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RAWINSONDE COMPARISON PROJECT

FINAL REPORT

Prepared under Contract No. NAS 8-20082 by

Don K. Weidner and John Chambers
LOCKHEED MISSILES AND SPACE COMPANY

For

NASA-GEORGE C. MARSHALL SPACE FLIGHT CENTER
Huntsville, Alabama

March 31, 1967

CR-61168

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(Final Report)

(Report Dated September, 1966)

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For

Aero-Astrodynamics Laboratory

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NASA-GEORGE C. MARSHALL SPACE FLIGHT CENTER

FOREWORD

This document presents the results of work performed by the Lockheed Missiles & Space Company, Huntsville Research & Engineering Center, while under subcontract to Northrop Space Laboratories (NSL PO 5-09287) in support of the Aero-Astrodynamics Laboratory of Marshall Space Flight Center (MSFC) Mission Support Contract NAS8-20082. This task was conducted in response to the requirement of Appendix A, Schedule Order No. 9. The contract monitor is Mr. O. E. Smith of the Aero-Astrodynamics Laboratory, NASA, George C. Marshall Space Flight Center.

SUMMARY

This report presents the final results of an extensive study concerning the measuring capabilities of the FPS-16 radar, GMD-2 rawin system, and transponder radiosonde instrument. The study, known as the Rawinsonde Comparison Project, is based upon 16 test observations that were taken at Point Mugu, California, Wallops Island, Virginia, and Eglin AFB, Florida. It was developed in accordance with the guidelines set forth by the Inter-Range Instrumentation Group in May 1963.

The computational procedure used in the reduction of the comparative data is discussed in detail in Section II and outlined in Appendix A. The computer output of Test No. 3, which is given in Appendix B, illustrates the contents and arrangement of all of the outputs, which are currently on file in the National Records Center. The many graphic plots and constant pressure and altitude tables present a summary of the comparative data of each of the 16 test observations.

Theoretical accuracies that are established for the various measured and computed quantities in Section IV are compared to the operational accuracies derived from an analysis of the comparative data in Section V.

CONTENTS

Section		Page
	FOREWORD	ii
	SUMMARY	iii
	LIST OF TABLES	v
	LIST OF FIGURES	vi
	SYMBOLS AND ABBREVIATIONS	xii
I	INTRODUCTION	1
II	PROCEDURE	2
	A. Comparative Observations	2
	B. Data Reduction and Computations	2
III	COMPUTER OUTPUT	4
IV	THEORETICAL ACCURACIES	8
V	OPERATIONAL ACCURACIES	12
	A. Tracking Analysis	12
	B. Height and Pressure Analysis	16
	C. Temperature Analysis	18
	D. Wind Analysis	20
VI	CONCLUSIONS AND RECOMMENDATIONS	22
	ACKNOWLEDGEMENT	25
	REFERENCES	26
	TABLES	27
	FIGURES	31
	APPENDIX A	A-1
	APPENDIX B	B-1
	APPENDIX C	C-1

LIST OF TABLES

Table		Page
I	Usable Rawinsonde Comparison Tests	27
II	Average Absolute Differences and rms of Differences Between Transformed GMD-2 and FPS-16 Elevation Angle, Azimuth Angle, and Slant Range	27
III	Average and Maximum Height Differences at Standard Pressure Levels	28
IV	Average and Maximum Pressure Differences at FPS-16 Height Levels	28
V	RMS of Pressure Differences	29
VI	Average Wind Component Differences at Standard Pressure Levels	29
VII	RMS of Wind Component Differences	30

