Annex 2 includes:

Main experiments, back-up experiments and tasks with the respective objectives, number of sessions and the Task Force Leaders that will be responsible for the experiment and/or task. A detailed list with the objectives for both the hybrid and baseline scenarios is included as well.

The foreseen budget for the analysis and modelling to be carried out at the Research Units for 2015 and 2016 is 76.6 ppy for 156 sessions. The foreseen budget per task is included in the table with the description of the tasks.

TF "Integrated Operation Scenarios": Isabel Nunes (ISN), Joerg Hobirk (JH), Karl Krieger (KK)
TF "Physics and Technology for ITER": Emmanuel Joffrin (EJ), Sven Wiesen (SW), Michele Romanelli (MR), Henri Weisen (HW)

1. Main Experiments:

Exp-ID	Title	Objectives	Sessions	TFL1	TFL2	Related to MST1-experiment
M15-01	Baseline scenario for DT a: Scenario development b: Pellet fuelling and ELM-pacing c: Seeding d: ICRH for W-accumulation control	1) Develop reliable 4.0/4.5MA scenario at q95~2.7-3 compatible with DT operation. 2) Optimise scenario for high performance at 4.0MA to achieve P_{fus}=15MW in DT. Note: detailed description of objectives on page 8.	30	ISN	SW	
M15-02	Hybrid scenario for DT a: Scenario development b: Pellet fuelling and ELM-pacing c: Seeding d: ICRH optimisation for W-control and effects on transport e: q-profile optimisation and MHD	1) Provide a reliable high-Ip hybrid scenario compatible with DT operation. 2) Optimise scenario for high performance to achieve P_{fus}=15MW in DT. Note: detailed description of objectives on page 9.	30	JH	EJ	AUG15-1.1-3

Exp-ID	Title	Objectives	Sessions	TFL1	TFL2	Related to MST1-experiment
M15-03	High Z impurity control in H-mode access and exit phases	1) Assess optimum schemes for heating, W source control and ELM control to - ensure successful access to and exit from H-mode discharges in JET and - emulate the requirements/plasma conditions in ITER. 2) Perform Integrated Modelling of Core/SOL/Divertor during H-L transition. 3) Investigate W transport in Core/SOL via fluid or kinetic simulations.	4	ISN	MR	
M15-04	Role of transport by ELMs and between ELMs on high Z impurity expulsion	1) Study the physics mechanisms that dominate the transport of high-Z impurities from the divertor to the core for a range of pedestal and divertor conditions. 2) Quantify importance of erosion (ELM and inter-ELM) versus transport including ELMs for high Z impurity accumulation. 3) Perform Integrated Modelling of Core/ELM/SOL/Divertor. 4) Investigate W-transport in Core/SOL via fluid or kinetic simulations.	3	MR	ISN	
M15-05	Dimensionless beta scan in low delta baseline plasmas	1) Assess global confinement dependence on β. 2) Assess role of β_{pol} on pedestal and confinement. 3) Using statistical analysis provide a scaling of confinement with β.	2	EJ	ISN	
M15-06	Entry to H-mode at lower input power and q95~3	1) Document power/gas combination impact on entry, sustainability and termination of H-mode. 2) Validate models via integrated modelling.	2	ISN	EJ	
M15-07	Dependence of H-mode access on plasma current	1) Characterise density dependence of P/P_{LH} (C/C configuration). 2) Characterise P_{LH} dependence on Ip. 3) Assess at high Ip/BT weak/strong dependence of Ip/B_t. 4) Compare experimental data with fluid or kinetic theories of L-H transitions.	2	JH	ISN	
M15-08	Integrating the building blocks of the ITER scenario	1) Combine the result from different “stand-alone” experiments in a final demonstration: - ITER ramp-up optimisation (fast ramp-up, heating). - Entry to low power H-mode. - Sustaining the ITER baseline at H~1. - Rampdown from q95~3, terminating the burn and H-mode phase. 2) Perform Integrated modelling simulation in same conditions/ model validation.	4	EJ	ISN	AUG15-1.1-1 TCV15-1.1-1

