LHD project

Daily Schedule

Prepared by
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Date	Experimental Subject
2021/10/21(Thu)	Commissioning (NBI, ECH, ICH) Carbon impurity erosion and transport analyses, diverter configuration and impurity transport, atomic database of L-shell transitions MHD instability suppression by RMP field, Sawtooth-like oscillation in high aspect ratio configuration of LHD

Exp. No.	Topical Group	TGL	Sub-TGL
1220	multi-ion/spectroscopy/instability	N.Tamura/M.Kobayashi M. Goto K.Nagaoka/Y.Takemura [2337/2169, 2290, 2177/2167]	H.Kasahara/G.Motojima M.Yoshinuma/T.Oishi/T.Kawate S.Kamio/N.Kenmochi [2065/2142, 2172/2022/, 2194/2208]

Time Table	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
		UP	[multi-ion]		[spectroscopy]			[instability]				DN			

Details and Experimental Conditions

Gas

[multi-ion](10:00 ～ 12:15)ECH, NBI, ICH
Commissioning of heating devices (NBI, ECH, ICH)
Maximum number of discharges : 60
Sequence:3min

#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled
1		CW	3.6	2.75	1.2538	100.0	

Gas: He

[spectroscopy](12:15 ～ 15:30)ECH, NBI
- Analyzing carbon impurity erosion and transport and comparing with ERO2.0 modelling (Romazanov, Shoji)
- Examining the impact of divertor configuration on inward impurity transport (Ding, Oishi)
- Establishing atomic database of L-shell transitions of the Fe-peak elements (Yamaguchi, Murakami)

Maximum number of discharges : 70
Sequence:3min

#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled
1		CW	3.6	2.75	1.2538	100.0	
2		CW	3.6	1.375	1.2538	100.0	

Gas: H2,N2,Ne,Ar

[instability](15:30 ～ 18:45)ECH, NBI
The effect of the external RMP on the MHD instability is investigated. (S. Ito)
The characteristics of the sawtooth-like oscillation observed in the high aspect ratio configuration is investigated. (Y. Takemura)

Maximum number of discharges : 70
Sequence:3min

#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled
1		CW	3.75	1.375	1.2538	100.0	
2		CW	3.6	0.75	1.129	100.0	
3	✓	CW	3.6	0.9	1.129	100.0	
4	✓	CW	3.6	0.6	1.129	100.0	

Gas: H2,Ne

Wall Conditioning

GD(Before Exp.): No , Cryopump(During Exp.): Yes

Remarks

(spectroscopy)High heating power is a higher priority for the ECH(less than 2sec) operation during discharges of Ni injection, rather than the longer pulses.
(instability)CXS, BES, LID(<1920A)
【Precautions for today's LHD experiments】
(id:612) Impurity pellet/TESPEL
(id:613) impurity gas puff
(id:620) ECH: Low absorption condition
(id:626) Mag. Conf.: Using LID coil
(id:638) ECH: Commissioning (alignment, profile check)
(id:640) low gamma exp.
(id:654) ECH: Injection from the antenna at Port 1.5Uo
(id:657) ICH: Antennae insertion for plasma heating by ICH
(id:668) NB injection for low field discharges