

Effect of time derivative of contact area on dynamic friction

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バージョン :

権利関係 :



Keynote Speakers

➤ Prof. Kazuo Arakawa

Professor / Renewable Energy Center, Research Institute for Applied Mechanics, Kyushu University

Biography

- 2001-present: Associate professor at Research Institute for Applied Mechanics RIAM, Kyushu

University

- 1988-1989: Visiting researcher, University of Washington, USA.
- 1982: Research Associate, RIAM, Kyushu University
- 1982: D.Eng. from Osaka University

Membership in Academic Society

- The Japanese Society for Experimental Mechanics (JSEM)
- The Society of Materials Science, Japan
- The Japan Society for Composite Materials
- The Japanese Society for Non-Destructive Inspection
- The Japan Society of Mechanical Engineers
- Society for Experimental Mechanics

Presentation title

Effect of time derivative of contact area on dynamic friction

Presentation Abstract:

This study investigated dynamic friction during oblique impact of a golf ball by evaluating the ball's angular velocity, contact force, and the contact area between the ball and target. The effect of the contact area on the angular velocities was evaluated, and the results indicated that the contact area plays an important role in dynamic friction. In this study, the dynamic friction force F was given by $F = \mu N + \mu \eta \cdot dA/dt$, where μ is the coefficient of friction, N is the contact force, dA/dt is the time derivative of the contact area A , and η is a coefficient associated with the contact area.

Keynote Speakers

➤ **Prof. Shigeo Yoshida**

Professor / Renewable Energy Center, Research Institute for Applied Mechanics, Kyushu University

Biography

- Shigeo Yoshida, born in Fukushima, in 1967.
- Working at Kyushu University since 2013, as a professor in Research Institute for Applied Mechanics

University

- Received B.E. Degree in Engineering Faculty of Kyoto University in 1990
- Doctor of Engineering in Ashikaga Institute of Technology in 2007.

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- Worked in Fuji Heavy Industries (SUBARU) since 1990, as an aerodynamic engineer for aircrafts and wind turbines and transferred to Hitachi in 2012.
- Member of JSME, JSFM, JSES (Director 2008-2010),
- JWEA (Director 2010-)
- TSJ and a registered expert of IEC.
- Best Technology Award (JSES, 2007)
- Best Paper Award (JSES 2007, JWEA 2009)
- Best Poster Award (Renewable Energy 2006)
- Poster Award (JWEA, 2007, 2007, 2008,2010)

Research

- ❖ Fundamental design, aerodynamics, control and safety of wind turbines
- ❖ Wind farm performance, fatigue mitigation, layout optimization
- ❖ Downwind rotor and tower shadow model