Exp-ID	Title	Objectives	Sessions	TFL1	TFL2	Related to MST1-experiment
M15-09	Impact of proximity to tile 1 on L-H and W source due to ELMs	1) Disentangle inner-outer divertor effects (recycling/pumping) on L-H threshold. 2) Determine whether ELM energy on Tile 1 is the dominant source of tungsten. 3) Perform integrated modelling of L-H transition and W sputtering at different strike point positions.	2	EJ	SW	
M15-10	Maximization of ICRH power in H-mode	Complete gas-puffing study in view of optimizing ICRF coupling (maximize power) with GIM 15.	1	JH	EJ	
M15-11	Characterization of performance limiting RF-induced impurity sources (ILA)	Characterise 2D Be sources produced by ICRH and variable magnetic connection to limiters.	2	JH	MR	
M15-12	Pedestal optimisation in high shaped plasmas	Identify the influence of recycling, neutrals, beta, edge current and shape on pedestal/ core confinement at high triangularity.	4	ISN	JH	
M15-13	Impact of D Outgassing from W-divertor on ELM-duration	1) Document the steady-state local deuterium recycling in the near SOL at the bulk-W divertor as function of impinging ion flux and the surface temperature. 2) Investigate the interplay between refuelling in the W-divertor and pedestal recovery in the main chamber. 3) Compare experimental findings with physics models describing the short-term retention and outgassing. 4) Implement physics models into EDGE2D-EIRENE and model the ELM cycle in H-mode plasmas towards a full integrated PWI/SOL/pedestal model with JINTRAC integrated code.	2	SW	JH	
M15-14	Characterise main chamber recycling and radial SOL fluxes ELM/inter-ELM	1) Determine which plasma parameters control radial particle transport in the Scrape-Off Layer (SOL). 2) Investigate the role of main chamber recycling on core plasma performance and vice-versa.	2	SW	KK	
M15-15	Avoiding the ballooning boundary	1) Explore ways to tailor the plasma evolution in order to improve the pedestal confinement. 2) Modelling of the different methods for pedestal modification.	3	EJ	JH	AUG15-1.1-5 TCV15-1.1-5

Exp-ID	Title	Objectives	Sessions	TFL1	TFL2	Related to MST1-experiment
M15-16	Plasma fuelling in ITER pedestal conditions	1) Quantify the relative role of neutral fuelling versus inward particle pinch in density build-up in L-mode, H-mode and L-H transition in ITER relevant conditions. 2) Perform integrated modelling of Core/SOL/Divertor fuelling and compare with experiment.	2	MR	JH	
M15-17	Optimisation of disruption mitigation for high current operation	1) Establish the optimal parameter and configuration of the three MGIs for minimizing the current quench time to get the lowest possible forces and heat loads for a range of Ip/B_T. 2) Produce a scaling of the forces for mitigated disruptions with Ip and total energy content. 3) Validate JOREK and other similar codes or use simplified model predictions on the current scan and extrapolate to JET-DT scenarios and ITER. 4) Monitor systematically the appearance of run-away electrons during this experiment.	4	EJ	ISN	AUG15-1.3-1 TCV15-1.3-1
M15-18	Developing ITER-like disruption mitigation scenario	1) Characterise the poloidal and toroidal radiation and heat load asymmetries in mitigated and unmitigated disruption. 2) Determine mitigation efficiency and timescales in “realistic” mitigation scenarios for “unhealthy” target plasmas (such as plasma with radiation peaking or strong MHD-activity).	6	EJ	SW	AUG15-1.3-1 TCV15-1.3-1
M15-19	Mitigation of run-away with high-Z injection	1) Determine the efficiency of high Z impurity injection in a RE beam by varying the DMV-pressure, gas mixtures, the injection location and the time of injection wrt the CQ. 2) Model the results with kinetic modelling and fast equilibrium reconstruction and produce an extrapolation to ITER.	4	EJ	ISN	AUG15-1.3-5 AUG15-1.3-6 TCV15-1.3-4 TCV15-1.3-5

