

# 2011 Spring National Meeting of Japan Thermal Spray Society

## 6-7 June, 2011 (Takatsu Garden, Osaka, JAPAN)

### Technical Program

**Monday 6 June**

9 : 20 ~ Opening Remarks		P.
9 : 30~10 : 50 Spray Process		Chair : Shinichiro Adachi
101	Development of WC-Fe alloy powders and evaluation of coating properties of cold sprayed WC-Fe alloy	Kazuto Sato, Haruhiko Furukawa, Junya Kitamura (Fujimi Incorporated), Dowon SEO and Kazuhiro Ogawa (Tohoku University) 1
102	Process dependence of bond coat for oxidation resistance in the TBC system	Takeru Mori (Chiba Institute of Technology), Murakami Hideyuki, Kuroda Seiji (National Institute for Materials Science), Yukihiro Sakamoto (Chiba Institute of Technology) 3
103	Comparative Study of Titanium Dioxide Photocatalyst Coatings Fabricated by Cold Spray and Suspension Spray	Yamada Motohiro, Isago Hiroaki, Noviana Tjitra Salim, Nakano Hiromi, Fukumoto Masahiro (Toyohashi University of Technology), Filofteia-Laura Toma, Steran Langner, Lutz-Michael Berger (Fraunhofer Institute for Materials and Beam Technology) 5
104	In Situ Measurement of Deposition Stress and Coating Properties in Thermal Spraying	Kentaro Shinoda, Sanjay Sampath (Center for Thermal Spray Research, Stony Brook Univ.) 7
10 : 55~11 : 15 Short Presentation by Exhibitor of Exchange Meeting		
11 : 20~ Commendation Ceremony		
11 : 45~ General Meeting of Award Ceremony		
--- Lunch Break (12:50-14:50) ---		
14 : 50~16 : 10 Reactive Spray and New Process		Chair : Toru Maruyama
105	Room Temperature Formation and its Superconducting Properties of MgB2 film by Aerosol Deposition	Shingo Hirose (AIST), Syuichiro Taniguchi (Shibaura Institute of Technology), Nobuo Sakamoto, Maxim Lebedev (AIST), Hideaki Sakata (Tokyo University of Science), Chiaki Nakayama, Naoki Koshizuka, Masato Murakami (Shibaura Institute of Technology), Jun Akedo (AIST) 9
106	Morphology of Nd-Fe-B films Prepared by Supersonic Free-Jet PVD	Kobayashi Hidehito, Yumoto Atsushi, Nagayama Katsuhisa (Shibaura Institute of Technology), Niwa Naotake (Kogakuin Univ.) 11
107	Deposition of the Photo-catalytic Titanium Oxide Coating by Vortex Air Plasma Assisted Solution Precursor Plasma Spray	Yasutaka Ando (Ashikaga Institute of Technology), Akira Kobayashi (Osaka University) 13
108	Fabrication of high quality Metallic Coating onto CFRP Substrate by Cold Spray	Hiroki Okazaki, Jon Affi, Motohiro Yamada, Masahiro Fukumoto (Toyohashi Univ. of Technology) 15
--- Break (16:10-16:20) ---		
16 : 20~17 : 00 Thermal Spray Equipment and Associated Equipment		Chair : Kazuhiko Sakaki
109	Study of the Kinetic Sprayed Particles Velocity to influence Coating Properties -Evaluation of a Short Nozzle for an Internal Diameter Gun-	Kazunori Sakata, Koji Tagomori, Yasuhiro Shinya, Naohisa Miwa (Fujikikoson Corp. ) Howard Gabel, Ralph M Tapphorn, Jeff Henness (Inovati), Toshikazu Nanbu, Kazuhiko Takashima (NISSAN MOTOR CO.,LTD.) Hiroshi Katanoda (Kagoshima University) 17
110	Fabrication of WC-Co coating and Investigation of agglomerated powder by low pressure cold spraying	Sonoda Tetsuya, Kuwashima Takayuki, Saito Takashi (Iwate Industrial Research Institute), Takada Akinori (Spec), Sato Kazuto, Kitamura Junya (Fujimi Incorporated) 19
--- Break (17:00-18:00) ---		
18 : 00~20 : 00 Ceremony of Establishment as Corporation of JTSS, Part 1 and Part 2 (Venue: Naniwa No Ma, 4F, Sheraton Miyako Hotel, Osaka)		

Exhibition of Exchange Meeting

# Tuesday 7 June

9 : 40~11 : 20		Coating Property and Evaluation Method	Chair : Junya Kitamura	P.
201	Influence of residual stress on growth of thermally grown oxides at the thermal barrier coating / bond coating interface	Atsushi Nakano, Kazuhiro Ogawa (Tohoku Univ.)		21
202	Observation of Changes in Bond Coat Microstructure by EBSD	Takeshi Izumi, Hideyuki Arikawa, Yoshitaka Kojima (Hitachi, Ltd.)		23
203	Effect of base metal for heat cycle properties of heat-resistant sprayed coating	Hiromitsu Sunahara, Kazuyoshi Ishida, Masanobu Nakamura, Keiji Sonoya (Yamanashi University)		25
204	Development of Damage Tolerant WC-Co/Copper Laminate coatings by Warm Spray Deposition	Makoto Watanabe, Masayuki Komatsu, Seiji Kuroda (NIMS)		27
205	Innovative Testing Method for Interconnected Porosity of Thermally Sprayed Ceramic Coatings by Using Electroplating	Yoshio Harada, Kazumi Tani (TOCALO Co., Ltd.), Yasuyuki Takatani (Corr. Center)		29
--- Break (11:20-11:30) ---				
11 : 30~12 : 30		Pretreatment and Posttreatment	Chair : Hiroshi Katanoda	
206	Investigation of thick S-phase layer on plasma sprayed stainless coating by low temperature plasma nitriding	Shinichiro Adachi, Nobuhiro Ueda (Technology Research Institute of Osaka Prefecture)		31
207	Effect of Heat Treatment on Mechanical Properties of Warm Sprayed WC-Co Coatings	Yuta Moriya (Grad student, Chiba Institute of Technology), Makoto Watanabe, Seiji Kuroda (NIMS), Kazuto Sato, Junya Kitamura (Fujimi Incorporated Co. Ltd), Yukihiro Sakamoto (Chiba Institute of Technology)		33
208	Attempt to Improve Characteristics of Cold Sprayed Metallic Coatings by Ultrasonic Vibration	Kei Kondo (Graduate School, Shinshu Univ.), Sakaki Kazuhiko (Shinshu Univ.)		35
--- Lunch Break (12:30-13:40) ---				
13 : 40~15 : 00		Theory and Fundamentals of Spray Process	Chair : Msato Suzuki	
209	A Study on Optimum Shape of Cold Spray Nozzle	Katanoda Hiroshi (Kagoshima Univ.)		37
210	Microstructure and Mechanical Characterization of Cold-Sprayed Copper Deposit	Yuji Ichikawa, Shun Tanemura, Isamu Nonaka (Tohoku University)		39
211	Influence of particle velocity on adhesion strength of copper cold spray coating	Watanabe Yuta, Jon Affi, Yamada Motohiro, Fukumoto Masahiro (Toyohashi University of Technology), Hirano Masaki, Kozaki Tomoko (TOYOTA Motor Corporation)		41
212	Effect of substrate surface hardness and adhesion of sprayed coatings	Kishita Takanori, Maruyama Toru, Kobayashi Takeshi (Kansai Univ.)		43
15 : 00~		Closing Remarks		