

25th 4th week(04/01/24 - 04/05/24) 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)																																																																																		
4/1	Mo.							Sat: He GD Sun: None Mon: None																																																																																
4/2	Tu.	CW	[TC](10:30 ～ 16:45)ECH, NBI turbulence in modulated ECH, Turbulence characteristics in density-peaking plasma, Comparison of turbulence driven transport between LHD and W7-X <table><tr><th>#</th><th>Opt.</th><th>Pol.</th><th>Rax</th><th>Bax</th><th>gamma</th><th>Bq</th><th>SC</th></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>					#	Opt.	Pol.	Rax	Bax	gamma	Bq	SC	1		CW	3.6	2.75	1.2538	100.0		None Div Cryo	H2, Ar	[Responsible person]M.Osakabe / H.Hayashi [Coordinator#1]M.Yoshinuma [Coordinator#2]T.Tokuzawa [ECH]H.Igami [Gas·vacuum·shutter]B/C [Low temp.]ohba.kouki [LID power]M.Kawai/K.Nagahara [Coil power]tanoue.hiroyuki [central ctrl.]ogawa.hideki [data proc.]M.Ohsuna [EXP LAN]nakamura.osamu	(TC)PCI, HIBP, CXS, BS, CECE, Impurity Pellet (Carbon Pellet) (id:723) Impurity pellet/TESPEL (id:724) Impurity gas puff																																																													
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4/3	We.	CW	[TC](10:30 ～ 14:30)ECH, NBI Investigation of turbulence and heat propagation characteristics during e-ITB formation transition and back transition <table><tr><th>#</th><th>Opt.</th><th>Pol.</th><th>Rax</th><th>Bax</th><th>gamma</th><th>Bq</th><th>SC</th></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>	#	Opt.	Pol.	Rax	Bax	gamma	Bq	SC	1		CW	3.6	2.75	1.2538	100.0		[MAP](14:30 ～ 16:45)ECH, NBI Impurity confinement and transport dependence on electron temperature gradient <table><tr><th>#</th><th>Opt.</th><th>Pol.</th><th>Rax</th><th>Bax</th><th>gamma</th><th>Bq</th><th>SC</th></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>	#	Opt.	Pol.	Rax	Bax	gamma	Bq	SC	1		CW	3.6	2.75	1.2538	100.0		None	H2, Ar	[Responsible person]S.Sakakibara / H.Hayashi [Coordinator#1]M.shohji/A.Shimizu [Coordinator#2]M.Kobayashi/T.kobayashi [ECH]H.Takahashi [Gas·vacuum·shutter]A/B [Low temp.]ohba.kouki [LID power]M.Kawai/K.Nagahara [Coil power]takami.shigeyuki [central ctrl.]ogawa.hideki [data proc.]M.Ohsuna [EXP LAN]inoue.tomoyuki	(TC)FTS, fast CXS, BS(position scan), HIBP, MSE (MAP)HIBP, TESPEL, CXS, Doppler Reflectometer, PCI, SOXMOS (id:723) Impurity pellet/TESPEL (id:724) Impurity gas puff (id:750) ECH: Focusing point scan : Subcool required																																																
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4/4	Th.	CCW	[IA](10:30 ～ 14:15)ECH, NBI Study on disturbance by injection of high Z(neon)-doped hydrogen pellets, Study on stabilization mechanism of MHD instability <table><tr><th>#</th><th>Opt.</th><th>Pol.</th><th>Rax</th><th>Bax</th><th>gamma</th><th>Bq</th><th>SC</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>3.75</td><td>0.75</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>0.6</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>4</td><td>✓</td><td>CCW</td><td>3.775</td><td>0.6</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>5</td><td>✓</td><td>CCW</td><td>3.775</td><td>0.75</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>6</td><td>✓</td><td>CCW</td><td>3.65</td><td>0.6</td><td>1.2538</td><td>100.0</td><td></td></tr></table>	#	Opt.	