Exp-ID	Title	Objectives	Sessions	TFL1	TFL2	Related to MST1-experiment
M15-20	Seeding to maximum radiated fraction towards high Psep/R	1) Confirmation of radiation measurements accuracy, power balance (IR measurements and bolometry, limiter discharges) 2) Assessment of influence of flux expansion and recycling on radiation distribution and X-Point peak. 3) Extension of database (2.5MA, 2.7T, low-delta, VT): Argon seeding (high input power, 25-27MW, D2 fuelling scan); Inclusion of higher Z impurities (Kr) to modify radiation distribution (core vs pedestal). 4) Exploratory phase: Investigation of divertor geometry; Assessment of radiation stability using transients: power modulation and/or over seeding. 5) Route towards $P_{sep}/R > 7$-10: establish a stable H-mode with Ne, Ar, Kr seeding (or any combination) at high f_{rad}.	8	SW	EJ	AUG15-2.1-1 TCV15-2.1-3
M15-21	Dynamics and stability of divertor detachment	1) Document dynamic evolution and stability of divertor detachment in L-mode (hysteresis in degree of detachment: ideal vs marginal bifurcation); study heating power transients (re-attachment). 2) Develop 2D fluid model (EDGE2D-EIRENE, SOLPS) to reproduce observed dynamics and stability; review of radial and parallel transport assumptions; assessment of effect of main-chamber recycling on roll-over. 3) Develop RTC methods to control stability of detachment (LPs, spectroscopy and bolometry). 4) Assess detachment stability in H-mode. 5) Document detachment bifurcation behaviour as function of SOL power density. transients: ELMs and effect on ionisation fronts and recombination fraction.	3	SW	MR	AUG15-2.1-1 AUG15-2.1-3 TCV15-2.1-3
M15-22	Impact of seeding gases on recycling behaviour, radiation pattern, pedestal and detachment	1) Usage of sticking / non-sticking impurity species to disentangle the impact of recycling from radiation on detachment and pedestal behaviour. 2) Understanding of the effect of impurities and neutrals on the H-mode pedestal and core confinement (for high and low delta). 3) Development of fully integrated model (i.e. JINTRAC) for the pedestal performance in ILW towards extrapolations for JET-DT and ITER.	5	SW	EJ	AUG15-1.1-2 TCV15-1.1-2
M15-23	Characterisation of type-I to type-III transition and H to L in high-delta seeded scenarios	1) Compare the access to Type-I ELMs for seeded, high-triangularity plasmas in horizontal and vertical target configuration. 2) Establish if degradation of confinement of the seeded type-I ELMy H-mode is depending on the divertor configuration or divertor detached conditions.	2	SW	ISN	

