

25th 5th week(04/08/24 - 04/12/24) schedule for LHD experiment

Weekly report :

Date	Day of the week	Bt direction	Schedule of the day										Wall	Gas	Experiment implementation system	Remark	
			Morning (～12:15)					Afternoon (12:15 ～16:45)									
4/8	Mo.												Sat: None Sun: He GD Mon: None				
4/9	Tu.	CW	[TC](10:30 ～14:15)ECH, NBI Transport study in ECRH superposed ion ITB plasma # Opt. Pol. Rax Bax gamma Bq SC 1 CW 3.6 2.75 1.2538 100.0 2 ✓ CW 3.75 2.64 1.2538 100.0					[IA](14:45 ～16:45)ECH, NBI Validation of high-energy NB shine-through model # Opt. Pol. Rax Bax gamma Bq SC 1 CW 3.6 2.75 1.2538 100.0					H2 GD Div Cryo	H2, He, Ar, CH4	[Responsible person]S.Masuzaki / H.Hayashi [Coordinator#1]T.kobayashi/T.Kawatani [Coordinator#2]A.Shimizu/K.Ogawa [ECH]H.Igami [Gas·vacuum·shutter]C/A [Low temp.]noguchi.hiroki [LID power]M.Kawai/K.Nagahara [Coil power]takami.shigeyuki [central ctrl.]maeno.hiroya [data proc.]M.Ohsuna [EXP LAN]inoue.tomoyuki [A]FIDA, BES, CXS, H/He ratio, Bulk-CXS, CH4 puff [id:723] Impurity pellet/TESPEL [id:724] Impurity gas puff [id:741] ECH: Heating with the perpendicular injection from Port 2-O [id:745] ECH: Collective Thomson Scattering (CTS) measurement [id:748] ECH: off-axis injection (Combined)		
4/10	We.	CW	[TC](10:30 ～12:30)ECH, NBI Characteristics of the radial mode structure of resistive interchange mode # Opt. Pol. Rax Bax gamma Bq SC 1 CCW 3.75 0.75 1.2538 100.0 2 CCW 3.75 1.375 1.2538 100.0 3 CCW 3.75 2.64 1.2538 100.0 4 ✓ CCW 3.75 1.0 1.2538 100.0					[MAP](12:30 ～16:45)ECH, NBI Spectroscopic measurement of detached plasma and boron ion intensity lines # Opt. Pol. Rax Bax gamma Bq SC 1 CCW 3.75 2.64 1.2538 100.0 2 CCW 3.9 2.5385 1.2538 100.0 3 CCW 3.6 2.75 1.2538 100.0					He GD	H2, Ne, Ar	[Responsible person]T.Seki / H.Hayashi [Coordinator#1]K.Mukai/M.Nishiura [Coordinator#2]R.Yanai/H.Nakano [ECH]H.Takahashi [Gas·vacuum·shutter]B/C [Low temp.]noguchi.hiroki [LID power]M.Kawai/K.Nagahara [Coil power]tanoue.hiroyuki [central ctrl.]maeno.hiroya [data proc.]M.Ohsuna [EXP LAN]nakamura.osamu [TC]PTS, ECE-Imaging at 1.0T, CECE, CXS, LID [MAP]CXS, IPD, LID (12:30-15:15), Ne puff, impurity pellet [id:723] Impurity pellet/TESPEL [id:731] Mag. Conf.: Using LID coil [id:752] NBI: Injection into the discharges with low fields [id:762] Impurity powder dropper		
4/11	Th.	CW	[IA](10:30 ～12:45)ECH, NBI Observation of the fast-ion confinement degradation depending on the neutral beam power # Opt. Pol. Rax Bax gamma Bq SC 1 CW 3.6 2.75 1.2538 100.0				[TC](12:45 ～14:15)ECH, NBI Impurity effect on turbulent transport in magnetically-confined toroidal plasmas # Opt. Pol. Rax Bax gamma Bq SC 1 CW 3.6 2.75 1.2538 100.0				[MAP](14:15 ～16:45)ECH, NBI Real-time wall conditioning using the IPD, Impurity transport study in the plasma with an impurity hole # Opt. Pol. Rax Bax gamma Bq SC 1 CW 3.6 2.75 1.2538 100.0 2 CW 3.55 2.7887 1.2538 100.0				None Div Cryo	H2, He, Ar	[Responsible person]M.Osakabe / H.Hayashi [Coordinator#1]G.Motojima/H.Nakano [Coordinator#2]R.Ishikawa/T.Tokuza [ECH]N.Kenmochi [Gas·vacuum·shutter]A/B [Low temp.]noguchi.hiroki [LID power]M.Kawai/K.Nagahara [Coil power]takami.shigeyuki [central ctrl.]maeno.hiroya [data proc.]M.Ohsuna [EXP LAN]inoue.tomoyuki [A]Special Requirement: C-pellet Required Diag.: FIDA, HIBP [TC]LID (cancel) Required Diag.: TESPEL, SSGP, CXS, DR, BS, PCI [MAP]C samples are exposed to the divertor plasma LID (cancel, 15:40-16:45) Required Diag.: Fast camera (2.5-U), Spectroscopy, CXS, BES, TESPEL, HIBP, DR, PCI [id:723] Impurity pellet/TESPEL [id:724] Impurity gas puff [id:728] Mag. Conf.: 3.55 m =< Rax < 3.6 m
4/12	Fr.	CW	[MAP](10:30 ～13:45)ECH, NBI Tomographic analysis of helium atom emission line intensity # Opt. Pol. Rax Bax gamma Bq SC 1 CCW 3.9 2.5385 1.2538 100.0 2 CCW 3.75 2.64 1.2538 100.0 3 CCW 3.6 2.75 1.2538 100.0					[IA](13:45 ～16:45)ECH, NBI electron cyclotron mazer instability # Opt. Pol. Rax Bax gamma Bq SC 1 CCW 3.6 2.75 1.2538 100.0 2 CCW 3.9 2.6308 1.2538 100.0 ✓					None	H2, He, Ar	[Responsible person]M.Isobe / H.Hayashi [Coordinator#1]M.Kobayashi/M.Goto [Coordinator#2]A.Shimizu/K.Ogawa [ECH]R.Yanai [Gas·vacuum·shutter]C/A [Low temp.]noguchi.hiroki [LID power]M.Kawai/K.Nagahara [Coil power]tanoue.hiroyuki [central ctrl.]maeno.hiroya [data proc.]M.Ohsuna [EXP LAN]nakamura.osamu [MAP]CXS, impurity gas puff [A]MSE [id:724] Impurity gas puff [id:729] ECH: Low absorption condition [id:736] Mag. Conf.: Subcool conditions (Combined) : Subcool required [id:743] ECH: Fundamental X-mode injection from the high field side [id:748] ECH: off-axis injection (Combined)		

