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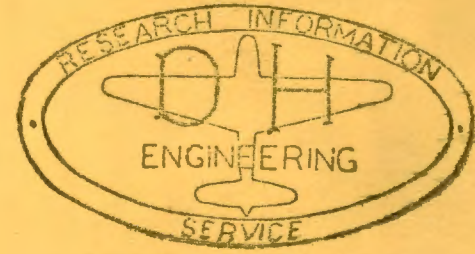
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PROCEEDINGS OF THE THIRD CONFERENCE ON MATRIX METHODS IN STRUCTURAL MECHANICS

PROCEEDINGS OF THE CONFERENCE HELD AT
WRIGHT-PATTERSON AIR FORCE BASE, OHIO
19-21 OCTOBER 1971



DECEMBER 1973

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**PROCEEDINGS OF THE THIRD CONFERENCE
ON MATRIX METHODS IN STRUCTURAL
MECHANICS**

TECHNICAL EDITORS:

R. M. BADER
L. BERKE
R. O. MEITZ, LT COL, USAF
W. J. MYKYTOW
J. S. PRZEMIENIECKI
M. H. SHIRK

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The Air Force Third Conference on Matrix Methods in Structural Mechanics, held at Wright-Patterson Air Force Base, Ohio on 19-21 October 1971, was sponsored jointly by the Air-Force Flight Dynamics Laboratory, Air Force Systems Command, and the Air Force Institute of Technology, Air University. The purpose of the conference was to discuss the recent developments in the field of matrix methods of structural analysis and design of aerospace vehicles. The thirty-four papers presented were arranged into nine topic areas: Design Procedures, General Methods, Finite Elements, Dynamics,		

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Optimization, Structural Applications, Computer Graphics, Non-Linear Effects, and Non-Structural Applications.

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PREFACE

The Third Conference on Matrix Methods in Structural Mechanics, sponsored by the Air Force Institute of Technology (AFIT), Air University, and the Air Force Flight Dynamics Laboratory (AFFDL), Air Force Systems Command, was held on 19-21 October 1971 in the auditorium of the Air Force Museum at Wright-Patterson Air Force Base, Ohio. The purpose of the conference was to discuss the recent developments in matrix structural analysis and design of structural systems. This volume contains all the papers presented at the conference.

Three hundred and seventy-five scientists and engineers were in attendance including representation from the following foreign countries: Belgium, Canada, Germany, Holland, India, Ireland, Japan, Norway, Portugal, and the United Kingdom.

Thirty-four papers were presented at the conference in major topic areas entitled: Design Procedures, General Methods, Finite Elements, Dynamics, Structural Optimization, Structural Applications, Computer Graphics, Non-Linear Effects and Non-Structural Applications. The papers covered practically all major aspects of recent research and development work on matrix methods in structural mechanics.

The members of the Technical Committee for the conference, who also served as the Technical Editors, express their appreciation to the authors and session chairmen for their contributions toward the success of the conference, and to all those who attended and participated in the discussions. Special thanks are extended to the Director of the Air Force Museum, Colonel B. S. Bass and to the members of his staff. The Air Force Museum was a most appropriate setting for this conference and the staff's unselfish assistance in helping with the arrangements added greatly to the success of the conference. Special appreciation is extended to Lieutenant General James T. Stewart, Commander of the Aeronautical Systems Division for his excellent keynote address. Wholehearted thanks are offered to Mr. Martin Goland, President, Southwest Research Institute and President, American Institute of Aeronautics and Astronautics, for the outstanding address he presented at the conference banquet.

Grateful acknowledgement is made to Mr. John W. Thomas (now retired) and to Mrs. Helen Maxwell for their editorial efforts in preparing these proceedings for publication, and for the typing assistance of Miss Damaris Frantz and Miss Donna Schuh.

December 1973
Wright-Patterson Air Force Base
Dayton, Ohio 45433

Technical Editors

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