

4

AD-A207 043

DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

1b. RESTRICTIVE MARKINGS
TOP FILE COPY

2a. SECURITY CLASSIFICATION
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE

3. DISTRIBUTION/AVAILABILITY OF REPORT
Unlimited, approved for public release and sale

4. PERFORMING ORGANIZATION REPORT NUMBER(S)

5. MONITORING ORGANIZATION REPORT NUMBER(S)

6a. NAME OF PERFORMING ORGANIZATION
University of Washington

6b. OFFICE SYMBOL (if applicable)

7a. NAME OF MONITORING ORGANIZATION
Office of Naval Research

6c. ADDRESS (City, State, and ZIP Code)
Geophysics Program AK-50
University of Washington
Seattle, WA 98195

7b. ADDRESS (City, State, and ZIP Code)
800 N. Quincy St.
Arlington, VA 22217-5000

8a. NAME OF FUNDING/SPONSORING ORGANIZATION
Office of Naval Research

8b. OFFICE SYMBOL (if applicable)
code 1114SP

9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
Grant No. N00014-87-J-1045

8c. ADDRESS (City, State, and ZIP Code)
800 N. Quincy St.
Arlington, VA 22217-5000

10. SOURCE OF FUNDING NUMBERS
PROGRAM ELEMENT NO. 61153N
PROJECT NO. 021
TASK NO. 01
WORK UNIT ACCESSION NO. 400d145dip01

11. TITLE (Include Security Classification)
Final Report ONR Grant N00014-87-J-1045 "Space Science Instrumentation" (U)

12. PERSONAL AUTHOR(S)
Dr. R. Holzworth

13a. TYPE OF REPORT
Final

13b. TIME COVERED
FROM 01 Oct 86 TO 30 Sep 88

14. DATE OF REPORT (Year, Month, Day)
89/3/15

15. PAGE COUNT
4

16. SUPPLEMENTARY NOTATION
This grant was a part of the DOD University Instrumentation Program.

17. COSATI CODES		
FIELD	GROUP	SUB-GROUP
20	07	
20	09	

18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
Plasma, Electric Field, charged particles, VLF waves

19. ABSTRACT (Continue on reverse if necessary and identify by block number)
This grant was used for the purchase of high quality laboratory and data analysis instrumentation for the pursuit of space plasma physics research. The basic capabilities of our laboratory have been greatly improved by these purchases. It can be categorically stated that every one of the separate research projects presently being conducted has benefitted directly from this new instrumentation. The total expenditures on instrumentation and the associated setup costs exceeded \$170,000 including the University of Washington matching funds.

SD TIC
ELECTE
APR 21 1989
S E D

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT
 UNCLASSIFIED/UNLIMITED SAME AS RPT. DTIC USERS

21. ABSTRACT SECURITY CLASSIFICATION
UNCLASSIFIED

22a. NAME OF RESPONSIBLE INDIVIDUAL
R. Gracen Joiner

22b. TELEPHONE (Include Area Code)
(202) 696-4203

22c. OFFICE SYMBOL
DNR code 1114SP

089 4 21 096

UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98195

FINAL REPORT
ONR Grant N00014-87-J-1045
"Space Science Instrumentation"

Principal Investigator: Prof. R. H. Holzworth

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

This grant was intended to be used for the purchase of high quality laboratory and data analysis instrumentation for the pursuit of space plasma physics research. To that end it has been extremely successful; the basic capability of our laboratory has been greatly improved by these purchases. It can be categorically stated that every one of the separate research projects presently being conducted has benefitted directly from this new instrumentation. This is certainly true for all space science projects in the department, but it is also true to a lesser extent for nearly all projects in Geophysics - especially (but not limited to) those requiring computer data analysis. A list of all major items purchased by the grant is included as Attachment A.

Two of the first purchases were a 6250 BPI magnetic tape drive and a large, fast disk drive. These improved our satellite data analysis capability greatly and reduced the system backup time. With the big disk drive it became possible to dump entire magnetic tapes to disk for faster, more efficient processing. The entire department has benefitted from these items.

At the desk-top level, we purchased several microcomputers which improve both personal computing as well as general connectivity within the group and on campus in general. Other microcomputers function in our laboratory setting by acting as hosts for several instrument interfaces for communication with satellite and balloon payloads as well as laboratory VLF signal processing equipment. Perhaps the single most expensive item purchased was an analog tape drive for reading and writing 16" analog magnetic tapes. This analog tape drive is used for the direct processing of FM and directly recorded telemetry data from our balloon and rocket payloads.

Major Equipment List for ONR N00014-87-J-1045
(including UW matching)

6250 BPI Kennedy Tape Drive (1 year maintainence)	\$11,700
Tektronics Spectrum Analyser (to 2.1 GHz)	10,466
Data Tape 9000 Analog Tape Recorder (7 Track, 14 inch instrumentation recorder)	40,387
Optical Monochrometer	8,092
Rapid systems VLF spectrum analyser (including VLF Filter (Kronhite))	4,689
400 MHz Oscilloscope Tek 2467 (including Microchannel plate)	15,500
600 MByte geops disk drive (including 1 year maintainence)	11,329
3 PC/AT (clone) systems	
3 ea Tandy 3000	11,973
3 ea PC-NFS	2,265
4 ea Transceivers	1,246
4ea cables	345
3 ea Vega Delux EGA	1,221
3ea NEC Multisync	1,934
3 ea MS Mouse	497
extra memory for tandy	895

	3
floppy disk	159
Apple Laser Printer	3,841
Zenith 181 portable computer	2,000
Zenith XT Equivalent instrument controller	1,500
Zenith Graphics board Z29	750
Bell and Howell Color Slide Printer	3,000

(Not included:

Computer Software

Misc. supplies

engineering setup time

space instrumentation parts (<\$400 ea.)

Tax, shipping)

Total Expenditures (ONR grant plus matching): >\$170,000