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January 1, 1986 - December 31, 1986

TWO-DIMENSIONAL SIGNAL PROCESSING AND
STORAGE AND THEORY AND APPLICATIONS
OF ELECTROMAGNETIC MEASUREMENTS

JANUARY 1987

GEORGIA INSTITUTE OF TECHNOLOGY
A UNIT OF THE UNIVERSITY SYSTEM OF GEORGIA
SCHOOL OF ELECTRICAL ENGINEERING
ATLANTA, GEORGIA 30332
# Two-Dimensional Signal Processing & Storage Theory & Application of EM Measurements

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## Supplementary Notation:
The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision, unless so designated by other documentation.

## COSATI Codes:
- FIELD
- GROUP
- SUB. GR.

## Subject Terms:
- Signal processing
- Holographic storage
- Digital filtering
- Iterative signal restoration
- Multiprocessors
- Optical computing
- Electromagnetic measurements
- Near-field and far-field transformations

## Abstract:
This is an appendix to the annual report on research under the auspices of the Joint Services Electronics Program. The supplement consists of a printed table of contents and a set of microfiche containing 15 papers and theses produced under this contract. Specific topics covered are: digital signal processing, parallel processing architectures, two-dimensional optical storage and processing, hybrid optical/digital signal processing, electromagnetic measurements in time domain, and automatic radiation measurements for near-field and far-field transformations.

## Distribution/Availability of Abstract:
Unlimited

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Publications
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TWO-DIMENSIONAL SIGNAL PROCESSING AND STORAGE
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The microfilm in the pocket part of this report may be obtained from: Georgia Institute of Technology, School of Electrical Engineering, Atlanta, GA 30332
Per Mr. Bob Gordon, JSEP
I. Introduction

This supplement to the annual report consists of the following printed table of contents and a set of microfiche containing all papers and those produced with JSEP support and published during the period January 1, 1986 through December 31, 1986.

This compact presentation of a large quantity of information can be produced much more economically than printing. On the other hand, it is realized that microfiche is less convenient than a printed document. Therefore, those who are interested in particular reprints may contact R. W. Schafer to request a copy of any of the listed papers.

II. List of Reprints

The reprints are organized by work unit as in the Annual Report on this contract. Numbers in parenthesis indicate reference to fiche number and page. The page numbers are coded to the work unit numbers. Note that fiche number 1 contains the printed index that follows.

2.1 TWO-DIMENSIONAL SIGNAL PROCESSING AND STORAGE

Work Unit Number 1 - Multidimensional Digital Signal Processing


1.4 M.H. Hayes, "Inverse Problems: An Overview", to appear in J of Soc. of Inst. and Control Engineers, JAPAN (invited). (pages 1-65 to 1-79 on microfiche)


Work Unit Number 2 - Multiprocessor Architectures for Digital Signal Processing


Work Unit Number 3 - Two-Dimensional Optical Storage and Processing


Work Unit Number 4 - Two-Dimensional Optical/Electronic Signal Processing


Work Unit Number 5 - Optimal Multiprocessor Structures for the Implementation of DSP Algorithms on High-Density Integrated Circuits


2.2 THEORY AND APPLICATIONS OF ELECTROMAGNETIC MEASUREMENTS

Work Unit Number 6 - Electromagnetic Measurements in the Time- and Frequency-Domains


Work Unit Number 7 - Automated Radiation Measurements for Near- and Far-Field Transformations


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