Pol.	Rax	Bax	gamma	Bq	SC	1		CCW	3.6	2.75	1.2538	100.0		2		CCW	3.75	0.75	1.2538	100.0		3		CCW	3.75	0.6	1.2538	100.0		4	✓	CCW	3.775	0.6	1.2538	100.0		5	✓	CCW	3.775	0.75	1.2538	100.0		6	✓	CCW	3.65	0.6	1.2538	100.0		[TC](14:45 ～ 16:45)ECH, NBI Assessment of geometrical effect on transport through quadrupole field scan <table><tr><th>#</th><th>Opt.</th><th>Pol.</th><th>Rax</th><th>Bax</th><th>gamma</th><th>Bq</th><th>SC</th></tr><tr><td>1</td><td></td><td>CCW</td><td>3.6</td><td>1.375</td><td>1.2538</td><td>200.0</td><td></td></tr><tr><td>2</td><td>✓</td><td>CCW</td><td>3.6</td><td>1.375</td><td>1.1739</td><td>100.0</td><td></td></tr></table>	#	Opt.	Pol.	Rax	Bax	gamma	Bq	SC	1		CCW	3.6	1.375	1.2538	200.0		2	✓	CCW	3.6	1.375	1.1739	100.0		None	H2	[Responsible person]K.Tanaka / H.Hayashi [Coordinator#1]M.Yoshinuma/Y.Takemura [Coordinator#2]A.Shimizu/H.Nugai [ECH]N.Kenmochi [Gas·vacuum·shutter]C/A [Low temp.]ohba.kouki [LID power]N.Suzuki/K.Nagahara [Coil power]tanoue.hiroyuki [central ctrl.]ogawa.hideki [data proc.]M.Ohsuna [EXP LAN]nakamura.osamu	(IA)FTS, CXS, LID(10:30-14:15) (TC)CXS, PCI, reflectometer (id:731) Mag. Conf.: Using LID coil (id:738) Mag. Conf.: Exp. with low gamma (Combined) (id:744) Mag. Conf.: Bq = 0%, 150%, 200% (id:752) NBI: Injection into the discharges with low fields
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4/5	Fr.	CW	[IA](10:30 ～ 12:30)ECH, NBI, ICH Experimental study on Alfvén eigenmode <table><tr><th>#</th><th>Opt.</th><th>Pol.</th><th>Rax</th><th>Bax</th><th>gamma</th><th>Bq</th><th>SC</th></tr><tr><td>1</td><td></td><td>CW</td><td>3.6</td><td>0.8</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>2</td><td></td><td>CW</td><td>3.6</td><td>1.375</td><td>1.2538</td><td>100.0</td><td></td></tr></table>	#	Opt.	Pol.	Rax	Bax	gamma	Bq	SC	1		CW	3.6	0.8	1.2538	100.0		2		CW	3.6	1.375	1.2538	100.0		[TC](13:00 ～ 16:45)ECH, NBI Impurity Effect JEX on Stellarators, Te fluctuation in e-ITB <table><tr><th>#</th><th>Opt.</th><th>Pol.</th><th>Rax</th><th>Bax</th><th>gamma</th><th>Bq</th><th>SC</th></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>	#	Opt.	Pol.	Rax	Bax	gamma	Bq	SC	1		CW	3.6	2.75	1.2538	100.0		Div Cryo	H2, Ar	[Responsible person]N.Tamura / H.Hayashi [Coordinator#1]T.Tokuzawa/M.Goto [Coordinator#2]H.Nakano/Y.Takemura [ECH]H.Takahashi [Gas·vacuum·shutter]B/C [Low temp.]noguchi.hiroki [LID power]M.Kawai/K.Nagahara [Coil power]takami.shigeyuki [central ctrl.]ogawa.hideki [data proc.]M.Ohsuna [EXP LAN]inoue.tomoyuki	(IA)BES, FILD, CXS, FIDA (TC)CXS, PCI, CECE, CTSアンテナ使用 (id:724) Impurity gas puff (id:732) Probe: Insertion of Fast Ion Loss Diagnostics (8-O) (id:745) ECH: Collective Thomson Scattering (CTS) measurement (id:748) ECH: off-axis injection (Combined) (id:749) ICH: Antennae insertion for plasma heating by ICH : Subcool required (id:752) NBI: Injection into the discharges with low fields (id:762) Impurity powder dropper																																								
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Daily Schedule