LIST OF FIGURES

Figure	Title	Page
1	Comparison of Transformed GMD-2 Elevation Angle (E_2^*) and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)	31
1A	Test 1	31
1B	Test 2	31
1C	Test 3	32
1D	Test 4	32
1E	Test 6	33
1F	Test 9	33
1G	Test 12	34
1H	Test 14	34
1I	Test 15	35
1J	Test 16	35
1K	Test 102	36
1L	Test 105	36
1M	Test 107	37
1N	Test 111	37
1O	Test 405	38
1P	Test 406	38
2	Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)	39
2A	Test 1	39
2B	Test 2	39
2C	Test 3	40
2D	Test 4	40
2E	Test 6	41
2F	Test 9	41
2G	Test 12	42
2H	Test 14	42
2I	Test 15	43
2J	Test 16	43
2K	Test 102	44
2L	Test 105	44
2M	Test 107	45
2N	Test 111	45
2O	Test 405	46
2P	Test 406	46

LIST OF FIGURES (continued)

Figure		Page
3	Cumulative Frequency Distribution of the Differences Between Transformed GMD-2 Elevation Angle (E_2^*) and FPS-16 Elevation Angle (E_1) for all 16 Tests	47
4	Cumulative Frequency Distribution of the Differences Between Transformed GMD-2 Elevation Angle (E_2^*) and FPS-16 Elevation Angle (E_1) for all Point Mugu Tests	47
5	Cumulative Frequency Distribution of the Differences Between Transformed GMD-2 Elevation Angle (E_2^*) and FPS-16 Elevation Angle (E_1) for all Wallops Island Tests	48
6	Cumulative Frequency Distribution of the Differences Between Transformed GMD-2 Elevation Angle (E_2^*) and FPS-16 Elevation Angle (E_1) for all Eglin AFB Tests	48
7	Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)	
7A	Test 1	49
7B	Test 2	49
7C	Test 3	50
7D	Test 4	50
7E	Test 6	51
7F	Test 9	51
7G	Test 12	52
7H	Test 14	52
7I	Test 15	53
7J	Test 16	53
7K	Test 102	54
7L	Test 105	54
7M	Test 107	55
7N	Test 111	55
7O	Test 405	56
7P	Test 406	56
8	Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (A_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)	

LIST OF FIGURES (continued)

Figure		Page
8A	Test 1	57
8B	Test 2	57
8C	Test 3	58
8D	Test 4	58
8E	Test 6	59
8F	Test 9	59
8G	Test 12	60
8H	Test 14	60
8I	Test 15	61
8J	Test 16	61
8K	Test 102	62
8L	Test 105	62
8M	Test 107	63
8N	Test 111	63
8O	Test 405	64
8P	Test 406	64
9	Cumulative Frequency Distribution of the Differences Between Transformed GMD-2 Azimuth Angle (A_2^*) and FPS-16 Azimuth Angle (A_1) for all 16 Tests	65
10	Cumulative Frequency Distribution of the Differences Between Transformed GMD-2 Azimuth Angle (A_2^*) and FPS-16 Azimuth Angle (A_1) for all Point Mugu Tests	65
11	Cumulative Frequency Distribution of the Differences Between Transformed GMD-2 Azimuth Angle (A_2^*) and FPS-16 Azimuth Angle (A_1) for all Wallops Island Tests	66
12	Cumulative Frequency Distribution of the Differences Between Transformed GMD-2 Azimuth Angle (A_2^*) and FPS-16 Azimuth Angle (A_1) for all Eglin AFB Tests	66
13	Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)	
13A	Test 1	67
13B	Test 2	67
13C	Test 3	68
13D	Test 4	68

LIST OF FIGURES (continued)

Figure		Page
13E	Test 6	69
13F	Test 9	69
13G	Test 12	70
13H	Test 14	70
13I	Test 15	71
13J	Test 16	71
13K	Test 102	72
13L	Test 105	72
13M	Test 107	73
13N	Test 111	73
13O	Test 405	74
13P	Test 406	74
14	Comparison of the Derivatives of FPS-16 Slant Range (DVR_1) and Transformed GMD-2 Slant Range (DVR_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)	
14A	Test 1	75
14B	Test 2	75
14C	Test 3	76
14D	Test 4	76
14E	Test 6	77
14F	Test 9	77
14G	Test 12	78
14H	Test 14	78
14I	Test 15	79
14J	Test 16	79
14K	Test 102	80
14L	Test 105	80
14M	Test 107	81
14N	Test 111	81
14O	Test 405	82
14P	Test 406	82
15	Cumulative Frequency Distribution of the Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) for all 16 Tests	83
16	Cumulative Frequency Distribution of the Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) for all Point Mugu Tests	83

