

Workshops on Physics and Technology of RF Heating of Fusion Plasmas 2012

US-EU-Japan Workshop on RF Heating Technology and US-Japan Workshop on RF Heating Physics

11-15 December, 2012, Nara

	11.Dec	12.Dec	13.Dec	14.Dec	15.Dec
	RF Heating Technology	RF Components R&D 1 EC	Joint Planning	EBW/ECCD	RF Modeling
	9:45	9:10	9:10	9:10	9:10
	Opening	M. Shapiro (MIT)	Closing	G. Taylor (PPPL)	A. Fukuyama (Kyoto U.)
	RF System 1 EC	S. Schreck (KIT)		M. Uchida (Kyoto U.)	K. Hada (Kyoto U.)
T01	T. Ohmori (ITER)	R. Ellis (PPPL)		H. Igami (NIFS)	R. Seki (NIFS)
T02	R. Olstad (GA)	C. Lechte (IPF-Stuttgart)		K. Uchijima (U. Tokyo)	S. Murakami (Kyoto U.)
T03	S. Moriyama (JAEA)	Y. Oda (JAEA)	RF Heating Physics	Y. Noguchi (Kyoto U.)	Joint Planning
T04	Y. Yoshimura (NIFS)	K. Ohkubo (NIFS)	10:15	K. Nagasaki (Kyoto U.)	Closing
	Lunch	Lunch	Opening	Lunch	
	13:30	14:00	RF Experiments	14:00	
	RF System 2 LH/ICRF	RF Components R&D 2 EC	S.G. Baek (MIT)	ECRH/LHCD/HHFW	
T05	A. A. Tuccillo (ENEA)	C. Moeller (GA)	H. Takahashi (NIFS)	S. Ogasawara (Nagoya U.)	
T06	J. Caughman (ORNL)	M. Saigusa (Ibaraki U.)	H. Kasahara (NIFS)	R. Makino (Nagoya U.)	
T07	T. Seki (NIFS)	C. Lechte (IPF-Stuttgart)		N. Bertelli (PPPL)	
T08	S. Park (NFRI)	H. Idei (Kyushu U.)	12:00	R. Perkins (PPPL)	
	15:45	T25	Extended Discussions	J. Hosea (PPPL)	
	Gyrotron	T26	at	HHFW/ICRF	
T09	K. Sakamoto (JAEA)	T.A. Scherer (KIT)	"Ohmiwa Shrine" etc.	T. Shinya (U. Tokyo)	
T10	G. Gantenbein (KIT)	A. Bruschi (IFP-CNR)		R. Ikezoe (U. Tsukuba)	
T11	K. Felch (CPI)	17:55		K. Uehara (JAXA/JAEA)	
T12	T. Kobayashi (JAEA)	RF Components R&D 3 EC/IC/LH	Banquet		
T13	O. Sinitsyn (U. Maryland)	C. Moeller (GA)	at		
T14	R. Minami (U. Tsukuba)	K. Saito (NIFS)	"Ashibi no Sato"		
		R. Ellis (PPPL)			
		T. Wakatsuki (U. Tokyo)			

Program of the
US-EU-Japan Workshop on RF Heating and US-Japan Workshop on RF Heating Physics
11-15 December, 2012, Nara New Public Hall, Nara, Japan