Exp-ID	Title	Objectives	Sessions	TFL1	TFL2	Related to MST1-experiment
M15-24	Target discharge for TAE's in DTE2 and fast particle physics	1) Develop target discharge(s) suitable for EPM studies in DTE2 2) Produce multi-MeV fast particle population by ICRH in this target discharge For the target discharge and for the main scenarios complete the following deliverables: 3) Measure fast ion confinement & losses. 4) Measure TAE damping & drive. 5) Model EPMs in the presence of fast particles. 6) Measure and model W transport in the presence of a large population of energetic particles. 7) Provide extrapolation of the effect of alpha particles on transport, confinement and plasmas stability in view of JET DT-campaign.	7	HW	EJ	
M15-25	Effect of fast particle and electro-magnetic stabilization on turbulent transport in a DT plasma	1) Demonstrate that ion confinement improves irrespective of ExB flow shear in the presence of fast particles. 2) Validate fluid or kinetic theory models to improve reliability for ITER predictions. 3) Experimentally measure and test predicted turbulence characteristics (e.g. autocorrelation time behaviour).	1	MR	HW	
M15-26	Isotope effect on edge & core transport	1) Establish an overall plan including H, D, T and mixed (D/H,T/H, possibly some D/T) plasmas for assessing core & pedestal transport, pedestal stability and ELMs, the influence of fuelling rates, isotope effects on SOL conditions and for allowing scaling in both engineering and physics parameters. 2) Assess the existing database in D for suitability (e.g. D-references for 2014 H-campaign, availability of required measurements, such as T_i, ω_i). 3) Complete required D-reference discharges as identified in the overall plan. 4) Perform interpretive and predictive modelling of isotope effects based on 2014-2016 discharges. 5) Perform predictive modelling for selected planned H, T and D/T discharges. 6) Review overall plan in light of 2015-16 results and modelling.	4	HW	MR	
M15-27	ICRH scenarios for DT	1) Investigate and optimise fundamental He3 minority ICRH heating scheme. 2) Assess whether the He3 replacement by other species is efficient. 3) Test 2 frequency scenarios N=1 (H+He3)D. 4) Provide Modelling of ICRH deposition and efficiency for comparison with the experimental data.	3	HW	JH	

Exp-ID	Title	Objectives	Sessions	TFL1	TFL2	Related to MST1-experiment
M15-28	Extend scalings of ELM power loads and of SOL width to inner divertor and first wall	1) Confirm that ELM load to divertor according to established scaling law is matching ELM loads to first wall wrt energy balance. 2) Determine to what extent the ELM wetted area at 1st wall is correlated to ELM-size. 3) Extend scaling law for ELM divertor heat load to inner target plate and include in/out asymmetry. 4) Reassess the ELM heat load limits. 5) Extend scaling of power-fall off length and divertor broadening factor towards partial-detached conditions. 6) Demonstration of the reliability of the multispectral imaging thermography based on the uncalibrated camera system. 7) Comparison of the power load and temperature measurements achieved by multispectral imaging system with the single wavelength far IR camera.	3	KK	SW	AUG15-2.3-1 TCV15-2.3-1
M15-29	Study impurity migration and ammonia formation in seeded H-mode discharges	1) Provide an extensive data set for low-Z/He migration and fuel retention in N_2-seeded H-mode to validate the physics processes implemented in WallDYN&ERO for low-Z impurity erosion&migration and fuel particle balance. 2) Provide estimates for expected exhaust flux of ammonia products for high power dissipative divertor operation using nitrogen in the ITER nuclear phase. 3) Identify mechanisms responsible for the differences between NH_3 production rates on JET-ILW and AUG (W). 4) Determine if the presence of He-ash exhaust in the ITER divertor might assist in mitigating ammonia production.	4	KK	SW	
M15-30	Benchmark predictive models of SOL/divertor impurity transport and material migration (QMBs)	1) Quantify impurity deposition at remote divertor areas. 2) Identify how divertor plasma configuration and conditions (H vs L-mode) affect impurity transport to remote areas. 3) Compare V5/stack C and VT configurations with corner plasma configuration wrt density limit, particle and power flux, radiation pattern and neutral pumping. 4) Provide data set for boundary code (EDGE2D, SOLPS) and impurity transport code (ERO, WallDYN) validation.	2	KK	SW	
M15-31	Quantify dynamic fuel wall inventory and fuel retention at high recycling flux	Confirm expected dependency of dynamic fuel wall inventory and of long-term fuel retention from recycling flux.	1	KK	SW	

Exp-ID	Title	Objectives	Sessions	TFL1	TFL2	Related to MST1-experiment
M15-32	W-melting by ELMs	1) Identify the origin of the discrepancy between nominal parallel power flux and measured (IR) power flux to leading edges ("mitigation factor"). 2) Quantify flash melting by ELMs and corresponding melt layer motion for protruding surface features and benchmark MEMOS against these data. 3) Provide estimates on possible "plasma-machining" of protruding surface features for tungsten PFCs (which is confirmed for carbon PFCs) 4) Perform ELM/SOL/Divertor simulations and compare with experimental data	4	KK	SW	AUG15-2.2-1 AUG15-2.2-5

