



- ETS (1½-d transport code) being extended for better modelling of (H)DT and fast particle effects. Updates to Equilibrium, H&CD and transport models:
- Detailed comparisons and benchmarking with TRANSP on well diagnosed discharges – very good agreement between NUBEAM/TRANSP and AFSI/ASCOT/BBNBI/ETS. Deviations stemming from beam-target and beam-beam collisions possible due to lacking fast-ion CX processes currently - under implementation in ASCOT.
- StixReDist FP-solver can account for self-collisions on majority heating and non-Maxwellian background at arbitrary cyclotron harmonics. Benchmarks well with TRANSP when used with similar settings (minority collisions only)
- Developments have been promoted in updated ETS and simulations with TGLF; EDWM, NCLASS, performs well but predictive capability is hampered by lack of any reliable first principles based outer core-edge model.

