

ID	Title of proposal	Proposer	Contributions to milestones or ITPA	Run days (req/min/preLi)	Special requirements
1	Beam ion confinement of 2nd NBI	Liu	R15-2, JRT-15	1.5/1/0	Prefer ~1 week after FIDA/SSNPA/sFLIP checkout XMP. Clean machine to avoid impurity contamination in FIDA spectra. Require on/off-axis NBI systems with relatively low voltage and low power, plus many beam modulation patterns. Need magnetics, plasma profile diagnostics, MSE, and fast ion diagnostics.
2	Characterization of 2nd NBI line	Podestà	JRT-15, R15-2, ITPA Joint Experiment	2/2/0	All 6 NB sources required. Main profile & fast ion diagnostics needed. Requires reliable H-mode access and operation (fiducial-like scenario); flat-top duration ~1sec or longer; Bt~0.65T, Ip~0.7MA.
3	Parametric dependence of TAE avalanches	Fredrickson	none	2/1/0	Reliable ops - may need Li conditioning.
4	Why do some fast-ion driven modes chirp?	Heidbrink	R15-2	1/1/0	None
5	AE Critical Gradient	Heidbrink	R15-2	1/1/0	None
6	TAE stability vs. NBI injection parameters	Podestà	none	1/0.5/0	All six NBI sources with voltage scan capability at 65-90keV. All fast ion and mode structure diagnostics needed.
7	TAE with high $\beta$ q2	Fredrickson	none	1/1/0	High beta and $q_{min}$ (<2) may require high non-inductive fraction. Confined and lost fast ion diagnostics strongly desired. BES and reflectometers desired.
8	Light ion beam probe of Alfvén eigenmode transport	Heidbrink	none	1/1/0	The SLIP detector needs to have a high enough bandwidth to detect oscillations at the mode frequency.
9	Fusion source profile measurement with the proton detector	Boeglin	R15-2 performance of beams	1/0.5/0	Proton detector installed and operational.
10	Scaling of HHFW suppression of Alfvénic waves	Fredrickson	none	2/1/0	Reliable HHFW heating. Strongly benefit from new confined fast ion diagnostics.
11	Affect of HHFW rotation control on TAE activity	Fredrickson	none	1/0/0	Reliable HHFW heating desirable.
12	Modification of fast ion distribution by RF	Podestà	R16-3	1/1/0	HHFW system up & running, minimum Prf=2MW. All fast ion diagnostics needed.
13	RF-NB interaction at low current	Poli	non-inductive rampup	1/0.5/0	Ip=300-400kA, near 100% non-inductive. CHERS if use 2nd beamline, MSE, spectroscopy
14	Rotation effects on CAEs and GAEs	Crocker	R15-1, R16-1	0.5/0.25/0	Needed: CHERS. UCLA Reflectometer arrays. MPTS, high frequency edge magnetic coils (HN and HF arrays) Desirable: BES, FReTIP, FIDA, other fast-ion diagnostics
15	Modification of TAE gap structure via rotation	Podestà	none	0.5/0.5/0	Requires well reproducible H-mode substantial TAE activity; magnetic braking.
16	Effect of low frequency MHD mode on the fast ions redistribution	Hao	R15-2	1/0.5/0	All fast ion & profile diagnostics. Analysis code: SPIRAL
17	Effects of 3D fields on fast ion confinement and fast ion driven instabilities	Liu	None	1/0.5/0	Require clean machine to avoid impurity contamination in FIDA spectra. RWM coils to generate 3D perturbations. Need magnetics, plasma profile diagnostics, MSE, midplane IR camera, BES, reflectometry and fast ion diagnostics.
18	AE damping rates in 3D perturbed equilibria	Bortolon	none	1/0.5/0	Prerequisite: successful operation of the TAE antenna. Standard diagnostics are required to enable modeling. Reflectometer, to determine mode structure
19	Initial TAE excitation with antenna	Fredrickson	none	2/0/0	AR amplifier need to be installed/connected/commissioned. Could be done this year.