Date	No.	from	Init.	Name	Affiliation	Title	
11.Dec		9:45		Opening			
		9:45		T. Mutoh		Opening Address	
		9:50		R. Olstad			
		9:55		G. Gantenbein			
		10:00		RF System1 (Chair:)			
	T01	10:00		T. Omori	ITER	Update on ITER EC system design	
	T02	10:30		R. Olstad	GA	Performance, diagnostic measurements and upgrade plans for the DIII-D ECH system	
	T03	11:00		S. Moriyama	JAEA	Development of linear motion ECRF antenna for JT-60SA	
	T04	11:30		Y. Yoshimura	NIFS	ECRH system update in LHD	
		12:00		Lunch Break			
		13:30		RF System2 (Chair:)			
	T05	13:30		AA. Tuccillo	ENEA	Future Prospects for Lower Hybrid in view of ITER and DEMO	
	T06	14:00		J. Caughman	ORNL	Design of an antenna for RF-plasma interactions studies and other technology activities at ORNL	
	T07	14:30		T. Seki	NIFS	ICRF heating system for steady-state operation and long pulse experiment in LHD	
	T08	15:00		S. Park	NFRI	Characteristics and Initial Operation Results of the KSTAR LHCD System	
		15:30		Break			
		15:45		Gyrotron (Chair)			
	T09	15:45		K. Sakamoto	JAEA	Status of 170GHz EC Technology Development in JAEA	
	T10	16:15		G. Gantenbein	KIT, IHM	Experimental Investigations on a Frequency Step-Tunable Gyrotron with a Diamond Brewster Angle Output Window	
	T11	16:45		K. Felch	CPI	Recent Test Results on 110 GHz and 170 GHz Gyrotrons	
		17:15		Break			
T12	17:25		T. Kobayashi	JAEA	Recent progress on gyrotron development for JT-60SA		
T13	17:55		O. Sinitsyn	U. Maryland	Progress in the gyrotron theory and experiments at the University of Maryland		
T14	18:25		R. Minami	U. Tsukuba	Development of MW Gyrotrons for Fusion Devices by University of Tsukuba		
	18:55		Adjourn				
12.Dec		9:10		Component R&D 1 (Chair)			
	T15	9:10		M. Shapiro	MIT	Theoretical and Experimental Investigation of 170 GHz ITER ECH Transmission Lines	
	T16	9:40		S. Schreck	KIT	The ITER EC H&CD Upper Launcher: Design developments towards final design	
	T17	10:10		R. Ellis	PPPL	Performance enhancements for DIII-D and KSTAR ECH Launchers	
		10:40		Break			
	T18	10:50		C. Lechte	IPF Stuttgart	Optimization of optical ECRH components with free space mode mixtures	
	T19	11:20		Y. Oda	JAEA	Mode purity and beam profile measurement of ITER equatorial launcher	
	T20	11:50		K. Ohkubo	NIFS	Mode Content Analysis for ECH Transmission Lines by Burn Pattern and nonlinear Optimization	
		12:20		Lunch Break			
		14:00		Components R&D 2 (Chair)			
	T21	14:00		C. Moeller	GA	Progress on All Metal mm-Wave Beam Splitters	
	T22	14:30		M. Saigusa	Ibaraki U.	Development of high power wide band switch for ECCD system	
	T23	15:00		C. Lechte	IPF Stuttgart	A Five-Port Mitre Bend Coupler System For In-Situ Measurement Of Higher-Order Waveguide Modes	
	T24	15:30		H. Idei	Kyushu U.	Five mode contents analyzer for Circular Corrugated Waveguide Transmission Lines	
		16:00		Break			
	T25	16:10		M. Sakaguchi	Furukawa C&B	Development of High Purity QO HE ₁₁ -mode Exciter for Low Power Application	
	T26	16:40		T.A. Scherer	KIT	ITER ECRH diamond window technology status	
	T27	17:10		A. Bruschi	IFP-CNR	Progresses in millimeter-wave absorbers and calorimetric load technology	
		17:40		Break			
		17:55		Components R&D 3 (Chair)			
	T28	17:55		C. Moeller	GA	A Lower Hybrid Traveling Wave Antenna	