Daily Schedule

Prepared by

T.Kobayashi
N.Tamura

Date	Experimental Subject																																						
2024/4/9(Tue)	Transport study in ECRH superposed ion ITB plasma Validation of high-energy NB shine-through model																																						
Exp. No.	Experimental Session Group						Session Coordinator																																
1345	TC/IA						T.kobayashi[2231] / A.Shimizu[2454] T.Kawate[2256] / K.Ogawa[2229]																																
Time Table	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22																								
		UP	[TC]					[IA]		DN																													
Details and Experimental Conditions														Gas																									
[TC](10:30 ~ 14:15) ECH, NBI 10:30-14:35 Transport study in ECRH superposed ion ITB plasma (H. Nakano) 14:35-14:45 NBI calibration (3 shots) Sequence:3min <table><tr><td>#</td><td>Option</td><td>Polarity</td><td>Rax(m)</td><td>Bax(T)</td><td>gamma</td><td>Bq(%)</td><td>Subcooled</td></tr><tr><td>1</td><td></td><td>CW</td><td>3.6</td><td>2.75</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>2</td><td>✓</td><td>CW</td><td>3.75</td><td>2.64</td><td>1.2538</td><td>100.0</td><td></td></tr></table>														#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled	1		CW	3.6	2.75	1.2538	100.0		2	✓	CW	3.75	2.64	1.2538	100.0		H2,He,Ar	
#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled																																
1		CW	3.6	2.75	1.2538	100.0																																	
2	✓	CW	3.75	2.64	1.2538	100.0																																	
[IA](14:45 ~ 16:45) ECH, NBI 14:45-16:45 Validation of high-energy NB shine-through model (S. Sumida (QST), M. Osakabe) Sequence:3min <table><tr><td>#</td><td>Option</td><td>Polarity</td><td>Rax(m)</td><td>Bax(T)</td><td>gamma</td><td>Bq(%)</td><td>Subcooled</td></tr><tr><td>1</td><td></td><td>CW</td><td>3.6</td><td>2.75</td><td>1.2538</td><td>100.0</td><td></td></tr></table>														#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled	1		CW	3.6	2.75	1.2538	100.0		H2,He,C H4									
#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled																																
1		CW	3.6	2.75	1.2538	100.0																																	
Wall Conditioning		GD(Before Exp.): None , GD(After Exp.): H2 , Cryopump(During Exp.): on																																					
Remarks		(TC)BES, CXS, MSE, FIDA, FILD, HIBP, Impurity pellet, Ice pellet, PCI, Reflectometer, Doppler Reflectometer, Off-axis ECH, MECH, CTS (IA)FIDA, BES, CXS, H/He ratio, Bulk-CXS, CH4 puff 【Precautions for today's LHD experiments】 (id:723) Impurity pellet/TESPEL (id:724) Impurity gas puff (id:741) ECH: Heating with the perpendicular injection from Port 2-O : Subcool required (id:745) ECH: Collective Thomson Scattering (CTS) measurement (id:748) ECH: off-axis injection (Combined)																																					

