

2012 Hydrogenius Tribology Symposium
Preliminary Program

Hydrogenius & Kyushu University

*Inamori Hall & Seminar Room, Inamori Frontier Research Center
Thursday, 2nd February, 2012*

Poster session 12:00-13:30

Invited

High-speed Performance of Ball Bearings and Annular Seals in Liquid Hydrogen

Makoto Yoshida*, Satoshi Takada, Masataka Kikuchi, Takayuki Sudo, JAXA (Japan Aerospace Exploration Agency)

Influences of Ultra Pure Gases on the Tribological Properties of Pure Iron

Kanao Fukuda^{1*} and Joichi Sugimura^{1,2}

Tribological Characterization of Bronze Filled PTFE and Graphite Filled PTFE in 40 MPa Hydrogen Gas

Yoshinori Sawae^{1*}, Eiichi Miyakoshi², Shunichiro Doi¹, Hideki Watanabe¹, Yoshie Kurono¹ and Joichi Sugimura^{1,2}

Surface Film Formation and Hydrogen Permeation of Austenitic Stainless Steel under High Pressure Hydrogen

Hiroyoshi Tanaka^{1*}, Yoshinori Sawae¹ and Joichi Sugimura^{1,2}

Effects of Water Concentration and Sliding Conditions on Friction and Wear of Some Alloys in Hydrogen

Takehiro Morita^{1*}, Hiroyoshi Tanaka¹, Yoshinori Sawae¹ and Joichi Sugimura^{1,2}

Effect of Humidity in Hydrogen Gas on PTFE Transferred Film Formation

Kazuhiro Nakashima^{1*}, Yoshie Kurono¹, Yoshinori Sawae¹, Teruo Murakami¹ and Joichi Sugimura^{1,2}

Development of High Performance Valve for High Pressure Hydrogen Gas Infrastructure

Yoshinori Sawae^{1*}, Kazuhiro Nakashima¹, Takehiro Morita¹, Masamichi Iwama¹, Shunichiro Doi¹, and Hideki Watanabe¹

Session 2 13:40-15:40

Chairman Yoshinori Sawae, Kyushu University

13:40-14:10 Welcome and Introductory Speech
Progress in Tribology Researches at Hydrogenius
Joichi Sugimura*, Kyushu University, AIST

14:10-14:40 Invited
Effect of Hydrogen on the Friction and Wear of Polyamide-imides Composite Rubbed to A6061-T6 Aluminum Alloy
Tomoaki Iwai*, Yuya Sakano and Yutaka Shokaku, Kanazawa

University

14:40-15:10 Invited
Influence of Additives on Hydrogen Generation by Reaction of Greases
with Nascent Clean Steel Surface
Toshiaki Wakabayashi*, Kagawa University

15:10-15:40 Invited
Oxide-type Inclusion Inspection to Utilize Diffusible Hydrogen by Ultrasonic
Axial Loading Fatigue Testing
Yoshinori Sugisaki*, Hisamitsu Maeda and Yukio Matsubara, NTN
Corporation

Coffee Break

Session 3 15:50-17:40

Chairman Joichi Sugimura, Kyushu University, AIST

15:50-16:30 Keynote
Tribotests on Wear Protective Coatings in Hydrogen Environment
Thomas Gradt*, Federal Institute for Materials Research and Testing

16:30-17:00 Invited
Hydrogen and Deuterium Lubrication Mechanisms of Diamondlike Carbon
Films: an Imaging TOF-SIMS Study
Ali Erdemir, Osman L. Eryilmaz*, Argonne National Laboratory

17:00-17:30 Effect of Pre-heat Treatment on Tribological Properties of DLC Film
Shinya Sasaki*, Yuuki Tokuta, Tokyo University of Science
Masahiro Kawaguchi, IRI-Tokyo

17:30-17:40 Discussion and Closure

*Presenting and corresponding author

¹ Kyushu University

² AIST

*Program and speakers may change without prior notice.