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

Tribo-chemical Reaction in Hydrogen Environment
Kanao Fukuda1*, Shinsuke Akiyoshi1 and Joichi Sugimura1,2

Tribo-chemical Characterization of Polymeric Sealing Materials in High Pressure Hydrogen Gas
Yoshinori Sawae1*, Eiichi Miyakoshi2, Kanao Fukuda1, Shunichiro Doi3, Hidenori Watanabe1, Yoshie Kurono1 and Joichi Sugimura1,2

Effects of High Pressure Hydrogen Gas on Surface Properties of Steels
Hiroyoshi Tanaka1, Nobuo Saka1,3, Yoshinori Sawae1 and Joichi Sugimura1,2

Effects of Oxygen Concentration and Water Content on Friction and Wear of Stellite 6B and SUS316
Takehiro Morita1*, Hiroyoshi Tanaka1 and Joichi Sugimura1,2

Effect of Hydrogen Environment on Friction and Wear of PTFE
Yoshinori Sawae1, Hiroyuki Noda1, Hiroyoshi Tanaka1, Yoshie Kurono1, Kazuhiro Nakashima4*, Carlos Morillo2, Teruo Murakami2 and Joichi Sugimura1,2

Hydrogen Tribology Database - Triboatlas
Naoshi Izumi4*, Nobuo Saka1,3, Yoshie Kurono1, Joichi Sugimura1,2

Observation of Hydrogen Permeation into Fresh Bearing Steel Surface by Thermal Desorption Spectrometry
Hiraku Tanimoto1*, Hiroyoshi Tanaka1 and Joichi Sugimura1,2

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
Tribological Requirements of High-Speed Oil-Free Rotating Machinery for Hydrogen Applications
Hooshang Heshmat*, Mahawk Innovative Technology, Inc.

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

Keynote
Tribochemical Formation of Hydrogen from Synthetic Hydrocarbon Oil on Nascent Steel Surface
Shigeyuki Mori*, Iwate University

Invited
Influence of Grease Additive on Bearing Brittle Flaking under Passing Electric Current
Takayuki Kawamura* and Hidenobu Mikami, NTN Corporation

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

Discussion and Closure

*Presenting and corresponding author

1 Kyushu University
2 AIST
3 Kyushu Institute of Technology
4 Kurume National College of Technology