Prepared by

N.Tamura

Date	Experimental Subject																														
2024/4/2(Tue)	turbulence in modulated ECH, Turbulence characteristics in density-peaking plasma, Comparison of turbulence driven transport between LHD and W7-X																														
Exp. No.	Experimental Session Group						Session Coordinator																								
1341	TC						M.Yoshinuma[2172] / T.Tokuzawa[2217]																								
Time Table	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22																
		U P	[TC]							D N																					
Details and Experimental Conditions														Gas																	
[TC](10:30 ~ 16:45) ECH, NBI 10:30-13:15 Core and edge turbulence in modulated ECH(M.Nishiura) 13:15-15:00 Turbulence characteristics in density-peaking plasma in LHD (R.Yanai) 15:00-16:45 Comparison of turbulence driven transport between LHD and W7-X (H.Sakai(Kyushu Univ.), K. Tanaka) 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>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,Ar	
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GD(Before Exp.): None , GD(After Exp.): None , Cryopump(During Exp.): on																															
Remarks		(TC)PCI, HIBP, CXS, BS, CECE, Impurity Pellet (Carbon Pellet) 【Precautions for today's LHD experiments】 (id:723) Impurity pellet/TESPEL (id:724) Impurity gas puff																													

Daily Schedule

Prepared by

N.Tamura

Date	Experimental Subject																														
2024/4/3(Wed)	Investigation of turbulence and heat propagation characteristics during e-ITB formation transition and back transition Impurity confinement and transport dependence on electron temperature gradient																														
Exp. No.	Experimental Session Group						Session Coordinator																								
1342	TC/MAP						M.shohji[2151] / M.Kobayashi[2169] A.Shimizu[2454] / T.kobayashi[2231]																								
Time Table	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22																
		UP	[TC]				[MAP]			DN																					
Details and Experimental Conditions														Gas																	
[TC](10:30 ~ 14:30) ECH, NBI 10:30-14:25 Investigation of turbulence and heat propagation characteristics during e-ITB formation transition and back transition(N. Kenmochi) NBI(#2,#3 MSE), ECH(3 s 0.7MW), ne = 0.5-2.5e19 14:25-14:35 NBI calib. 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></table>														#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled	1		CW	3.6	2.75	1.2538	100.0		H2	
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[MAP](14:30 ~ 16:45) ECH, NBI 14:35-16:45 Impurity confinement and transport dependence on electron temperature gradient(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></table>														#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled	1		CW	3.6	2.75	1.2538	100.0		H2,Ar	
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2024/4/4(Thu)	Study on disturbance by injection of high Z(neon)-doped hydrogen pellets, Study on stabilization mechanism of MHD instability Assessment of geometrical effect on transport through quadrupole field scan																																																																						
Exp. No.	Experimental Session Group						Session Coordinator																																																																
1343	IA/TC						M.Yoshinuma[2172] / A.Shimizu[2454] Y.Takemura[2167] / H.Nuga[2211]																																																																
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[IA](10:30 ~ 14:15) ECH, NBI 10:30-11:50 Spatiotemporal structure of local and global disturbance triggered by high Z (neon) doped hydrogen pellet injection (A. Matsuyama (Kyoto Univ., R. Sakamoto) 11:50-12:00 NBI calib. shots 12:00-12:25 [Change of Mag. Config.: 3.6m, 2.75T -> 3.75m, 0.75T] 12:15-14:18 Stabilizing mechanism of MHD instability with island in relatively high density regime (Y. Takemura) 14:18-14:45 [Change of Mag. Config.: 3.75m, 0.75T -> 3.6m, 1.375T, Bq=200%] 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>3.75</td><td>0.75</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>0.6</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>4</td><td>✓</td><td>CCW</td><td>3.775</td><td>0.6</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>5</td><td>✓</td><td>CCW</td><td>3.775</td><td>0.75</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>6</td><td>✓</td><td>CCW</td><td>3.65</td><td>0.6</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	3.75	0.75	1.2538	100.0		3		CCW	3.75	0.6	1.2538	100.0		4	✓	CCW	3.775	0.6	1.2538	100.0		5	✓	CCW	3.775	0.75	1.2538	100.0		6	✓	CCW	3.65	0.6	1.2538	100.0		H2	
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[TC](14:45 ~ 16:45) ECH, NBI 14:45-16:45 Assessment of geometrical effect on transport through quadrupole field scan(H.Yamada(U. Tokyo), N. Tamura) 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>1.375</td><td>1.2538</td><td>200.0</td><td></td></tr><tr><td>2</td><td>✓</td><td>CCW</td><td>3.6</td><td>1.375</td><td>1.1739</td><td>100.0</td><td></td></tr></table>														#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled	1		CCW	3.6	1.375	1.2538	200.0		2	✓	CCW	3.6	1.375	1.1739	100.0		H2																																	
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Daily Schedule

