LHD project

Daily Schedule

Prepared by
N.Tamura

Date	Experimental Subject
2022/10/14(Fri)	Detachment maintenance, prediction, and control; effect of tungsten divertor; anomaly detection in radiative collapse

Exp. No.	Topical Group	TGL	Sub-TGL
1285	instability	K.Nagaoka/Y.Takemura [2177/2167]	R.Seki/N.Kenmochi [2201/2208]

Time Table

8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
	UP	[instability]									DN			

Details and Experimental Conditions

[instability Coordinator: N.Kenmochi](09:00 ～ 18:45) ECH, NBI
09:45-12:15 Sustainment of divertor detachment(S. Masuzaki)
09:45-12:15 (piggy-back)Ion temperature measurement in detached plasma with impurity seeding(Y. Hayashi)
09:45-12:15 (piggy-back)Effect of tungsten divertor on impurity seeding detachment(K. Mukai)

12:15-14:10 Anomaly detection of radiation profile in radiative collapse(K. Mukai)
12:15-14:10 (piggy-back)Ion temperature measurement in detached plasma with impurity seeding(Y. Hayashi)

14:10-18:45 Detachment wit RMP(M. Kobayashi)
14:10-18:45 Feedback control of detachment with ECRH and impurity gas injection(M. Kobayashi)
14:10-18:45 Prediction and maintenance of detached plasma by data driven approach(Y. Isobe, R. Sakamoto)
(3 shots NBI calibration)

Maximum number of discharges : 180
Sequence:3min

#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled
1		CCW	3.65	2.7123	1.2538	100.0	
2		CCW	3.6	2.75	1.2538	100.0	
3		CCW	3.9	2.5384	1.2538	100.0	

Gas

H2,N2,Ne,Ar

Wall Conditioning

GD(Before Exp.): H2 , Cryopump(During Exp.): off

Remarks

(instability)
- NBI#3 gate open for CXS measurement
- LID coil to cancel the natural island
- RMP 3300A, ECH boost injection for feed back control

Diagnostics: CXS, PCI, Fast Thomson(event trg. w/ bolometer), CIII gain control to avoid saturation, Fast Scanning Probe

【Precautions for today's LHD experiments】
(id:677) Impurity gas puff
(id:685) Mag. Conf.: Using LID coil
(id:705) ECH: off-axis injection (Combined)
(id:720) Probe: Edge plasma measurement using the fast-scanning Langmuir probes
(id:722) Insertion of sample, etc: Insertion of water-cooled tungsten divertor test piece