

19980823+11 - RADAR

E.5 Doppler Radar Scientist (On-Board)

The on-board Doppler radar scientist (DRS) is responsible for data collection from all radar systems on his/her assigned aircraft. Detailed operational procedures and check lists are contained in the operator's manual supplied to each operator. General supplementary procedures follow. (Check off and initial.)

E.5.1 Preflight

- Jm 1. Determine the status of equipment and report results to the on-board lead project scientist (LPS).
- Jm 2. Confirm mission and pattern selection from the on-board LPS.
- Jm 3. Select the operational mode for radar system(s) after consultation with the on-board LPS.
- Jm 4. Complete the appropriate preflight calibrations and check lists as specified in the radar operator's manual.

E.5.2 In-Flight

- Jm 1. Operate the system(s) as specified in the operator's manual and as directed by the on-board LPS or as required for aircraft safety as determined by the AOC flight director or aircraft commander.
- Jm 2. Maintain a written commentary in the radar logbook of tape and event times, such as the start and end times of F/AST legs. Also document any equipment problems or changes in R/T, INE, or signal status.

E.5.3 Postflight

- Jm 1. Complete the summary check lists and all other appropriate check lists and forms.
- Jm 2. Brief the on-board LPS on equipment status and turn in completed forms to the LPS.
- Jm 3. Hand-carry all radar tapes and arrange delivery as follows:
 - a. Outside of Miami - to the HRD Field Ground Operations Center (FGOC).
 - b. In Miami - to MGOC or to AOML/HRD. [Note: all data removed from the aircraft by HRD personnel should be cleared with the AOC flight director.]
- _____ 4. Debrief at the appropriate operations center (FGOC or MGOC).
- _____ 5. Determine the status of future missions and notify the appropriate operations center (FGOC or MGOC) as to where you can be contacted.

AUG 23 1998

Doppler Radar Scientist Check List

Flight ID: 980823H
Aircraft Number: 42RF
Doppler Radar Operators: Marks / Brackeen
Radar Technician: Barr
Number of digital magnetic tapes on board: > 5

Component Systems Status:

MARS 9
DAT1 9
LF 9
TA 9

Computer 9
DAT2 9
R/T Serial # 102
R/T Serial # 123/201

Time correction between radar time and digital time: 10

Radar Postflight Summary

Number of digital tapes used:

DAT1 1
DAT2 0

Significant down time:

DAT1 21 min
DAT2

Radar LF 21 min
Radar TA 21 min

Other Problems:

radar system went down 3
times. All three times it was
restarted without changing tapes
1821-1833 no loss of data
1936-1940 end of 1st down time
2021-2026 end of 2nd down time

AUG 23 1998

AUG 23 1993

HRD Radar Tape Log

Flight 980823H Aircraft 42RF Operator Marks Sheet 1 of
LF RPM 2 TA RPM 10

(Include start and end times of DATs, as well as times of F/AST legs and any changes of radar equipment status)

Tape #	F/AST On?	Event Time (HHMMSS)	Event
1	NO	175400	dual PRF 2100/1400 0.375 us
			182104 radar down resetting
			183003 stop tape at (1)
			183306 on tape system up
	yes	191946	FAST coming up on outer band
			150nm SE of G
			193606 radar system down
	NO		194046 up
			195900
			202059 radar sys down
			202447 tape off
			202635 tape on radar up
	yes	202737	FAST on downwind leg
	NO	203610	Turn TK 030 to G 50nm SW of G
	yes	205835	FAST 50nm NNE of G
	NO	210530	50nm N of G Turn TK 180
	yes	212710	FAST 50nm S of G in outer bands
	NO	21435	50nm E of G TK 270
		220730	dual PRF after end of G patterns
			2100/140 0.375 us pulse
	yes	220840	750nm G
		232934	TA off N of Cuba
		023140	end tape

HRD Radar Down-Time Log

Operator Marks Flight ID 980823 H Sheet 1 of

Item	Time Down (HHMMSS)	Time Up (HHMMSS)	Problem
system	182108	183306	restarted DSP
system	193606	194046	"
system	202059	202635	"

Item List: DAT1, DAT2, COMP, MARS, LF, TA.

Include serial numbers of any new R/Ts.