Daily Schedule

Prepared by

Y. Takemura
M. Goto

Date	Experimental Subject																																																						
2024/4/10(Wed)	Characteristics of the radial mode structure of resistive interchange mode Spectroscopic measurement of detached plasma and boron ion intensity lines																																																						
Exp. No.	Experimental Session Group						Session Coordinator																																																
1346	TC/MAP						K.Mukai[2240] / R.Yanai[2163] M.Nishiura[2184] / H.Nakano[2209]																																																
Time Table	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22																																								
		U P	[TC]			[MAP]				D N																																													
Details and Experimental Conditions														Gas																																									
[TC](10:30 ~ 12:30) ECH, NBI 10:30-12:30 Characteristics of the radial mode structure of resistive interchange mode and its parameter dependence (J. Valera(UC3M), Y. Takemura) # [Change of Mag. Config.: 0.75T -> 1.0T(option) -> 1.375T -> 2.64T] will done between 10:30 and 12:30. Sequence:3min <table><tr><th>#</th><th>Option</th><th>Polarity</th><th>Rax(m)</th><th>Bax(T)</th><th>gamma</th><th>Bq(%)</th><th>Subcooled</th></tr><tr><td>1</td><td></td><td>CCW</td><td>3.75</td><td>0.75</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>2</td><td></td><td>CCW</td><td>3.75</td><td>1.375</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>3</td><td></td><td>CCW</td><td>3.75</td><td>2.64</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>4</td><td>✓</td><td>CCW</td><td>3.75</td><td>1.0</td><td>1.2538</td><td>100.0</td><td></td></tr></table>														#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled	1		CCW	3.75	0.75	1.2538	100.0		2		CCW	3.75	1.375	1.2538	100.0		3		CCW	3.75	2.64	1.2538	100.0		4	✓	CCW	3.75	1.0	1.2538	100.0		H2	
#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled																																																
1		CCW	3.75	0.75	1.2538	100.0																																																	
2		CCW	3.75	1.375	1.2538	100.0																																																	
3		CCW	3.75	2.64	1.2538	100.0																																																	
4	✓	CCW	3.75	1.0	1.2538	100.0																																																	
[MAP](12:30 ~ 16:45) ECH, NBI 12:30-15:15 Spectroscopic analysis of detached plasma (M. Goto) # [Change of Mag. Config.: 3.75m -> 3.9m] will done between 12:30 and 15:15. 15:15-15:45 [Change of Mag. Config.: 3.9m -> 3.6m] 15:45-16:45 Boron ion intensity lines for measurements of the electron temperature and density (N. Goto) Sequence:3min <table><tr><th>#</th><th>Option</th><th>Polarity</th><th>Rax(m)</th><th>Bax(T)</th><th>gamma</th><th>Bq(%)</th><th>Subcooled</th></tr><tr><td>1</td><td></td><td>CCW</td><td>3.75</td><td>2.64</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>2</td><td></td><td>CCW</td><td>3.9</td><td>2.5385</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>3</td><td></td><td>CCW</td><td>3.6</td><td>2.75</td><td>1.2538</td><td>100.0</td><td></td></tr></table>														#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled	1		CCW	3.75	2.64	1.2538	100.0		2		CCW	3.9	2.5385	1.2538	100.0		3		CCW	3.6	2.75	1.2538	100.0		H2,Ne,Ar									
#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled																																																
1		CCW	3.75	2.64	1.2538	100.0																																																	
2		CCW	3.9	2.5385	1.2538	100.0																																																	
3		CCW	3.6	2.75	1.2538	100.0																																																	
Wall Conditioning																																																							
GD(Before Exp.): H2 , GD(After Exp.): He , Cryopump(During Exp.): off																																																							
Remarks																																																							
(TC)FTS, ECE-Imaging at 1.0T, CECE, CXS, LID																																																							
(MAP)CXS, IPD, LID (12:30-15:15), Ne puff, impurity pellet																																																							
【Precautions for today's LHD experiments】 (id:723) Impurity pellet/TESPEL (id:724) Impurity gas puff (id:731) Mag. Conf.: Using LID coil (id:752) NBI: Injection into the discharges with low fields (id:762) Impurity powder dropper																																																							