LIST OF FIGURES (continued)

Figure		Page
17	Cumulative Frequency Distribution of the Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) for 3 Wallops Island Tests	84
18	Cumulative Frequency Distribution of the Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) for all Eglin AFB Tests	84
19	Relative Differences Between GMD-1 ( ) Geopotential Heights (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)	
19A	Test 1	85
19B	Test 2	85
19C	Test 3	86
19D	Test 4	86
19E	Test 6	87
19F	Test 9	87
19G	Test 12	88
19H	Test 14	88
19I	Test 15	89
19J	Test 16	89
19K	Test 102	90
19L	Test 105	90
19M	Test 107	91
19N	Test 111	91
19O	Test 405	92
19P	Test 406	92
20	Relationship of Relative Differences Between FPS-16 and GMD-2 Heights to Measured GMD-2 Elevation and Azimuth Angles at Point Mugu	93
21	Relative Differences Between FPS-16 Height and GMD-2 Height vs Measured GMD-2 Elevation Angle at Point Mugu and Wallops Island	93
22	Relative Differences Between GMD-1 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)	

LIST OF FIGURES (continued)

Figure		Page
22A	Test 1	94
22B	Test 2	94
22C	Test 3	95
22D	Test 4	95
22E	Test 6	96
22F	Test 9	96
22G	Test 12	97
22H	Test 14	97
22I	Test 15	98
22J	Test 16	98
22K	Test 102	99
22L	Test 105	99
22M	Test 107	100
22N	Test 111	100
22O	Test 405	101
22P	Test 406	101
23	Comparison of Wind Speeds Derived from GMD-2 Data (V_2) and Wind Speeds Derived from FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)	
23A	Test 1	102
23B	Test 2	102
23C	Test 3	103
23D	Test 4	103
23E	Test 6	104
23F	Test 9	104
23G	Test 12	105
23H	Test 14	105
23I	Test 15	106
23J	Test 16	106
23K	Test 102	107
23L	Test 105	107
23M	Test 107	108
23N	Test 111	108
23O	Test 405	109
23P	Test 406	109

SYMBOLS AND ABBREVIATIONS

A_1	Azimuth angle as measured by FPS-16 (0.01 deg)
A_m	Five-point mean of A_1 (0.01 deg)
A_2	Azimuth angle as measured by GMD-2 (0.01 deg)
A_2^*	A_2 transformed to exact FPS-16 location (0.01 deg)
AS	Ascension rate of balloon (gpm/min)
B	Horizontal distance between FPS-16 radar and GMD-2 (0.01 meters)
β	Azimuth angle from FPS-16 to GMD-2 (0.01 deg)
CT'	Raob temperature compute by equation from t_r values ($0.1^\circ C$)
DA	Difference between A_2^* and A_1 (0.01 deg)
DE	Difference between E_2^* and E_1 (0.01 deg)
DH	Difference between H_4 and H_2 (meters)
DMVT	Difference between MVT_3 and MVT_1 ($0.1^\circ K$)
DR	Difference between R_2^* and R_1 (meters)
DVA_1	First derivative of A_1, (deg/min)
DVA_m	First derivative of A_m, (deg/min)
DVA_2^*	First derivative of A_2^*, (deg/min)
DVE_1	First derivative of E_1, (deg/min)
DVE_m	First derivative of E_m, (deg/min)
DVE_2^*	First derivative of E_2^*, (deg/min)
DVR_1	First derivative of R_1, (meters/min)
DVR_m	First derivative of R_m, (meters/min)
DVR_2^*	First derivative of R_2^*, (meters/min)