T29	18:25		K. Saito	NIFS	A design method of optimized impedance transformer for the ICRF antenna in LHD		
T30	18:55		R. Ellis	PPPL	Compliant Center Conductors for the NSTX HHFW Antenna Feedthroughs		
T31	19:25		T. Wakatsuki	U. Tokyo	Experimental results using a new dielectric loaded waveguide array antenna on TST-2		
	19:55		Adjourn				
13.Dec		9:10		Joint Planning (Chair)			
		9:10				US-EU-Japan Joint Planning	
		10:15		Opening			
		10:15		J. Hosea	PPPL	Opening Address	
		10:20		S. Kubo	NIFS		
		10:25		RF Experiment Overview (Chair)			
	P01	10:25		S.G. Baek	MIT	Observations of ion cyclotron parametric decay instability at the high-field side of Alcator C-Mod tokamak	
	P02	10:55		H. Takahashi	NIFS	Progress in the ECRH experiments in LHD	
	P03	11:25		H. Kasahara	NIFS	Fast Wave heating using toroidal phasing antenna in the LHD	
		11:55		Extended Discussions at "Ohmiva Shrine" etc.			
	12:00		Banquet at "Ashibi no Sato"				
	19:00		Adjourn				
14.Dec		9:10		ECH (Chair)			
	P04	9:10		G. Taylor	PPPL	Plans for Wave Heating and Current Drive Research in NSTX-U	
	P05	9:40		M. Uchida	Kyoto U.	Formation of an extremely overdense spherical tokamak by EBW on LATE	
	P06	10:10		H. Igami	NIFS	EBW study in LHD	
		10:40		Break			
	P07	10:50		K. Uchijima	U. Tokyo	Direct Measurement of the Electron Bernstein Waves in the Internal Coil Device Mini-RT	
	P08	11:20		Y. Noguchi	Kyoto U.	Electron Bernstein Wave Experiments in the Low Aspect ratio Torus Experiment Device	
	P09	11:50		K. Nagasaki	Kyoto U.	Control of Energetic-Ion-Driven Instabilities by ECCD in Heliotron J	
		12:20		Lunch Break			
		14:00		ECH/LHCD/HHFW (Chair)			
	P10	14:00		S. Ogasawara	Nagoya U.	Optimization of Operation Parameter in mega-watt 77-GHz gyrotron for the collective Thomson scattering measurement in LHD	
	P11	14:20		R. Makino	Nagoya U.	Density pump-out phenomena during high power ECRH in LHD	
	P12	14:40		N. Bertelli	PPPL	RF fields in the HHFW regime on NSTX-U and scattering in the LH regime on Alcator C-Mod	
	P13	15:10		R. Perkins	PPPL	Fast Wave Power Flow Along SOL Field Lines in NSTX	
P14	15:40		J. Hosea	PPPL	SOL Power Deposition Properties of HHFW electron heating generated H-modes in NSTX		
	16:10		Break				
	16:30		HHFW/ICRF (Chair)				
P15	16:30		T. Shinya	U. Tokyo	Wave Measurements during Lower Hybrid Wave Injection using Radio Frequency Magnetic Probes on TST-2		
P16	17:00		R. Ikezoe	U. Tsukuba	ICRF waves excited by strong ion-temperature anisotropy and those interactions with high-energy ions in the GAMMA 10 tandem mirror		
P17	17:30		K. Uehara	JAXA/JAEA	Review of Landau damping and radio-frequency current drive		
	18:00		Adjourn				
15.Dec		9:10		Modeling (Chair)			
	P18	9:10		A. Fukuyama	Kyoto U.	Kinetic integrated modeling of heating and current drive in tokamaks	
	P19	9:40		K. Hada	Kyoto U.	One-Dimensional Analysis of ECRH Assisted Plasma Start-up in JT-60SA	
	P20	10:10		R. Seki	NIFS	Evaluation of 3D Absorption Area of ICRF heating in LHD using TASK3D/WM	
	P21	10:40		S. Murakami	Kyoto U.	Simulation study of toroidal flow generation by ICRF minority heating in the Alcator C-Mod plasma	
		11:10		Joint Planning (Chair)			
	11:10				US-Japan Joint Planning		
	11:55				Summary		
	12:20		T. Mutoh	NIFS	Closing Remarks		