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PUBLICATIONS

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Publications of the Mechanical Production Metrology Division in 1980-1982

U.S. DEPARTMENT OF COMMERCE
National Bureau of Standards
National Engineering Laboratory
Center for Manufacturing Engineering
Mechanical Production Metrology Division
Washington, DC 20234

May 1983

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PUBLICATIONS OF THE MECHANICAL PRODUCTION METROLOGY DIVISION IN 1980-1982

M. A. Cadoff

U.S. DEPARTMENT OF COMMERCE
National Bureau of Standards
National Engineering Laboratory
Center for Manufacturing Engineering
Mechanical Production Metrology Division
Washington, DC 20234

May 1983

U.S. DEPARTMENT OF COMMERCE, Malcolm Baldrige, *Secretary*
NATIONAL BUREAU OF STANDARDS, Ernest Ambler, *Director*

INTRODUCTION

This bibliography lists the publications of the Mechanical Production Metrology Division (Center for Manufacturing Engineering, National Engineering Laboratory) for calendar years 1980-1982. Included in it are publications for which one or more authors were in the Mechanical Production Metrology Division during the 1980-1982 period. Also included are a few publications that were written in support of the Division's programs, even though none of the authors were members of the Division. All papers and reports published in 1980-1982 are included in this compilation, as well as those manuscripts that have been formally approved by NBS but not yet published.

As one of the two major laboratories of the National Bureau of Standards, the National Engineering Laboratory conducts research in engineering and the applied sciences and builds and maintains competences in the scientific disciplines required to carry out this research. The Laboratory provides the public and private sectors with improved technology and technical services that address national needs through the development of engineering measurements and data, test methods and proposed engineering standards, and new engineering practices. Within the National Engineering Laboratory, the Center for Manufacturing Engineering provides competence and develops technical data, findings, and standards in manufacturing engineering, mechanical metrology, automation and control technology, and industrial and mechanical engineering in support of the discrete parts manufacturing industries.

The Mechanical Production Metrology Division operates largely in the discipline of Applied Physics. It develops and maintains competence in engineering measurements and sensors, both static and dynamic, theoretical and experimental solid mechanics, generalized (optical and mechanical) wave and inverse scattering, vibration analysis, acoustics research, and development of test methods, special tests, and calibrations of dynamic and static quantities including mass, force, acceleration, surface texture, acoustics, and optics. These competences are applied to problems in metrology, automated manufacturing, inspection technology to improve productivity, product quality, and occupational safety. The current organization of the Division is shown on the next page.

The publications in this bibliography are listed under the following headings:

1. Micrometrology
2. Surface Topography
3. Wave Optics
4. Force and Mass
5. Acoustics
6. Vibration
7. Acoustic Emission
8. Ultrasonics
9. Miscellaneous

An author index is given at the end of this bibliography.

MECHANICAL PRODUCTION METROLOGY DIVISION (737)

Daniel R. Flynn, Chief
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Dorna D. Williams, Secretary

Micro and Optical Metrology Group (737.02)

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Sally A. Morris, Secretary

Optical Dimensional Metrology

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Metrology of Microstructures

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Surface Characterization

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Michael J. McLay[5]
Fredric E. Scire
Theodore V. Vorburger
Russell D. Young[1]

Wave Optics

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Egon Marx

Particle Standards

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Ultrasonic Applications

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Douglas R. Tate[1]

Acoustics

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David J. Brenner[6]
Edwin D. Burnett
Edith L. R. Corliss[1]

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Charles Federman
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Beverly F. Payne

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[3]Consultant
[4]Detailed from Office of Nondestructive Evaluation
[5]Student
[6]Detailed to Industrial Systems Division

January 1, 1983

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