D1Q	Difference between Q_2 and Q_1 (0.01 deg)
D2Q	Difference between Q_3 and Q_1 (0.01 deg)
D3Q	Difference between Q_4 and Q_1 (0.01 deg)
D4Q	Difference between Q_5 and Q_1 (0.01 deg)
D1VX	Difference between VX_2 and VX_1 (0.01 m/sec)
D2VX	Difference between VX_3 and VX_1 (0.01 m/sec)
D3VX	Difference between VX_4 and VX_1 (0.01 m/sec)
D4VX	Difference between VX_5 and VX_1 (0.01 m/sec)
D1VZ	Difference between VZ_2 and VZ_1 (0.01 m/sec)
D2VZ	Difference between VZ_3 and VZ_1 (0.01 m/sec)
D3VZ	Difference between VZ_4 and VZ_1 (0.01 m/sec)
D4VZ	Difference between VZ_5 and VZ_1 (0.01 m/sec)
E_1	Elevation angle as measured by FPS-16, (0.01 deg)
E_m	Five-point mean of E_1, (0.01 deg)
E_2	Elevation angle as measured by GMD-2 (0.01 deg)
E_2^*	E_2 transformed to exact FPS-16 location and corrected for distance TL (0.01 deg)
e	Raob vapor pressure (0.01 mb)
G_1	H_1 converted to geopotential height (gpm)
G_2	H_2 converted to geopotential height (gpm)
G_3	Geopotential height above MSL of radiosonde instrument from Raob data (gpm)
H_1	Geometric altitude above MSL of radiosonde instrument from FPS-16 data (meters)
H_2	Geometric altitude above MSL of radiosonde instrument from GMD-2 data (meters)
H_3	G_3 converted to geometric altitude (meters)

$(H_f)_4$	Geometric height of balloon as recorded by GMD-2 (feet)
H_4	$(H_f)_4$ converted to meters
h_1	Elevation above MSL of FPS-16 (0.01 meters)
h_2	Elevation above MSL of GMD-2 (0.01 meters)
h_1'	Elevation above MSL of FPS-16 (0.01 gpm)
h_3'	Elevation above MSL of surface observation point (0.01 gpm)
h_s'	Geopotential height above MSL of data point at time S_2 (0.01 gpm)
HD	Horizontal balloon distance from observation point (0.1 meters)
HD_1	Computed from E_1, R_1 and A_1
HD_2	Computed from E_2, R_2 and A_2
HD_3	Computed from H_2, R_2 and A_2
HD_4	Computed from H_3, R_2 and A_2
HD_5	Computed from H_3, E_2 and A_2
K	FPS-16 radar number
MVT_1	Mean virtual temperature computed from G_1 and P_3 (0.1^oK)
MVT_3	Raob mean virtual temperature (0.1^oK)
P_o	Surface pressure (0.1 mb)
P_1	Pressure computed from G_1 and MVT_3 (0.1 mb)
P_2	Pressure computed from G_2 and MVT_3 (0.1 mb)
P_3	Observed raob pressure (0.1 mb)
P_{Baro}	Same as P_3
P_s	P_3 at time S_2 (0.1 mb)
Q	Parameter used in WD computations (0.01 deg)
Q_1	computed from E_1, R_1 and A_1