Daily Schedule

Prepared by

R.Seki
N.Tamura

Date	Experimental Subject																																						
2024/4/11(Thu)	Observation of the fast-ion confinement degradation depending on the neutral beam power Impurity effect on turbulent transport in magnetically-confined toroidal plasmas Real-time wall conditioning using the IPD, Impurity transport study in the plasma with an impurity hole																																						
Exp. No.	Experimental Session Group						Session Coordinator																																
1347	IA/TC/MAP						G.Motojima[2142] / R.Ishikawa[2576] H.Nakano[2209] / T.Tokuzawa[2217] N.Kenmochi[2208] / R.Seki[2201]																																
Time Table	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22																								
		U P	[IA]			[TC]	[MAP]			D N																													
Details and Experimental Conditions														Gas																									
[IA](10:30 ~ 12:45) ECH, NBI 10:30-12:40 Observation of the fast-ion confinement degradation depending on the neutral beam power (S. Kamio(TAE), K. Nagaoka) Sequence:3min <table><tr><td>#</td><td>Option</td><td>Polarity</td><td>Rax(m)</td><td>Bax(T)</td><td>gamma</td><td>Bq(%)</td><td>Subcooled</td></tr><tr><td>1</td><td></td><td>CW</td><td>3.6</td><td>2.75</td><td>1.2538</td><td>100.0</td><td></td></tr></table>														#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled	1		CW	3.6	2.75	1.2538	100.0		H2									
#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled																																
1		CW	3.6	2.75	1.2538	100.0																																	
[TC](12:45 ~ 14:15) ECH, NBI 12:40-14:10 Impurity effect on turbulent transport in magnetically-confined toroidal plasmas(N.Tamura) Sequence:3min <table><tr><td>#</td><td>Option</td><td>Polarity</td><td>Rax(m)</td><td>Bax(T)</td><td>gamma</td><td>Bq(%)</td><td>Subcooled</td></tr><tr><td>1</td><td></td><td>CW</td><td>3.6</td><td>2.75</td><td>1.2538</td><td>100.0</td><td></td></tr></table>														#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled	1		CW	3.6	2.75	1.2538	100.0		H2,He,Ar									
#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled																																
1		CW	3.6	2.75	1.2538	100.0																																	
[MAP](14:15 ~ 16:45) ECH, NBI 14:20-15:25 The evaluation of the toroidal uniformity of impurity deposition for effective real-time wall conditioning using the IPD (M. Shoji) 15:25-15:40 Magnetic field configuration changed 15:40-16:45 Impurity transport study in the plasma with an impurity hole by means of TESPEL (D.M. Roque(Ciemat), N. Tamura) Sequence:3min <table><tr><td>#</td><td>Option</td><td>Polarity</td><td>Rax(m)</td><td>Bax(T)</td><td>gamma</td><td>Bq(%)</td><td>Subcooled</td></tr><tr><td>1</td><td></td><td>CW</td><td>3.6</td><td>2.75</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>2</td><td></td><td>CW</td><td>3.55</td><td>2.7887</td><td>1.2538</td><td>100.0</td><td></td></tr></table>														#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled	1		CW	3.6	2.75	1.2538	100.0		2		CW	3.55	2.7887	1.2538	100.0		H2,Ar	
#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled																																
1		CW	3.6	2.75	1.2538	100.0																																	
2		CW	3.55	2.7887	1.2538	100.0																																	
Wall Conditioning		GD(Before Exp.): He , GD(After Exp.): None , Cryopump(During Exp.): on																																					
Remarks		(IA)Special Requirement: C-pellet Required Diag.: FIDA, HIBP (TC)LID (cancel) Required Diag.: TESPEL, SSGP, CXS, DR, BS, PCI (MAP)C samples are exposed to the divertor plasma LID (cancel, 15:40-16:45) Required Diag.: Fast camera (2.5-U), Spectroscopy, CXS, BES, TESPEL, HIBP, DR, PCI [Precautions for today's LHD experiments] (id:723) Impurity pellet/TESPEL (id:724) Impurity gas puff (id:728) Mag. Conf.: 3.55 m =< Rax < 3.6 m (id:731) Mag. Conf.: Using LID coil (id:760) Insertion of sample, etc: Exposure of a material sample to divertor plasma by the manipulators (id:762) Impurity powder dropper																																					