Details on Baseline scenario for DT (for SC-participation):

ID	Title	Objectives
M15-01a	Scenario development and analysis	1) Develop baseline scenario (q95=2.6-3) to maximum allowed Ip. 2) Optimise scenario for high performance at high Ip. 3) Complete the ρ*-scaling to identify departure from Bohm-scaling. 4) Identify the need for new configurations. 5) Optimise termination to reduce risk of disruption at high performance. 6) Establish, update and improve multi-machine scaling laws. 7) Comparative core transport analysis of Carbon wall and ITER-like wall discharges. 8) Determine physics mechanism of ion heat transport in Hybrid and Baseline plasmas.
M15-01b	Pellet fuelling and ELM-pacing	1) Develop optimised scheme for pellet fuelling to improve performance by unloading gas fuelling. 2) Develop optimised scheme for pellet pacing to improve performance by unloading gas fuelling necessary to control W-accumulation. 3) Test ablation models in high Te pedestals. 4) Determine particle transport properties in initial hollow density phase in high performance baseline.
M15-01c	Seeding	1) Provide optimised seeding scheme(Ne or/and Ar) compatible with high performance operation and target temperature limits. 2) Provide assessment of spontaneous density peaking with Ne. 3) Validation of core low-Z impurity transport models. 4) Model validation of divertor radiation.
M15-01d	ICRH for W accumulation control	1) Optimise and characterise control of impurity accumulation by ICRH. 2) Model W-transport in baseline scenarios (LBO).

Details on Hybrid scenario for DT (for SC-participation):

ID	Title	Objectives
M15-02a	Scenario development and analysis	1) Provide optimised hybrid plasma with low gas fuelling and fusion performance and/or increased stationarity. 2) Provide a high current and high fusion performance hybrid scenario either seeded or unseeded. 3) Show increase in performance and/or robustness of hybrid scenario by utilising multiple RT controls. 4) Achieve the missing ρ^* plasmas for the multi-machine (metal wall) ρ^* scan. 5) Determine physics mechanism of ion heat transport in hybrid and baseline plasmas.
M15-02b	Pellet fuelling and ELM-pacing	1) Test ablation models in high Te pedestal of hybrid plasmas. 2) Determine particle transport properties in the initial hollow density phase of high performance hybrid plasmas. 3) Compare pellet pacing pulses with gas fuelled pulses. 4) If shown that pellet pacing allows better control and/or performance use pellet ELM-pacing on a regular basis. 5) If impurity seeding route for hybrids is chosen try pellet pacing in highly radiating plasmas.
M15-02c	Seeding	Provide an impurity seeded high fusion yield hybrid like plasma.
M15-02d	ICRH optimisation for W control and effects on transport	1) Provide a scheme to control impurity accumulation with ICRH in high performance hybrid pulses. 2) Test (LBO) and model W core transport in hybrid plasmas. 3) Assess turbulence reduction due to fast particle beta in ICRH heated hybrid plasmas. 4) Assess differences in transport in ICRH ion heated plasmas to electron heated plasmas.
M15-02e	q profile optimisation and MHD	1) Determine experimentally and by modelling the optimum q-profile for reduced transport and/or most benign MHD in hybrid pulses with q_0 close to 1 and $\beta>2$. 2) Parasitically determine the instability domain of NTMs in hybrid pulses. 3) Test sawtooth control as optimisation tool if q0<1. 4) Find optimum q_{95} for maximising fusion gain in JET. 5) Provide model for impurity transport by MHD. 6) Provide marginal-β threshold of NTMs.

