

OFFICE OF NAVAL RESEARCH

PUBLICATIONS/PATENTS/PRESENTATIONS/HONORS REPORT

for

1 October 1992 through 30 September 1993

for

Contract N00014-93-I-1019

Programmable Linear Phase Digital Filters
(AASERT Grant)

Principal Investigator: Professor Alan N. Willson, Jr.

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R&T Number: 4148509---01

Contract/Grant Number: N00014-93-1-1019

Contract/Grant Title: Programmable Linear Phase Digital Filters

Principal Investigator: Alan N. Willson, Jr.

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 University of California, Los Angeles
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- a. Number of Papers Submitted to Referred Journal but not yet published: 1
- b. Number of Papers Published in Referred Journals: 0
 (list attached)
- c. Number of Books or Chapters Submitted but not yet Published: 0
- d. Number of Books or Chapters Published: 0
 (list attached)
- e. Number of Printed Technical Report & Non-Referred Papers: 0
 (list attached)
- f. Number of Patents Filed: 0
- g. Number of Patents Granted: 0
 (list attached)
- h. Number of Invited Presentations at Workshops or Prof. Society Meetings: 0
- i. Number of Presentation at Workshop or Prof. Society Meetings: 0
- j. Honors/Awards/Prizes for Contract/Grant Employees:
 (list attached, this might include Scientific Soc. Awards/Offices,
 Promotions, Faculty Award/Offices etc.)
- k. Total number of Graduate Students and Post-Docs Supported at least 25%, this
 year on this contract.grant:
 Grad Students 1 and Post Docs 0

How many of each are females or minorities?
 (These 6 numbers are for ONR's EEO/Minority
 Reports; minorities include Blacks, Aleuts
 Amindians, etc and those of Hispanic or
 Asian extraction/nationality. This Asians
 are singled out to facilitate meeting the
 varying report semantics re "under-
 represented")

[	Grad Student Female	<u>0</u>
][	Grad Student Minority	<u>1</u>
][	Grad Student Asian e/n	<u>0</u>
][	Post-Doc Female	<u>0</u>
][	Post-Doc Minority	<u>0</u>
][	Post-Doc Asian e/n	<u>0</u>

Accession For	
NTIS CRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input checked="" type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution /	
Availability Codes	
Dist	Avail and/or Special
A-1	

DTIC QUALITY INSPECTED 2

(a.) Papers Submitted to Refereed Journals (and not yet published)

A. N. Willson, Jr. and H. J. Orchard, "An Improvement to the Powell and Chau Linear Phase IIR Filters," submitted to *IEEE Trans. on Signal Processing*, 1993. (ONR, MICRO)

(b.) Published Papers in Refereed Journals

None.

(c.) Books or Chapters Submitted for Publication

None.

(d.) Books or Chapters Published

None.

(e.) Printed Technical Reports and Non-Refereed Papers

None.

(f.) Patents Filed

None.

(g.) Patents Granted

None.

(h.) Invited Presentations at Workshops or Professional Society Meetings

None.

(i.) Contributed Presentations at Workshops or Professional Society Meetings

None.

(j.) Honors/Awards/Prizes

Appointed Chair of IEEE Circuits and Systems Society's CAS Transactions Prize Paper Awards Committee.

Programmable Linear Phase Digital Filters

Progress Report - 9/1/93 through 9/30/93

This AASERT grant has only been in effect for one month. During this period, however, one paper has been submitted for publication in the *IEEE Transactions on Signal Processing*. The paper describes a technique using Jacobian elliptic functions which, by removing a previous method's "double zero constraint," yields improved designs of linear phase IIR filters.

One graduate student is presently supported on this grant. He is presently implementing a layout generator for static and dynamic RAM cells using the Mentor Graphics GDT system. This generator will be used later by him to revise our (parent award's) "ring processor" such that it will be implemented in GDT and it will operate with 16-bit (rather than 8-bit) data words. Other improvements are also expected to be implemented.