Q_2	Computed from E_2, R_2 and A_2
Q_3	Computed from H_2, R_2 and A_2
Q_4	Computed from H_3, R_2 and A_2
Q_5	Computed from H_3, E_2 and A_2
$(R_y)_1$	Slant range as measured by FPS-16 (yards)
R_1	$(R_y)_1$ converted to meters
R_m	Five-point mean of R_1 (meters)
$(R_y)_2$	Slant range as measured by GMD-2 (yards)
R_2	$(R_y)_2$ converted to meters
R_2^*	R_2 transformed to exact FPS-16 location and corrected for TL (meters)
r'	Geopotential - geometric conversion constants,
r*	functions of latitude
RDA	Relative difference between A_2^* and A_1 (0.01%)
RDE	Relative difference between E_2^* and E_1 (0.01%)
RDR	Relative difference between R_2^* and R_1 (0.01%)
RDMVT	Relative difference between MVT_3 and MVT_1 (0.01%)
R1DP	Relative difference between P_2 and P_1 (0.01%)
R2DP	Relative difference between P_3 and P_1 (0.01%)
RMS(X)	Root-mean-square of X
S_1	Time of usable FPS-16 data point that must be synchronized with S_2 (seconds of Z time of day)
S_2	Time of first usable GMD-2 data point (0.1 minutes)
SD(X)	Standard deviation of X from a variable mean.
T	Raob temperature (CT') (0.1°K)
T'	Raob temperature computed by hand evaluator 230, (0.1°C)

t_r	Temperature ordinate values (0.1 recorder divisions)
T_{ord}	Same as t_r
t_{cal}	Calibration temperature - (temperature corresponding to 37.6 recorder divisions for a particular observation) ($0.1^{o}C$)
t_1	(Z) Time as recorded on FPS-16 tape in hours-min-sec or seconds and at 1/sec or 10/sec frequency.
t_2	t_1 converted to seconds of (Z) time of day at 1/sec frequency
t_3	t_2 times that correspond to GMD-2 data points (seconds)
t	Elapsed time of observation as recorded by GMD-2 (0.1 minutes)
TL	Distance between radar target and radiosonde instrument (train length) (0.01 meters)
U	Relative humidity at temperature CT', (%)
UE_2^*	E_2 transformed to exact FPS-16 location, but not corrected for TL (0.01 deg)
UR_2^*	R_2 transformed to exact FPS-16 location but not corrected for TL (meters)
UY_2^*	Y_2^* not corrected for TL (meters)
V	Wind Velocity (0.01 m/sec)
V_1	Computed from VX_1 and VZ_1
V_2	Computed from VX_2 and VZ_2
V_3	Computed from VX_3 and VZ_3
V_4	Computed from VX_4 and VZ_4
V_5	Computed from VX_5 and VZ_5
VT	Raob virtual temperature ($0.1^{o}K$)
VX	Wind velocity along east-west axis (0.01 m/sec)
VX_1	Computed from HD_1 and A_1

VX_2	Computed from HD_2 and A_2
VX_3	Computed from HD_3 and A_2
VX_4	Computed from HD_4 and A_2
VX_5	Computed from HD_5 and A_2
VZ	Wind velocity along north-south axis (0.01 m/sec)
VZ_1	Computed from HD_1 and A_1
VZ_2	Computed from HD_2 and A_2
VZ_3	Computed from HD_3 and A_2
VZ_4	Computed from HD_4 and A_2
VZ_5	Computed from HD_5 and A_2
WD	Wind direction (0.01 deg)
WD_1	Computed from Q_1, VX_1 and VZ_1
WD_2	Computed from Q_2, VX_2 and VZ_2
WD_3	Computed from Q_3, VX_3 and VZ_3
WD_4	Computed from Q_4, VX_4 and VZ_4
WD_5	Computed from Q_5, VX_5 and VZ_5
X_2^*	Cartesian coordinate of R_2 along east-west axis transformed to FPS-16 site (meters)
Y_2^*	Cartesian coordinate of R_2 along vertical axis transformed to FPS-16 site (meters)
Z_2^*	Cartesian coordinate of R_2 along north-south axis transformed to FPS-16 site (meters)
1CDA	One-minute change in DA, (0.01 deg)
1CDE	One-minute change in DE, (0.01 deg)
1CDR	One-minute change in DR, (meters)
1DG	Difference in G_2 and G_1 (gpm)