Daily Schedule

Prepared by

M. Goto
N. Tamura

Date	Experimental Subject																																														
2024/4/12(Fri)	Tomographic analysis of helium atom emission line intensity electron cyclotron mazer instability																																														
Exp. No.	Experimental Session Group						Session Coordinator																																								
1348	MAP/IA						M.Kobayashi[2169] / A.Shimizu[2454] M.Goto[2290] / K.Ogawa[2229]																																								
Time Table	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22																																
		U P	[MAP]				[IA]			D N																																					
Details and Experimental Conditions														Gas																																	
[MAP](10:30 ~ 13:45) ECH, NBI 10:30 - 13:45 Tomographic analysis of helium atom emission line intensity (M. Goto) # [Change of Mag. Config.: 3.9m -> 3.75m -> 3.6m] will be done between 10:30 and 13:45. NBI pattern #7: (#1, #2, #3, #5) - (#1, #2, #3) - (#2, #3) Sequence:3min <table><tr><th>#</th><th>Option</th><th>Polarity</th><th>Rax(m)</th><th>Bax(T)</th><th>gamma</th><th>Bq(%)</th><th>Subcooled</th></tr><tr><td>1</td><td></td><td>CCW</td><td>3.9</td><td>2.5385</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>2</td><td></td><td>CCW</td><td>3.75</td><td>2.64</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>3</td><td></td><td>CCW</td><td>3.6</td><td>2.75</td><td>1.2538</td><td>100.0</td><td></td></tr></table>														#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled	1		CCW	3.9	2.5385	1.2538	100.0		2		CCW	3.75	2.64	1.2538	100.0		3		CCW	3.6	2.75	1.2538	100.0		H2,He,Ar	
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1		CCW	3.9	2.5385	1.2538	100.0																																									
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3		CCW	3.6	2.75	1.2538	100.0																																									
[IA](13:45 ~ 16:45) ECH, NBI 13:45-16:45 Observation and control of the electron cyclotron mazer instability (H. Igami) # [Change of Mag. Config.: 3.6m, 2.75T -> 3.9m, 2.6308T(Sub-cooled)] will be done between 13:45 and 16:45. Sequence:3min <table><tr><th>#</th><th>Option</th><th>Polarity</th><th>Rax(m)</th><th>Bax(T)</th><th>gamma</th><th>Bq(%)</th><th>Subcooled</th></tr><tr><td>1</td><td></td><td>CCW</td><td>3.6</td><td>2.75</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>2</td><td></td><td>CCW</td><td>3.9</td><td>2.6308</td><td>1.2538</td><td>100.0</td><td>✓</td></tr></table>														#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled	1		CCW	3.6	2.75	1.2538	100.0		2		CCW	3.9	2.6308	1.2538	100.0	✓	H2,Ar									
#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled																																								
1		CCW	3.6	2.75	1.2538	100.0																																									
2		CCW	3.9	2.6308	1.2538	100.0	✓																																								
Wall Conditioning																																															
		GD(Before Exp.): None , Cryopump(During Exp.): off																																													
Remarks																																															
(MAP)CXS, impurity gas puff																																															
(IA)MSE																																															
【Precautions for today's LHD experiments】 (id:724) Impurity gas puff (id:729) ECH: Low absorption condition (id:736) Mag. Conf.: Subcool conditions (Combined) : Subcool required (id:743) ECH: Fundamental X-mode injection from the high field side (id:748) ECH: off-axis injection (Combined)																																															