Prepared by

M. Goto

Date	Experimental Subject																																						
2024/4/5(Fri)	Experimental study on Alfvén eigenmode Impurity Effect JEX on Stellarators, Te fluctuation in e-ITB																																						
Exp. No.	Experimental Session Group					Session Coordinator																																	
1344	IA/TC					T.Tokuzawa[2217] / H.Nakano[2209] M.Goto[2290] / Y.Takemura[2167]																																	
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		U P	[IA]			[TC]				D N																													
Details and Experimental Conditions														Gas																									
[IA](10:30 ~ 12:30) ECH, NBI, ICH 10:30-12:30 Multiple AE resonances and transition to the hard MHD limit: enhanced EP transport during AE bursting activity (J. Valera(UC3M), K. Nagaoka) (3 shots of NBI calibration before 12:00) # [Change of Mag. Config.: 0.8T -> 1.375T] will done between 10:30 and 12:30. 12:30-13:00 [Change of Mag. Config.: 1.375T -> 2.75T] NBI pattern #2: (#2, #3, #4, #5) - (#3, #4, #5) - (#3, #5) 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>CW</td><td>3.6</td><td>0.8</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>2</td><td></td><td>CW</td><td>3.6</td><td>1.375</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	0.8	1.2538	100.0		2		CW	3.6	1.375	1.2538	100.0		H2	
#	Option	Polarity	Rax(m)	Bax(T)	gamma	Bq(%)	Subcooled																																
1		CW	3.6	0.8	1.2538	100.0																																	
2		CW	3.6	1.375	1.2538	100.0																																	
[TC](13:00 ~ 16:45) ECH, NBI 13:00- 15:00 Joint Experiment on Effect of Impurities on Stellarator Performance (F. Nespoli(PPPL), S. Masuzaki) 15:00- 16:45 Study of electron temperature fluctuation behavior in e-ITB plasmas (R. Yanai) 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>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,Ar									
#	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 , Cryopump(During Exp.): on																																							
Remarks																																							
(IA)BES, FILD, CXS, FIDA (TC)CXS, PCI, CECE, CTSアンテナ使用 【Precautions for today's LHD experiments】 (id:724) Impurity gas puff (id:732) Probe: Insertion of Fast Ion Loss Diagnostics (8-O) (id:745) ECH: Collective Thomson Scattering (CTS) measurement (id:748) ECH: off-axis injection (Combined) (id:749) ICH: Antennae insertion for plasma heating by ICH : Subcool required (id:752) NBI: Injection into the discharges with low fields (id:762) Impurity powder dropper																																							