2. Back-up Experiments:

Exp-ID	Title	Objectives	Sessions	TFL	Related to MST1-experiment
B15-01	Effect of He on plasma performance	Assess impact of He-concentration on H-mode plasma performance (neutron rate).	2	ISN	AUG15-1.1-4
B15-02	Collisionality scaling of confinement in hybrid scenario	Establish the dependence of confinement on collisionality.	2	MR	
B15-03	Effect of W on pedestal Te (L-mode)	1) Characterise W radiation and emission at temperatures typical for JET-ILW pedestal. 2) Use information above to understand changes in pedestal due to W influxes.	1	ISN	
B15-04	Characterisation of poloidal phasing and up- down asymmetries effects on ICRH performance with ILA	1) Study the effect of poloidal asymmetries on ICRH performance. 2) Study the effect of up-down asymmetries on ICRH performance.	1	JH	
B15-05	Characterisation of impurity penetration with ICRH	Characterise (extrinsic) impurity transport and penetration in the presence of ICRH.	1	MR	
B15-06	Sawtooth control with modulated ICRH	1) Demonstrate and characterise sawtooth pacing by modulated ICRH. 2) Assess importance of sawtooth crashes on the divertor power deposition.	2	HW	
B15-07	Study of momentum transport and associated modelling in low rotating plasmas	1) Provide validated JET data for momentum transport studies in EU- and international database. 2) Validate gyrokinetic calculations of turbulent momentum flux caused by symmetry breaking effects. 3) Separate effect of neoclassical flows on intrinsic rotation from that of balance of ITG/TEM.	1	MR	
B15-08	Electron stiffness (and intrinsic rotation) going from TEM to ITG dominant conditions	1) Establish the effect of R/L_{ne} on ion and electron drift wave thresholds and stiffness in L-mode plasmas using pellets to increase range of variation of R/Ln and to decouple R/L_n from q-profile. 2) Validate experimental results against theory and numerical models.	1	MR	

Exp-ID	Title	Objectives	Sessions	TFL	Related to MST1-experiment
B15-09	L-mode impurity-seeding studies for power exhaust predictions	1) Characterize the radiation distribution in L-mode plasmas with N_2, Ne, and other gases. 2) Characterize the physics processes taking place in impurity radiation induced detachment in L-mode plasmas. 3) Characterize the short-fall of deuterium radiation in impurity induced detached conditions. 4) Characterize the role of deuterium molecules in the divertor plasmas. 5) Characterize the impact of impurity seeding induced detachment on the main chamber recycling in L-mode plasmas. 6) Develop full EDGE2D-EIRENE and SOLPS model of seeded discharges.	2	SW	AUG15-2.1-3
B15-10	Effect of divertor plasma ergodization using EFCCs on radiative volume in the edge	1) Confirm the hypothesis that the application of EFCCs leads to enhanced effective perpendicular power flux and subsequently to enhanced radiative volume and consequently total radiation in the divertor volume. 2) Experimentally quantify magnitude of this effect. 3) Compare qualitatively to numerical simulations.	2	SW	
B15-11	Quantify N_2-retention with Be-1st wall and confirm N_2-retention models based on lab data	1) Validate the physics processes implemented in WallDYN and ERO for N impurity Migration and retention in Be. In particular verify underlying atomic and surface data for Be/N_2 interaction and sputtering yields of Be under impact of N_2. 2) Provide data for benchmarking the new ERO version for simulation of large, shaped, first wall components.	2	KK	
B15-12	Three ion ICRH-scenario	1) Proof-of-principle demonstration of a three-ion ICRF scenario for efficient heating using reduced ^{3}He-concentrations (^{3}He-D-H). 2) Provide Modelling of ICRH deposition and efficiency for comparison with the experimental data.	1	HW	

