

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

- 1 1. Determine the status of equipment and report results to the on-board lead project scientist (LPS).
- 1 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.

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.
3. Hand-carry all radar tapes and arrange delivery as follows:
 - a. Outside of Miami - to the HRD 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.

Doppler Radar Scientist Check List

Flight ID 980821H
Aircraft # 42RF
Operators Mank/Bracken
Radar Tech. Barr

Number of digital magnetic tapes on board >10

Number of tape labels on board >10

Component systems up and checked:

MARS 1

DMTR1 1

LF 1

TA 1

Computer 1

DMTR2 1

R/T# 102

R/T# 123/201

Time correction between radar time and digital time _____

Radar Postflight Summary

Number of digital tapes used:

DMTR1 1

DMTR2 _____

Significant down time:

DMTR1 7 min

DMTR2 7 min

Radar LF 7 min

Radar TA 7 min

Other problems:

radar system down for 7 min
2038-2045^{50 min} SW of 6 at beginning
of second leg in Fig 4. Otherwise
Great!!

HRD Radar Down-Time Log

Operator Marks ^{980821H} Sheet 1 of 1

Item	Time Down (HHMMSS)	Time Up (HHMMSS)	Problem
System	203803	204515	radar system restarted
			No tape change.

Item List: DMTR1, DMTR2, COMP, MARS, LF, TA.

Flight 9808214 Aircraft 42RF Operator Marks Sheet 1 of

[illegible]

①

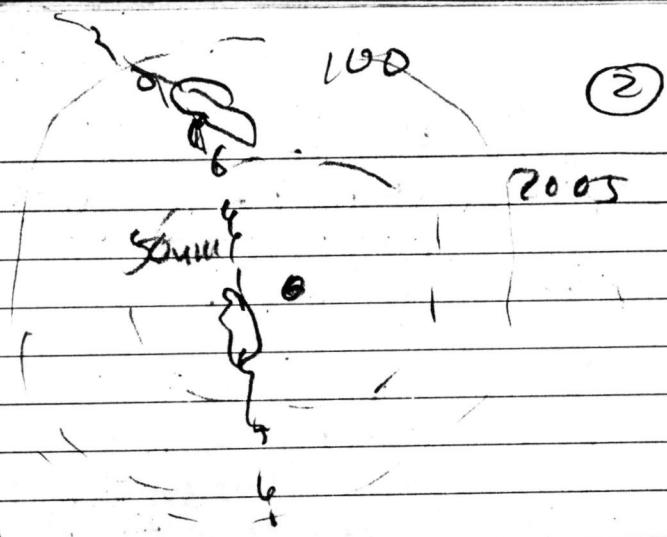
480821 H Bonnie
3-plane Synoptic flow
TO Barbados $13^{\circ}4.6''$ $59^{\circ}29.6''$
Sweeney P. Black
Crew M. Black
~~Appachen~~
Cicero
Leighton
Manks

TO 180703

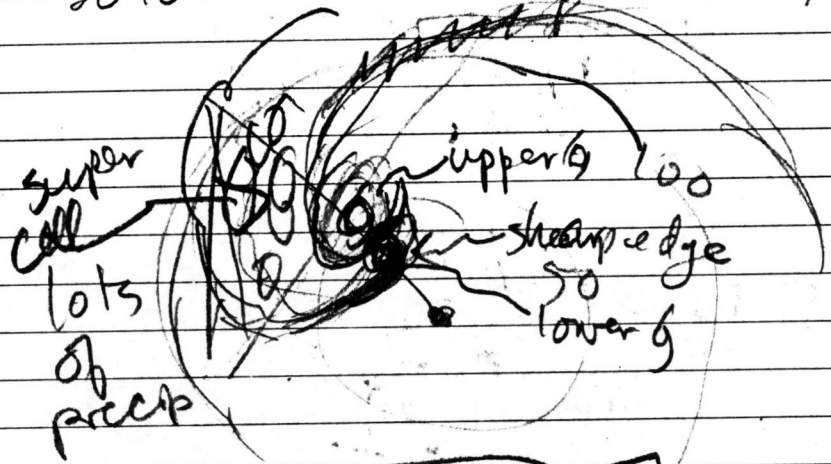
dual PRF 2100/400 $h = 1375$ m
 $R_{max} \approx 71$ km
 $V_n = 31$ m/s

195455 turn TK W toward G
outer bands E of center
switch to F/AST scan

2005 entering nice N-S band
(rooster tail?) great F/AST Doppler
data! good unfolding test!!!



