

JOURNAL OF TRIBOLOGY

Ref: C 2 PF 251199/03 Df: 27745325
JOURNAL OF TRIBOLOGY (ASME)
01.07.00 Vol: 122 No. 3
0742-4787 22101144 16.01.01
LIBRIS - C2
144 BOULEVARD KRIM BELKACEM
ALGER
ALGERIE

Transactions of the ASME®

Technical Editor
JOHN TICHY

Associate Technical Editors

M. BRYANT (2001)
YIP-WAH CHUNG (2003)
T. FARRIS (2000)
D. P. FLEMING (2000)
JEAN FRENE (2001)
B. JACOBSON (2001)
M. M. KHONSARI (2003)
R. KU (2002)
A. LUBRECHT (2000)
T. C. OVAERT (2003)
R. F. SALANT (2003)
L. SAN ANDRÉS (2002)
J. STREATOR (2002)
J. WILLIAMS (2002)

Past Technical Editors

D. F. WILCOCK (1967-1974)
D. F. HAYS (1975-1980)
W. O. WINER (1981-1987)
A. Z. SZERI (1988-1993)
F. E. KENNEDY, JR. (1993-1998)

TRIBOLOGY DIVISION

Chairman, R. BARNSBY
Secretary, I. ETSION

BOARD ON COMMUNICATIONS

Chairman and Vice-President
R. K. SHAH

OFFICERS OF THE ASME

President, JOHN R. PARKER
Exec. Director
D. L. BELDEN
Treasurer
J. A. MASON

PUBLISHING STAFF

Managing Director, Engineering
CHARLES W. BEARDSLEY
Director, Technical Publishing
PHILIP DI VIETRO
Managing Editor, Technical Publishing
CYNTHIA B. CLARK
Managing Editor, Transactions
CORNELIA MONAHAN
Production Assistant
MARISOL ANDINO

Transactions of the ASME, Journal of Tribology (ISSN 0742-4787) is published quarterly (Jan., April, July, Oct.) by The American Society of Mechanical Engineers, Three Park Avenue, New York, NY 10018. Periodicals postage paid at New York, NY and additional mailing offices.

POSTMASTER: Send address changes to Transactions of the ASME, Journal of Tribology, c/o THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS, 2215 Avenue of the Americas, Box 2300, Fairfield, NJ 07007-2300.

CHANGES OF ADDRESS must be received at Society headquarters seven weeks before they are to be effective. Please send old label and new address.

STATEMENT from By-Laws: The Society shall not be responsible for statements or opinions advanced in papers or ... printed in its publications (H7.1, Par. 3).

COPYRIGHT © 2000 by The American Society of Mechanical Engineers. For authorization to photocopy material for internal or personal use under those circumstances not falling within the fair use provisions of the Copyright Act, contact the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923, tel: 978-750-8400, www.copyright.com. Request for special permission or bulk copying should be addressed to Reprints/Permission Department.

INDEXED by Applied Mechanics Reviews and Engineering Information, Inc. Canadian Goods & Services Tax Registration #126148048

Journal of Tribology

Published Quarterly by The American Society of Mechanical Engineers

VOLUME 122 • NUMBER 3 • JULY 2000

489 In Memoriam: Harold G. Elrod

TECHNICAL PAPERS

- 490 Steady-State Frictional Sliding of Two Elastic Bodies With a Wavy Contact Interface
M. Nosonovsky and G. G. Adams
- 496 Extending the Capability of the Greenwood Williamson Microcontact Model
John I. McCool
- 503 Some Studies on Life Prediction of Thermal Sprayed Coatings Under Rolling Contact Conditions
B. Y. Sarma and M. M. Mayuram
- 511 Effect of Pad/Caliper Stiffness, Pad Thickness, and Pad Length on Thermoelastic Instability in Disk Brakes
Dale L. Hartsock and James W. Fash
- 519 An FFT-Based Transient Flash Temperature Model for General Three-Dimensional Rough Surface Contacts
Jianqun Gao, Si C. Lee, Xiaolan Ai, and Harvey Nixon
- 524 An Inverse Analysis for Steady-State Elastohydrodynamic Lubrication of One-Layered Journal Bearings
Abdallah A. Elsharkawy and Lotfi H. Guedouar
- 534 A Study on Rolling Element Skew Measurement in a Tapered Roller Bearing With a Specialized Capacitance Probe
Yeyuan Yang, Steven Danyluk, and Michael Hoeprich
- 539 Interfacial Fluid Mechanics and Pressure Prediction in Chemical Mechanical Polishing
Lei Shan, Joseph Levert, Lorne Meade, John Tichy, and Steven Danyluk
- 544 Mist Generation During Metal Machining
Jonathan Thornburg and David Leith
- 550 Emulsions Versus Neat Oils in the Cold Rolling of Carbon Steel Strips
A. Shirizly and J. G. Lenard
- 557 Frictional and Electrical Characteristics of Grooved Fluid Film Bearings for High-Speed Laser Scanner Motor
Young-Ze Lee, Seong-Hun Jeong, and Kwang-Seob Jeong
- 565 A Numerical Procedure Based on the Boundary Element Method Analysis of the Archimedean Spiral Grooved Thrust Oil Bearing
Qin Zhu and W. J. Zhang
- 573 Hydrodynamics of a Soft Contact Lens During Sliding Motion
S. Kamiyama and M. M. Khonsari
- 578 A Numerical Algorithm for Determining the Traction Between a Web and a Circumferentially Grooved Roller
K. S. Ducotey and J. K. Good
- 585 Induced Micro-Variations in Hydrodynamic Bearings
Charles Baroud, Ilene Busch-Vishniac, and Kristin Wood
- 590 Modeling of the Non-Linear Rheological Behavior of a Lubricating Grease at Low-Shear Rates
José M. Madiedo, José M. Franco, Concepción Valencia, and Crispulo Gallegos
- 597 THD Analysis of High Speed Heavily Loaded Journal Bearings Including Thermal Deformation, Mass Conserving Cavitation, and Turbulent Effects
Chao Zhang, Zixia Yi, and Zhiming Zhang

(Contents continued on inside back cover)

This journal is printed on acid-free paper, which exceeds the ANSI Z39.48-1992 specification for permanence of paper and library materials. ®™
♻️ 85% recycled content, including 10% post-consumer fibers.