1DP	Difference in P_2 and P_1 (0.1 mb)
2CDA	Two-minute change in DA, (0.01 deg)
2CDE	Two-minute change in DE, (0.01 deg)
2CDR	Two-minute change in DR, (meters)
2DG	Difference in G_3 and G_1 (gpm)
2DP	Difference in P_3 and P_1 (0.1 mb)
4CDA	Four-minute change in DA, (0.01 deg)
4CDE	Four-minute change in DE, (0.01 deg)
4CDR	Four-minute change in DR (meters)

SECTION I

INTRODUCTION

As requirements for meteorological support to aerospace operations become more critical, the need for investigations concerning the accuracy of atmospheric measurements becomes more obvious. Such an investigation, concerning the accuracy of upper-air measurements obtained under jet stream conditions, was initiated by the Inter-Range Instrumentation Group in May 1963. This investigation, known as the Rawinsonde Comparison Project, was proposed to be a very detailed analysis of the measuring capabilities of the transponder radiosonde instrument, the GMD-2 rawin system and the FPS-16 radar. The primary objectives outlined by the committee entailed the following.

1. An analysis of the tracking capabilities of the GMD-2 rawin set and the FPS-16 radar.
2. a study concerning the feasibility of eliminating the pressure sensor from the transponder radiosonde instrument by the detailed comparison of measured radiosonde pressure versus pressures computed from radiosonde temperature and FPS-16 and GMD-2 computed heights.
3. a study concerning the effects of radiation on the radiosonde thermistor by the comparison of measured temperature versus temperature computed from radiosonde pressure and FPS-16 heights.
4. the analysis of wind data computed from the various parameters that are measured by the radiosonde instrument, the GMD-2 rawin set and the FPS-16 radar.

In general, this report satisfies all of the proposed objectives with the exception of those that were omitted due to inadequacies and scarcity of comparative data. These exceptions will be specified and discussed in detail in Section 5.

SECTION II
PROCEDURE

A. Comparative Observations

To obtain the necessary measurements, approximately 25 (15 daytime and 10 nighttime) special balloon observations were conducted at each of the following locations: (1) Point Mugu, California, (2) Wallops Island, Virginia, (3) White Sands, New Mexico, and (4) Eglin AFB, Florida. Radar reflector targets were attached to the usual GMD-2 flight trains so that they could be tracked simultaneously by the FPS-16 radar and GMD-2 rawin system. Balloon position coordinates (azimuth angle, elevation angle, and slant range) were recorded every tenth of a second by the FPS-16 and every tenth of a minute by the GMD-2. Pressure, temperature and relative humidity data were measured by the transponder radiosonde instrument each half minute.

Approximately 80 of the proposed observations were received from the four tracking stations. It was, however, necessary to eliminate 64 of these observations due to: (1) their poor quality caused by signal failures and erroneous measurements, (2) loss of FPS-16 data tapes, (3) loss of GMD-2 records, and (4) missing baseline calibration information. Of the 16 usuable observations (9 daytime and 7 nighttime) 10 were conducted at Point Mugu, four at Wallops Island and two at Eglin AFB. None of the White Sands observations are considered usuable due to missing and doubtful data. The usable observations are listed in Table I, page 27. The quality of these tests is not as good as expected, but is thought to be representative of the quality of upper air observations taken under jet stream conditions.

B. Data Reduction and Computations

The computational procedure used in this study, which was developed from guidelines established by the Inter-Range Instrumentation Group (Reference 1), is outlined in detail in Appendix A.

Phase 1 of the procedure, the reduction of FPS-16 data, reduces the frequency of data points to one per second, converts slant range from yards to meters, and prints FPS-16 azimuth angle, elevation angle and slant range. These data are checked for erroneous measurements, but are not smoothed.

