



NASA Contractor Report 182041

AD-A227 094

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Contract No. NAS1-18605, NAS1-18107, NAS1-17070, NAS1-17130,
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May 1990

Institute for Computer Applications in Science and Engineering
NASA Langley Research Center
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INTRODUCTION

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The Institute conducts unclassified basic research in applied mathematics, numerical analysis, and computer science in order to extend and improve problem solving capabilities in science and engineering, particularly in aeronautics and space.

ICASE has a small permanent staff. Research is conducted primarily by visiting scientists from universities and industry who have resident appointments for limited periods of time, and by consultants. Members of NASA's research staff also may be resident at ICASE for limited periods.

The major categories of the current ICASE research program are:

- Numerical methods, with particular emphasis on the development and analysis of basic numerical algorithms;
- Control and parameter identification problems, with emphasis on effective numerical methods;
- Computational problems in engineering and the physical sciences, particularly fluid dynamics, acoustics, structural analysis, and chemistry;
- Computer systems and software, especially vector and parallel computers, microcomputers, and data management.

ICASE reports are considered to be primarily preprints of manuscripts that have been submitted to appropriate research journals or which are to appear in conference proceedings. In the next section, a complete listing of ICASE reports for the calendar years 1975 through December 1989 are given. The final section contains journal and conference proceedings references for older reports.

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¹Presently, ICASE is operated at NASA Langley Research Center, Hampton, VA, 23665 under NASA Contract No. NAS1-18805. In the past, support has been provided by NASA Contracts No. NAS1-17070, NAS1-17130, NAS1-15810, NAS1-16394, NAS1-14101, and NAS1-14472.

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Report Documentation Page

1. Report No. NASA CR-182041		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle CUMULATIVE REPORTS AND PUBLICATIONS through DECEMBER 31, 1989				5. Report Date May 1990	
				6. Performing Organization Code	
7. Author(s)				8. Performing Organization Report No.	
				10. Work Unit No. 505-90-21-01	
9. Performing Organization Name and Address Institute for Computer Applications in Science and Engineering Mail Stop 132C, NASA Langley Research Center Hampton, VA 23665-5225				11. Contract or Grant No. NAS1-18605, NAS1-18107, NAS1-17070, etc.	
				13. Type of Report and Period Covered Contractor Report	
12. Sponsoring Agency Name and Address National Aeronautics and Space Administration Langley Research Center Hampton, VA 23665-5225				14. Sponsoring Agency Code	
				15. Supplementary Notes Langley Technical Monitor: Richard W. Barnwell Final Report	
16. Abstract This document contains a complete list of ICASE reports. Since ICASE reports are intended to be preprints of articles that will appear in journals or conference proceedings, the published reference is included when it is available.					
17. Key Words (Suggested by Author(s)) Mathematics Numerical Analysis Computer Science			18. Distribution Statement 59 - Mathematical and Computer Sciences (General) Unclassified - Unlimited		
19. Security Classif. (of this report) Unclassified		20. Security Classif. (of this page) Unclassified		21. No. of pages 69	22. Price A04