Program of the 15th Symposium of Japan Society of Electromagnetic Wave Energy Applications (JEMEA)

14 October, 2021

	8:30	Activation of Zoom at meeting place A		
	9:00-9:10	Opening Remarks, H. Fukushima, President of JEMEA Greetings from the Executive Committee - Notes on holding symposium online -, K.Ikenaga, Sojo Univ.		
	9:10-9:15	Activation of Zoom at meeting place B		
		Meeting Place A		Meeting Place B
Paper#		Chair: K. Ohno, Kyushu Univ.	Paper#	Chair: J. Sugiyama, AIST
1A01	9:15-9:35	Synthesis of (Ti,Cr)N coating film under air by microwave dry process T. Yamaguchi*, J. Fukushima*, Y. Hayashi*, H. Takizawa *Tohoku Univ.	1B01	Efficient Recovery of Useful Substances from Natural Products by Microwave Accelerated Reaction in Soxhlet Extractor M.A. Mirdad*, M. Abe*, R. Baba*, S. Ohuchi* *Kyushu Inst. Tech.
1A02	9:35-9:55	Effective permittivity/electric conductivity of metal/ceramic composite bodies and their microwave heating behaviors D. Kurokawa*, N. Yoshikawa *Tohoku Univ.	1B02	Basic Study on High Spatial Resolution Microwave Heating for Hydrogels Y. Toyonaga*, T. Mitani, M. Shinohara *Kyoto Univ.
1A03	9:55-10:15	Development of semi-flow microwave reactor with a resonator moving system M. Nishioka*, M. Miyakawa*, T. Nagase* *AIST	1B03	Design method of microwave single-mode applicator for material process(II) T. Fujii*, S. Tsubaki**, Y. Wada*** *Toyahashi Univ. Tech., **Osaka Univ., ***Tokyo Inst. Tech.
1A04	10:15-10:35	In-situ Observation of Local High-temperature Field in Material Synthesis by Microwave-assisted Solid-state Reaction Method J. Fukushima*, H. Takizawa* *Tohoku Univ.	1B04	5.8 GHz Waveguide Applicator with Post-Wall and its Irradiation Test to Yeast Cells M. Kishihara*, T. Matsumura** *Okayama Pref. Univ., **Minerva Light Lab.
	10:35-10:45	Coffee Break		
		Meeting Place A		
	10:45-11:10	Corporate PR. Part 1 Chair: T. Yoshimura, Saida FDS		
	11:10-12:00	Poster presentation: 9 papers Chair: K Ohno, Kyushu Univ.		
	12:00-13:00	Lunch time (12:30 Activation of poster room)		
	13:00-14:00	Poster session (Core time)		
	14:00-14:10	Coffee Break		
		Meeting Place A		Meeting Place B
Paper#		Chair: M. Nishioka, AIST	Paper#	Chair: S. Ohuchi, Kyushu Inst. Tech.
1A05	14:10-14:30	Microwave reduction of titanium dioxide nanoparticles H. Kadono*, D. Mochizuki* *Tokyo Denki Univ.	1B05	Study on hydrogen energy generation from alcohol-containing water using microwave iron oxide method H. Tanizawa*, S. Horikoshi* *Sophia Univ.
1A06	14:30-14:50	Microwave carbon reduction using TiO_2-rGO nanosheets T. Hosaka*, D. Mochizuki* *Tokyo Denki Univ.	1B06	Optimization of Microwave Allyl Group Incorporation Depolymerization of Cross-linked Polyester Resin by Determination of Allyl Groups in Resin Degradation Products K. Teramoto*, K. Kubo*, K. Ikenaga*, K., Kusakabe* *Sojo Univ.
1A07	14:50-15:10	Local thermal equilibrium state in microwave field K. Kashimura* *Chubu Univ.	1B07	Catalytic reduction of CO_2 by microwave-assisted processing using $NiMn_2O_4$ nanoparticles K. Okawara*, J. Fukushima*, H. Kobayashi*, H. Takizawa* *Tokoku Univ.
	15:10-15:20	Coffee Break		
Paper#		Chair: D. Mochizuki, Tokyo Denki Univ.	Paper#	Chair: T. Horikoshi, Sophia Univ.
1A08	15:20-15:40	Examination of carbon fiber production by microwave heating and composite material J. Sugiyama*, Y. Suzuki**, A. Toki**, H. Zushi**, R. Tanaka**, K. Yagi**, R Minegishi**, H. Hatori** *AIST, **Teijin Limited, ISMA	1B08	Complex Tensor-Permittivity of Material Under Microwave Irradiation Y. Nikawa* *Kokushikan Univ.
1A09	15:40-16:00	AlN synthesis via 5.8-GHz microwave carbothermal reduction-nitridation of alumina N. Sato*, F. Fukushima*, Y. Hayashi*, H. Takizawa* *Tohoku Univ.	1B09	Electric field distribution in semiconductor microwave oven by phase control H. Fukushima*, R. Osawa** *Nagoya Univ. **Seikoh Giken Co. LTD
1A10	16:00-16:20	Effect of surfactant on particle formation behavior during microwave irradiation Y. Asakuma*, T. Takai*, A. Shibatani* *Univ. of Hyogo	1B10	Molecular dynamics consideration of temperature and energy given by alternating electric field J Sugiyama*, M Yoneya* *AIST
	16:20-16:30	Moving time to Meeting Place A		