In Phase 2, the GMD-2 balloon position coordinates (elevation angle, azimuth angle and slant range), are transformed to the exact location of the FPS-16 radar and the height and slant range are converted to meters. Techniques used in this transformation are described in detail by Equations (4) through (10) on page A-4. The GMD-2 transformed elevation angle (E_2^*), azimuth angle (A_2^*), and slant range (R_2^*) and the transformed Cartesian coordinates (X_2^*, Y_2^* and Z_2^*) are printed out for each one tenth minute of flight time.

In Phase 3, the FPS-16 balloon position coordinates are carefully aligned with respective GMD-2 transformed coordinates so that a time synchronization may be obtained. Particular attention is given to azimuth and elevation angle time derivatives as they are found to be the best time alignment indicators. An attempt is made in Phase 3 to estimate the vertical distance between the FPS-16 radar reflector target and the radiosonde instrument. This distance was found to be approximately 50 feet in most cases, which was the distance proposed by the guidelines.

Phase 4 entails the computation of the numerous comparative parameters necessary to the analysis of the measuring capabilities of the radiosonde instrument, the FPS-16 radar, and the GMD-2 rawin system. These computed parameters are listed on pages A-34 and A-35 and are briefly discussed in Section III.

SECTION III

COMPUTER OUTPUT

This section is given to describe briefly the computer output that was generated for each of the 16 usuable rawinsonde comparison tests. As it is not practical to publish all of the outputs from the 16 tests, they were transferred to microfilm and are currently on file in the National Records Center.

Copies may be obtained through:

Environmental Science Services Administration
Environmental Data Service
National Weather Records Center
Asheville, North Carolina

The output of Test No. 3 is presented in Appendix B to illustrate the contents and arrangement of all of the outputs. Close scrutiny of the output will show it to consist of 12 tables with the following headings.

TABLE	HEADING	PAGE
B-1	Elevation Angle, Azimuth Angle, and Slant Range	B-2 -- B-15
B-2	First Derivative	B-16 -- B-29
B-3	Differences	B-30 -- B-43
B-4	Thermodynamic Data	B-44 -- B-46
B-5	Height and Altitude	B-47 -- B-49
B-6	Pressure and Virtual Temperature	B-50 -- B-52
B-7	Horizontal Distance and Q Parameter	B-53 -- B-55
B-8	Zonal Wind	B-56 -- B-58
B-9	Meridional Wind	B-59 -- B-61
B-10	Wind Direction and Wind Speed	B-62 -- B-64
B-11	Root-Mean-Squares and Standard Deviations with Variable Means	B-65
B-12	Constant Pressure Data and Constant Altitude Data	B-66

In the first three tables, parameters necessary to the analysis of the tracking capabilities of the GMD-2 rawin system and FPS-16 radar are listed for each tenth minute. Table B-1 contains balloon position coordinates (elevation angle, azimuth angle, and slant range) that were measured by the FPS-16 radar and GMD-2 rawin system and the transformed GMD-2 balloon position coordinates. The FPS-16 mean values listed in this table are computed over five second intervals and are used in computing the standard deviation of the FPS-16 and transformed GMD-2 elevation angle, azimuth angle and slant range. Time derivatives, computed over tenth minute intervals, of the FPS-16, mean FPS-16, and transformed GMD-2 balloon position coordinates are listed in Table B-2. Differences between the transformed GMD-2 and FPS-16 balloon position coordinates are listed in Table B-3. Slant range differences are also listed as percent deviations from the FPS-16 slant range. The one, two, and four minute changes in the balloon coordinate differences are also listed so that fluctuation over the given time periods might be investigated.