AUG 23 1999

980823 H Bonnie

3-plane synoptic flow
with two Fig. 4 in 5

42RF ^{HRD} crew: P. Black

M. Black

Bracken

Cione

Leighton

Marks

TO St Croix

17° 42.1' N 64° 47.6' W

173842

dual PRF

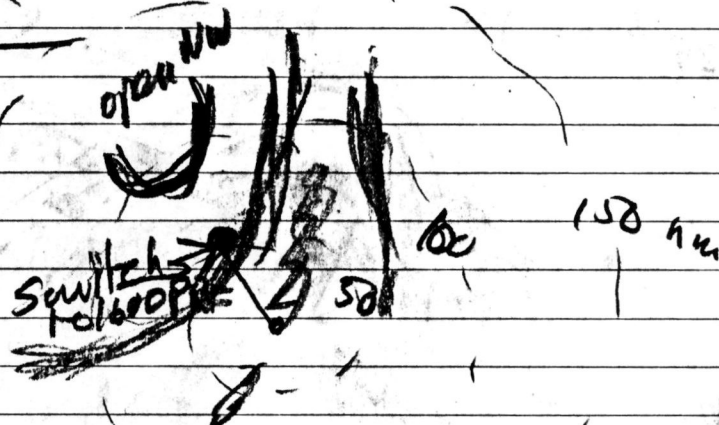
2100/1400 outside

of core

19946

FAS 1

19945



1953 in 613 SE band

(2)

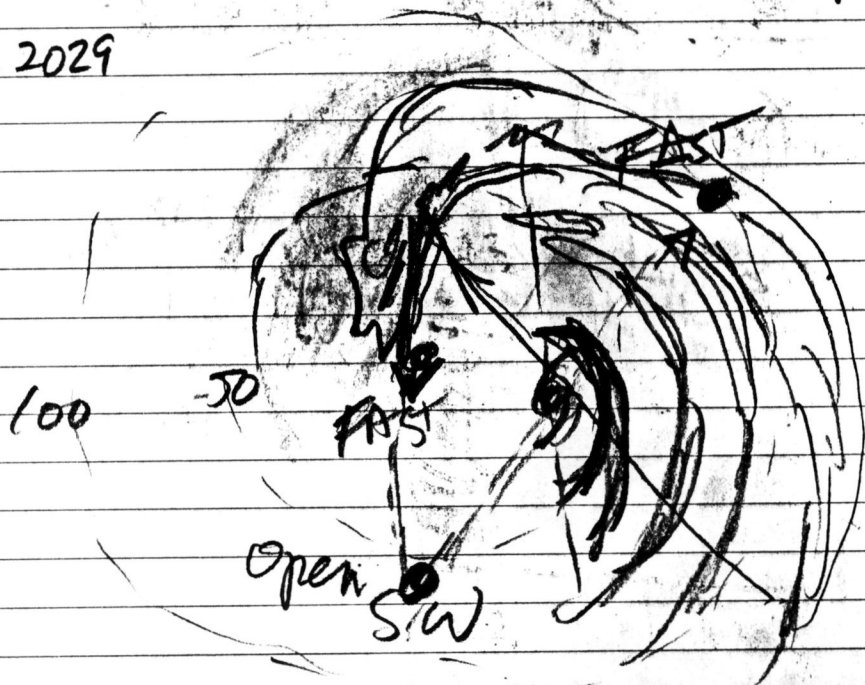
195900

switching to single
PRF 1600 var range
0.5 μ s pulse
for core pattern
just inside major
band

NASA center 37 kft 8.1 msu of our of
2012 24 39.4 71 43.9
2005 24 35 71 50 NASA
37 kft.

202057 radar down
202635 radar up

2029



203720 start leg

2047 956 mb
24 39.1 71 44.4"

205745 end leg

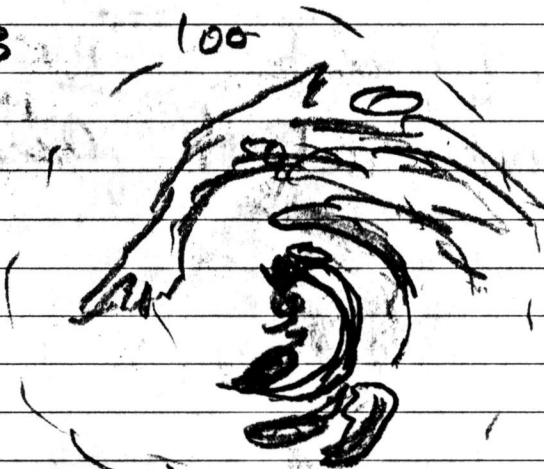
205835 FAST in large
stratiform rain band N by
S

210600 start leg

24 40.7' 71 45.8"

2113

100



end leg 212600

④

TA reflectivity stril

21048
100

214110 start leg

214830 the big bump

6 2159 $24^{\circ}42.7''$ $71^{\circ}45.9''$

220230 end leg

220730 switch back to

dual PRF 2100/1400

4488

and, FAST

232934 TA off N of Cuba

023140

land MacDill

0255Z