stellarator news

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The 25th LHD experiment campaign in 2024 was successfully finished

The 25th LHD experiment campaign in 2024 was successfully finished in June 2024. During the 15 weeks of the campaign until 20 June 2024, LHD operated for 55 days, and 6,335 discharges were accomplished (Since March 1998, plasma experiments at LHD exceeded 190,000 shots!). During this campaign, the LHD device, the heating devices, and the diagnostics experienced several minor problems, but nothing significant enough to temporarily suspend the LHD experiment. We want to take this opportunity to thank all the people, especially technicians, who were involved in completing this experiment campaign.

We already know how to live with COVID-19. As a result, many international collaborators could participate locally in the LHD experiments in this campaign and remotely, e.g., via Zoom. The 25th LHD experiment campaign was the project's first experiment campaign to utilize LHD as an Academic Research Platform. In addition to research on fusion plasma, the LHD was also used for cutting-edge science, such as research on interstellar organic synthesis in space. As experiment data analysis progresses, it is hoped that the LHD will contribute even more to the significant development of science, including the realization of fusion reactors. The experimental data obtained from the 25th LHD experiment campaign will continue to be accessible to everyone through the LHD Experiment Data Repository. Researchers and students unable to propose experiments for the 25th LHD experiment campaign are encouraged to use this repository fully. We hope this will result in many publications of high scientific value based on original ideas.

The next LHD experiment campaign is scheduled to run from autumn 2025 to the end of 2025, with the call for experiment proposals scheduled to open around spring 2025. This will be the last opportunity to conduct plasma experiments at LHD. We expect to receive many exciting and meaningful proposals to contribute to the future.

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24th Coordinated Working Group Meeting Program, Higashi-Hiroshima, Japan, September 5–6, 2024

HSX	W7-X, TJ-II	LHD	Thursday, 5 September			
UTC-5	UTC+2	UTC+9	Session (organisers)	Subject	Presenter	Duration
19:15	02:15	09:15	Welcome and introduction.	Welcome and introduction.	Y. Suzuki / A. Alonso	15'
19:30	02:30	09:30	TC I- Core transport and confinement in multi-ion plasmas (D. Carralero / M. Nunami)	Review of JA/JEs	D. Carralero / M. Nunami	20' + 10'
20:00	03:00	10:00		Study of plasmoid drift and magnetic configurations	N. Panadero	15' + 15'
20:30	03:30	10:30	Coffee break.			20'
20:50	03:50	10:50	TC II- Core transport and confinement in multi-ion plasmas (D. Carralero / M. Nunami)	Turbulent transport database I	K. Tanaka	15' + 15'
21:20	04:20	11:20		Turbulent transport database II	J.M. García-Regaña	15' + 15'
21:50	04:50	11:50		Review of joint experimental proposals and next steps	D. Carralero	15' + 25'
22:30	05:30	12:30	Lunch break.			90'
00:00	07:00	14:00	SOLDIV I - Energy, particle and impurity transport in the SOL and divertor (V. Winters / A. Bader)	Non-resonant divertors I	D. Boeyaert	15'
00:15	07:15	14:15		Non-resonant divertors II	K. Garcia	15'
00:30	07:30	14:30		Non-resonant divertors III	T. Kremeyer	15'
00:45	07:45	14:45		Non-resonant divertors IV	B. Davies	15'
01:00	08:00	15:00		Discussion	A. Bader	20'
01:20	08:20	15:20	Coffee break.			20'
01:40	08:40	15:40	SOLDIV II - Energy, particle and impurity transport in the SOL and divertor (V. Winters / A. Bader)	Density limit studies	G. Motojima	15' + 15'
02:10	09:10	16:10		Exhaust parameters	F. Reimold	15' + 15'
02:40	09:40	16:40		Review of joint experimental proposals and next steps	V. Winters	20'
03:00	10:00	17:00				
		18:00	Meeting dinner			

			Friday, 6 September			
UTC-5	UTC+2	UTC+9	Session (organisers)	Subject	Presenter	Duration
19:30	02:30	09:30	EPMHD I - Energetic Particles, MHD, and High-Beta (A. Knieps, A. Wright)	Introduction	A. Knieps / A. Wright	10'
19:40	02:40	09:40		Study on Alfgen & EP-mode generated shear flows on LHD (and Jet DT)	J. Varela	15' + 15'
20:10	03:10	10:10		Recent LHD results concerning MHD activity and suggestions for future research topics	t.b.d.	15' + 15'
20:40	03:40	10:40	Coffee break.			20'
21:00	04:00	11:00	EPMHD II - Energetic Particles, MHD, and High-Beta (A. Knieps, A. Wright)	Work on beta standardization and recent W7-X MHD results	K. Aleynikova	15' + 15'
21:30	04:30	11:30		Discussion	A. Knieps	15'
21:45	04:45	11:45	Summary, actions, next meeting.	Summary, actions, next meeting.	A. Alonso	45'
22:30	05:30	12:30	Lunch break.			90'
00:00	07:00	14:00	Session with private companies I -- company vision and short-term plans, stellarator physics research priorities and schemes for public-private collaboration (N. Pablant)	Introduction and session goals	N. Pablant	10'
00:10	07:10	14:10		Fromal procedure for private companies' involvement in the CWGM within the IEA Technology Collaboration Program	P. Kurz	10'+5'
00:25	07:25	14:25		Kyoto Fusioneering	K. Seko	10'+5'
00:40	07:40	14:40		Helical Fusion	T. Goto	10'+5'
00:55	07:55	14:55		Gauss Fusion	S. Lazerson	10'+5'
01:10	08:10	15:10	Coffee break.			20'
01:30	08:30	15:30	Session with private companies II -- company vision and short-term plans, stellarator physics research priorities and schemes for public-private collaboration (N. Pablant)	Proxima Fusion	J. Lion	10'+5'
01:45	08:45	15:45		Stellarex	A. Bhattacharjee	10'+5'
02:00	09:00	16:00		Type One Energy	A. Bader	10'+5'
02:15	09:15	16:15		Discussion	N. Pablant	30'
02:45	09:45	16:45				