Paper#		Meeting Place A
	16:30-16:35	JEMEA Prize: Award Ceremony and Award Commemorative Lecture Selection Chair: K. Kashimura, Chubu Univ.
1S01	16:35-17:35	Chair: N. Yoshikawa, Tohoku Univ. ”Development and Implementation of Microwave Application Techniques in the Medical Field- Address on Receiving the JEMEA Award -" Y. Nikawa, Kokushikan Univ.
	17:35-17:45	Break
	17:45-19:30	Panel Discussion / Online Social Gathering (using breakout room of Zoom) Chair: N. Yoshikawa, Tohoku Univ.

Program of Poster Session in 14 October, 2021

Paper#	Poster Session
P01	Kinetic Analysis of Amide Hydrolysis Reaction under Microwave Irradiation R. Baba*, T. Yoshimura**, S. Ohuchi* *Kyushu Inst. Tech., **SAIDA FDS Inc.
P02	Microwave-assisted CO oxidation by La-Ni perovskite oxide catalysts T. Hamashima*, H. Hojo*, H. Einaga* *Kyushu Univ.
P03	Possibility of infinite reuse of waste glass fiber reinforced plastics and cross-linking rate of reused cured materials Y. Morikami*, K. Teramoto*, T. Kondo*, K. Ikenaga*, K. Kusakabe* *Sojo Univ.
P04	Determination of Allyl Groups in Resin Degradation Products of Glass Fiber Reinforced Plastics in Microwave Depolymerization and Optimization of Depolymerization K. Kubo*, K. Teramoto*, K. Ikenaga*, K. Kusakabe* *Sojo Univ.
P05	Analysis of Reaction Field Temperature Distribution and Energy Efficiency for Liter Scale Reaction in Microwave Oven S. Ohuchi*, R. Baba*, T. Yoshimura** *Kyushu Inst. Tech., **SAIDA FDS Inc.
P06	On chip synthesis of metal complex in a microchannel by microwave heating K. Fujitani*, M. Kishihara**, R. Tanaka*, T. Nakano*, A. Yamaguchi*, Y. Utsumi* *Univ. Hyogo, **Okayama Prefectural Univ.
P07	Development of flow-microwave reactor using CSTR reactor and application to esterification reaction T. Matsumura*, A. Ono**, M. Kishihara***, I. Kotani****, K. Kotani****, N. Nakayama****, Y. Yokoyama**** *Minerva Light Lab., **PTM, ***Okayama Pref. Univ., ****Makengineering
P08	Development of Flow-Microwave Reactor Using CSTR by EM Field Simulation M. Kishihara*, A. Ono**, T. Matsumura***, I. Kotani****, K. Kotani****, N. Nakayama****, Y. Yokoyama**** *Okayama Pref. Univ., **PTM, ***Minerva Light Lab., ****Makengineering
P09	Enhancement of cell membrane permeability of peptides by microwave irradiation M. Hirata*, Y. Arimoto**, R. Osawa***, N. Nakanishi****, K. Usui* *Konan Univ., **Minato Medical Science Co., Ltd., ***Seikoh Giken Co., Ltd., ****DSP Research, Inc.

15 October, 2021

Paper#		Meeting Place A
	8:00	Activation of Zoom at meeting place A
	8:40-8:45	Notes on holding symposium online, K. Ikenaga, Sojo Univ
		Chair: N. Mase, Shizuoka Univ.
		“International Mini Symposium”Microwave Technology for Green Chemistry
2S01	8:45-9:05	Special Lecture 1: “The controlled reaction by electromagnetic waves and its application to biomass refinery” S. Tsubaki, JST PRESTO, Osaka Univ.
2S02	9:05-9:25	Special Lecture 2: “Microwave Chemistry for Solid Catalysis-Contributing to Carbon Neutral Issue” Y. Wada, Tokyo Inst. Tech.
	9:25-9:30	Chair: Y. Wada, Tokyo Inst. Tech.
2S03	9:30-10:30	Special Lecture 3: “Microwave Activation in Green and Sustainable Applications” B. Torok, Univ. Massachusetts Boston
2S04	10:30-10:50	Special Lecture 4: “Microwave Flow Chemistry: Toward the Realization of "Desktop Plant” N. Mase, K. Isobe, J. Ueda, K. Sato, T. Narumi, Shizuoka Univ.
	10:55-11:10	Corporate PR. Part 2 Chair: T. Yoshimura, Saida FDS
	11:10-11:20	Break

