, China Academy of Engineering Physics Backscatter diagnostics at the 100-kJ laser facility for laser-driven hohlraum applications Electron Temperature Investigation in Ar/N, Non-Thermal Plasma Jet Using Plasma Propagation Speed Model Interpretable AI-Driven Modeling of Plasma Turbulence Data-driven models for fusion plasma exhaust: AI methods gaining maturity Visualising Fusion: Connecting Data, Design, and Discovery Al and data solutions for experiment design and control