2046 orient fig 4 SE-NW/SW



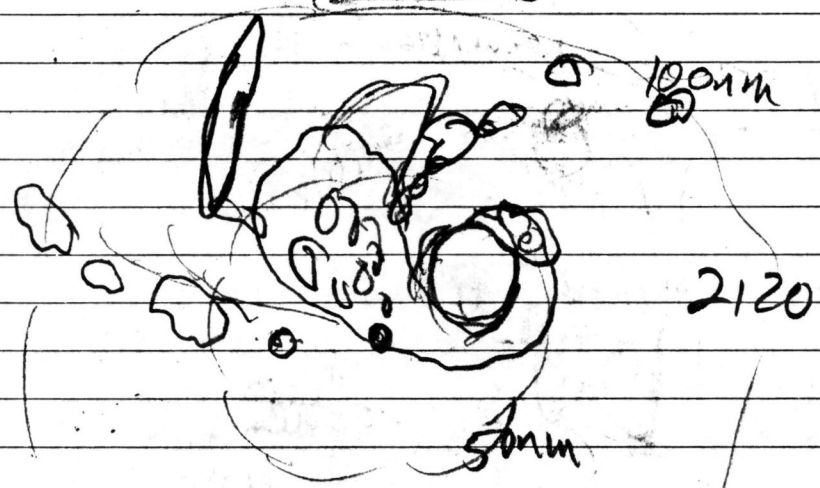
start leg 2048 13

2054 descend to 15 kft

2101 some speckling to left of TK in Doppler
near wind max at VU
210800 end leg

switch to FAST 50 NM NW of
descend to 15 kft
plenty of scatterers
in big blowup NW of
could be SUPERCCELL!!

2113 TA dBZ seems ~ 10 dB to
on display compared to LF



2120

212300 Turn TK 045

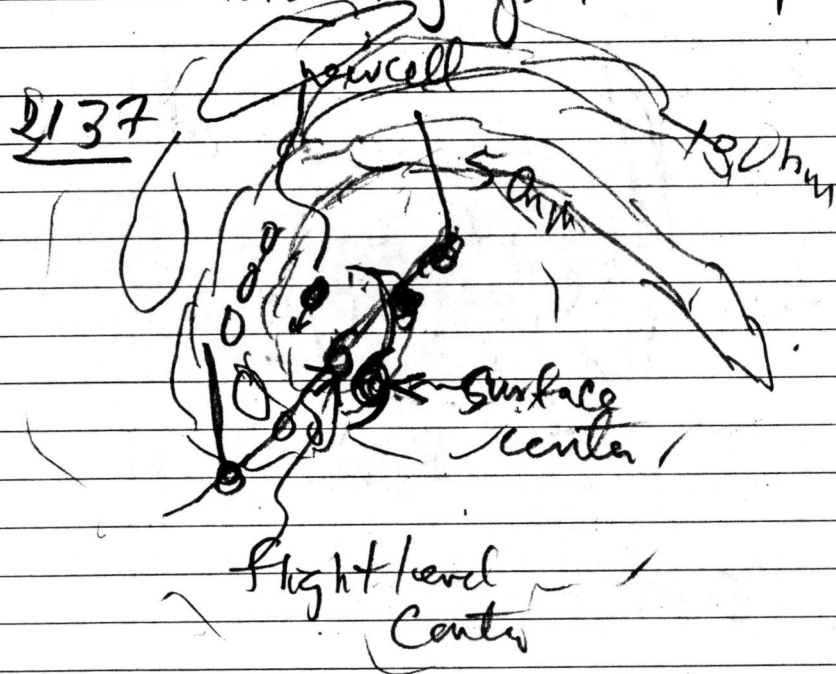
④

212400 start leg

212847 speckling on Dorsal fin
of truck 20-30 km out
at altitude

— real good rain drops in
super cell !!

213059 TA reflectivity
Core 10-15 km Range
extending up 16 km tops



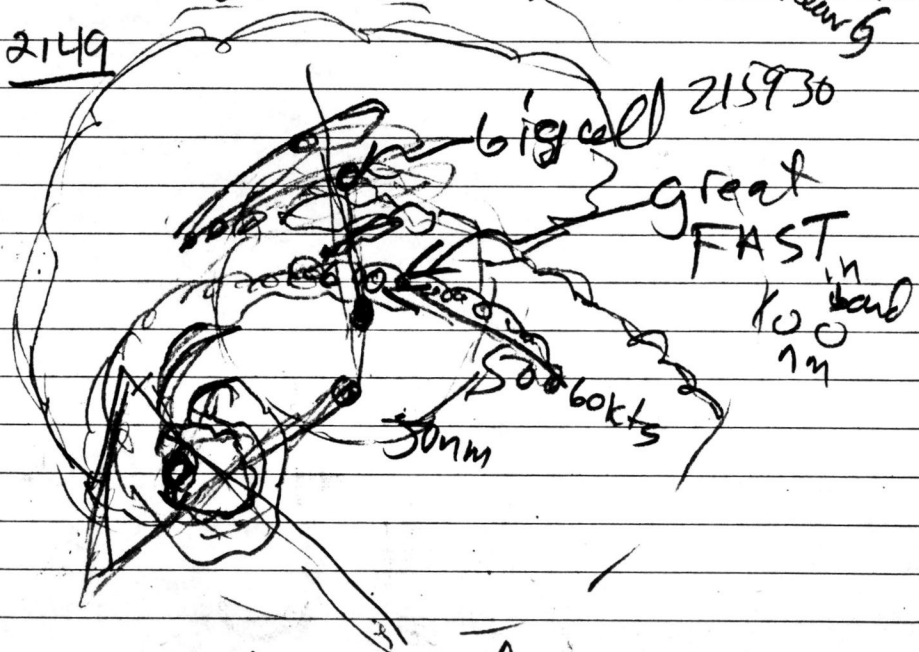
⑤

Flight level 20.91 66.93
Surface 21 66.8

214515 end leg
2146 FAST on

getting close
988 mb
Splash
nearby

2149



— great rain data 2156-2201
big cell 215930 right of track
tops to 15 km
220500 cloud to 20 kft.