

2011 Hydrogenius Tribology Symposium

Final Program

Hydrogenius & Kyushu University

Inamori Hall & Seminar Room, Inamori Frontier Research Center
Thursday, 3rd February, 2011

Poster session 12:00-13:40

Invited

A Study of Oil Lubricated Ball Bearings for Cryogenic Turbopump

Satoshi Takada*, Jun Hiromatsu, Japan Aerospace Exploration Agency

Tomoyuki Takano, Japanese Aerospace Technology

Masataka Kikuchi, Takayuki Sudou and Makoto Yoshida, Japan Aerospace Exploration Agency

Tribo-chemical Reaction in Hydrogen Environment

Kanao Fukuda^{1*}, Shinsuke Akiyoshi¹ and Joichi Sugimura^{1,2}

Tribological Characterization of Polymeric Sealing Materials in High Pressure Hydrogen Gas

Yoshinori Sawae^{1*}, Eiichi Miyakoshi², Kanao Fukuda¹, Shunichiro Doi¹, Hideki Watanabe¹, Yoshie Kurono¹ and Joichi Sugimura^{1,2}

Effects of High Pressure Hydrogen Gas on Surface Properties of Steels

Hiroyoshi Tanaka^{1*}, Nobuo Sakai^{1,3}, Yoshinori Sawae¹ and Joichi Sugimura^{1,2}

Effects of Oxygen Concentration and Water Content on Friction and Wear of Stellite 6B and SUS316

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

Effect of Hydrogen Environment on Friction and Wear of PTFE

Yoshinori Sawae¹, Hiroyuki Noda¹, Hiroyoshi Tanaka¹, Yoshie Kurono¹, Kazuhiro Nakashima^{1*}, Carlos Morillo², Teruo Murakami¹ and Joichi Sugimura^{1,2}

Hydrogen Tribology Database - Triboatlas

Naoshi Izumi^{1,4*}, Nobuo Sakai^{1,3}, Yoshie Kurono¹, Joichi Sugimura^{1,2}

Observation of Hydrogen Permeation into Fresh Bearing Steel Surface by Thermal Desorption Spectrometry

Hiraku Tanimoto^{1*}, Hiroyoshi Tanaka¹ and Joichi Sugimura^{1,2}

Session 2 13:40-15:30

Chairman Yoshinori Sawae, Kyushu University

13:40-14:10 **Welcome and Introductory Speech**

Progress in Tribology Researches at Hydrogenius

Joichi Sugimura*, Kyushu University, AIST

14:10-15:00 **Keynote**
Tribological Requirements of High-Speed Oil-Free Rotating Machinery for Hydrogen Applications
Hooshang Heshmat*, Mahawk Innovative Technology, Inc.

15:00-15:30 **Invited**
Friction and Wear Properties of Polyamide-imide Composites under Hydrogen Atmosphere
Tomoaki Iwai*, Yuya Sakano and Yutaka Shokaku, Kanazawa University

Coffee Break

Session 3 15:50-17:50

Chairman Joichi Sugimura, Kyushu University, AIST

15:50-16:40 **Keynote**
Tribochemical Formation of Hydrogen from Synthetic Hydrocarbon Oil on Nascent Steel Surface
Shigeyuki Mori*, Iwate University

16:40-17:10 **Invited**
Influence of Grease Additive on Bearing Brittle Flaking under Passing Electric Current
Takayuki Kawamura* and Hidenobu Mikami, NTN Corporation

17:10-17:40 **Invited**
Effects of Atmosphere Gases on Friction Induced Surface Reactions of Pure Metal
Koji Miyake*, AIST
Junki Nishihara and Shinya Sasaki, Tokyo University of Science

17:40-17:50 Discussion and Closure

*Presenting and corresponding author

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