Paper#		Meeting Place A
		Chair: K. Kashimura, Chubu Univ.
		JEMEA Progress Awar: Award Ceremony and Award Commemorative Lecture
2S05	11:20-12:20	“Evaluation by dimensionless number of local heating at the interface by microwave irradiation” Y. Asakuma, Univ. of Hyogo
	12:20-12:50	Lunch Break
2S06	12:50-13:45	Luncheon Seminar: "Freshman Woes in Microwaves!?" J. Sugiyama, AIST
	13:45-13:55	Break / Moving to Meeting Place A and B

Meeting Place A			Meeting Place B	
Paper#		Chair: T. Mitani, Kyoto Univ.	Paper#	Chair: Y. Asakkuma, Univ. Hyogo
2A01	13:55-14:15	Enhanced catalytic performance of spinel-type Cu-Mn oxides for benzene oxidation under microwave irradiation S. Ding*, H. Einaga*, H. Hojo* *Kyushu Univ.	2B01	1. Thermodynamic interpretation of microwave effect S. Nakatani*, M. Sato*, T. Hirai*, K. Nagata**, M. Tanaka*, M. Yukumoto* *Chubu Univ., **Tokyo Inst. Tech.
2A02	14:15-14:35	Study on the increased risk that sunscreens under microwave irradiation to humans. M. Iwabuchi*, S. Horikoshi* *Sophia Univ.	2B02	2. Experimental interpretation of microwave effect S. Nakatani*, M. Sato*, T. Hirai*, K. Nagata**, M. Tanaka*, M. Yukumoto* *Chubu Univ., **Tokyo Inst. Tech.
2A03	14:35-14:55	Nonthermal sub-THz excitation effects on biomacromolecular solutions. M. Imashimizu*, J. Sugiyama*, M Tanaka*, Y. Tokunaga* **AIST	2B03	Study on Heating Method Using Microwave Magnetic Resonance Y. Nikawa* *Kokushikan Univ.
2A04	14:55-15:15	Green Chemical Peptide Synthesis Method by C-terminal Elongation U. Uchihiro*, R. Baba*, M.A. Mirdad*, T. Yoshimura**, S. Obuchi* *Kyushu Inst. Tech., **Saida FDS	2B04	Stochastic Thermodynamics under Microwave Irradiation T. Hirai*, S.Nakatani*, K. Nagata**, M. Sato* *Chubu Univ., **Tokyo Inst. Tech.
	15:15-15:25	Break		

Meeting Place A			Meeting Place B	
Paper#		Chair: S Tsubaki, Osaka Univ.	Paper#	Chair: T. Fujii, Toyohashi Univ. Tech.
2A05	15:25-15:45	Inhibitory Effect of Choline Chloride on Microwave Depolymerization of Cross-linked Polyester Resin K. Ikenaga*, T. Ide*, Amelia binti Azhar** *Sojo Univ., **Universiti Teknologi PETRONAS	2B05	Microwave Magnetic Loss Mechanism and Ferro-Magnetic Resonance Heating N. Yoshikawa* *Tohoku Univ.
2A06	15:45-16:05	Non-catalytic decarboxylation of carbonate compounds using microwave heating in alcoholic solvents K. Ikenaga* *Sojo Univ.	2B06	Detection of Ferro-Magnetic Resonance by Superimposition of Fluctuating Magnetic Field N. Yoshikawa*, S. Mitsudo**, M. Goto* *Tohoku Univ., **Fukui Univ.
2A07	16:05-16:25	Microwave Effect on Intramolecular Cyclization of N-(propargylic)hydroxylamine A. Fujioka*, T. Kawanori*, R. Aoshima*, K. Saito*, T. Yamada* *Keio Univ.	2B07	Study for non-thermal effect through refractive index measurement during microwave irradiation Y. Asakuma*, T. Maeda*, S. Taue**, A. Hide***, C. Phan*** *Univ. Hyogo, **Kochi Univ. Tech., ***Curtin Univ
2A08	16:25-16:45	Microwave Specific Effect on Catalytic Asymmetric Nazarov Cyclization Y. Kubota*, J. Fukuzumi*, K. Saito*, T. Yamada* *Keio Univ.	2B08	Permittivity measurement under microwave irradiation by a rectangular resonator without crosstalk J. Sugiyama*, C. Sato* *AIST
	16:45-16:50	Moving time to Meeting Place A		
		Meeting Place A		
	16:50-17:00	Closing Remarks: H. Fukushima, President of JEMEA, K Ikenaga, Chair of Excective Committee, Sojo Univ.		