3. Tasks:

Task-ID	Title	Objectives	TFL1	TFL2	ppy's	Related to MST1-task/ MST1-experimemt
T15-01	DT scenario extrapolation	1) Validate modelling codes (including ICRH codes) on existing data and data to be produced in C35-C36, including DTE1 data, by performing core-transport and/or integrated scenario modelling. 2) Identify and model ICRH schemes suited for maximising fusion performance, assess the expected performance of 2^{nd} harmonic T and fundamental D ("T-rich"), ^{3}He and three-ion schemes, providing modelling support for their integration into integrated DT-plasma scenario modelling & development. 3) Predict DT-performance, ICRH heating & ion acceleration efficiency, α-particle effects and MHD-stability for the planned DTE2 campaign, using the most appropriate codes, models and assumptions for the scenarios and any scenario variants of interest. 4) Provide input and guidance for scenario developers based on validated modelling.	HW	MR	4	
T15-02	Pedestal analysis and modelling	1) Provide support on pedestal analysis and modelling for the development of scenarios. 2) Co-ordinate the pedestal analysis and modelling for the pedestal dedicated experiments and across experiments. 3) Investigate pedestal structure, stability in different plasma conditions. 4) Characterise the influence of recycling/neutral particle on pedestal.	ISN	JH	4	
T15-03	Disruption prevention and avoidance schemes for JET	1) Develop and compare off-line automated disruption identification and causes with real-time capabilities. 2) Identify real time requirements and test on both JET and AUG database of disruptions. 3) Produce physics based (for instance locked mode) predictors using adequate signals and integrate into predictors. 4) Propose and test off-line a set of machine-independent quantities suitable as disruption identifiers and test on JET/AUG. 5) Establish a relation matrix between the alarms and the plasma response/scenario in coordination with the plasma operation group and other SLs.	EJ	ISN	2	MST1-ST15-3
T15-04	Modelling of halo and hiro current	1) Model the role of hiro and halo current and current asymmetry in unmitigated disruption for JET with M3D. 2) Validate/apply modelling to cases with EFCCs (JET 2009) and determine if halo can be controlled or by applying vertical fields.	EJ	MR	0,3	

Task-ID	Title	Objectives	TFL1	TFL2	ppy's	Related to MST1-task/ MST1-experimemt
T15-05	Model runaway electrons in JET as test particles in JOREK simulations	1) Test the importance of the de-confinement of runaway electrons by magnetic perturbation in JET using the modelling of a test particle. 2) Establish the basis for an experiment in a tokamak (JET or TCV) aiming at controlling the RE-beam and testing the effect of applied vertical field or external magnetic perturbation.	EJ	SW	0,7	
T15-06	ETS code validation including setting up of synthetic diagnostics.	1) Validate particle transport models for both main species (isotope mixing), ash (He) and impurity transport. 2) Validate an extended range of heat transport models. 3) Benchmark ETS against other transport codes used for JET analysis/modelling. 4) Implement synthetic diagnostics and forward models for comparison of code output with JET data.	MR	SW	1,5	
T15-07	Long term RGA analysis of impurity content	Data base for influence of plasma and machine conditions on impurity atom/molecule (ammonia) release and retention.	KK	JH	0,2	
T15-08	Dust analysis	1) Identification of the dominant sources of dust in JET-ILW. 2) Assessment of the impact of dust on JET's plasma operations. 3) Identifiy the key differences in dust and TIEs (Transient Impurity Events) during JET's carbon wall period in comparison to the ILW period. 4) Perform dust transport simulations for comparison with experimental data.	KK	SW	0,5	AUG15-2.2-5
T15-09	Predictions for T retention in T & DT campaigns	Provide a prediction for the tritium retention expected in the T and DT campaigns based on best available wall dynamics simulations codes and expected experimental programme.	KK	SW	0,2	
T15-10	Improved equilibrium reconstruction	1) Improve routine equilibrium reconstruction by providing standard configuration input files for robust intershot and offline analysis. 2) Provide standard configuration files for additional internal constraints for robust equilibrium reconstruction during main heating phase. 3) Identify best procedure for equilibrium reconstruction used for pedestal analysis.	JH	MR	1	