Parameters necessary to the analysis of height, pressure, and temperature are listed in Tables B-4 through B-6 for each half minute of flight time. Table B-4 contains the kinetic temperature, relative humidity, vapor pressure and virtual temperature that are computed from the temperature and relative humidity recorder divisions that are measured by the radiosonde instrument. The geopotential heights and geometric altitudes that are computed from measured GMD-2 and FPS-16 elevation angle and slant range and from radiosonde pressure and temperature are listed in Table B-5. Geopotential height differences between GMD-2 and FPS-16 heights and the radiosonde and FPS-16 heights are listed so that an error analysis may be performed. Also listed in Table B-5 is the geometric height that is recorded by the GMD-2 rawin set and its deviation from the height that is computed from the GMD-2 elevation angle and slant range. Measured radiosonde pressures, pressures that are derived from FPS-16 geopotential height and radiosonde temperature, and pressures that are derived from GMD-2 height and radiosonde temperature are listed in Table B-6. Differences and relative differences between the GMD-2 and FPS-16

pressures and the radiosonde and FPS-16 pressures are listed so that they may be analyzed. Table B-6 also contains the mean radiosonde temperatures and a mean temperature that is computed from radiosonde pressure and FPS-16 geopotential heights.

Parameters necessary for the analysis of wind direction and wind speed are listed in Tables B-7 through B-10. The five horizontal distance (HD) values listed in Table B-7 are computed using (1) FPS-16 elevation angle, azimuth angle and slant range, (2) GMD-2 elevation angle, azimuth angle and slant range, (3) GMD-2 geometric altitude, slant range and azimuth angle, (4) radiosonde height, and GMD-2 slant range and azimuth angle, and (5) radiosonde height and GMD-2 elevation angle and azimuth angle. The five "Q" parameters, which are the quadrant wind directions, are computed by the same respective quantities. Differences between the FPS-16 "Q" parameter and the four other "Q" parameters are listed so that an error analysis may be performed. Zonal wind speeds that are computed from the five horizontal distances and respective "Q" parameters are listed in Table B-8. Differences between the FPS-16 zonal wind speed and the other four wind speeds are also listed. Table B-9 is identical to Table B-8 but is for meridional wind speeds. The wind directions and speeds that are computed from the five zonal wind speeds and the respective meridional wind speeds are tabulated in Table B-10.

Table B-11 contains the root-mean-squares (rms) of the differences in the FPS-16 and transformed GMD-2 azimuth and elevation angles and of the one, two and four minute changes in these differences. The root-mean-squares of the differences between the FPS-16 component wind speeds and the other four component wind speeds are also listed. All of these rms values are computed for four different ranges of FPS-16 elevation angle measurement. The root-mean-squares of the slant range differences and the one, two and four minute changes in these differences are listed for various ranges of FPS-16 slant range. The root-mean-squares of the pressure differences are listed for various ranges of FPS-16 pressure.

It is not possible to compute the rms of an elevation angle, azimuth angle, or slant range by standard methods, as these quantities do not fluctuate, about a constant mean. It is possible, however, to measure the central tendency of these quantities by using the FPS-16 mean values listed in Table B-1 as variable means. The values computed in this manner are denoted as standard deviations (SD) in Table B-11. They are listed in the FPS-16 and transformed GMD-2 balloon position coordinates.

A summary is presented in Table B-12 of the various computed heights, pressures and wind component speeds. These values and their differences have been interpolated for the standard pressure levels and for each km of altitude so that a test to test analysis may be performed. This table is also used in the discussion of accuracies on the standard pressure levels.

The computer output from the 16 usuable tests has not been included in this report, but a summary of the computed parameters of each test is given in Tables C-1 through C-16 of Appendix C. These tables list for the standard pressure levels; (1) geopotential heights that are computed from FPS-16, GMD-2, and radiosonde data, (2) the differences between the GMD-2 and FPS-16 heights, (3) the differences between the radiosonde and FPS-16 heights, and (4) the zonal and meridional wind speeds that are computed using the five different combinations of measured FPS-16, GMD-2 and radiosonde parameters listed earlier in this section. Pressures that are computed from FPS-16 geopotential heights and radiosonde temperatures, and from GMD-2 geopotential heights and radiosonde temperature, and measured radiosonde pressures are also listed for each km of altitude.

SECTION IV
THEORETICAL ACCURACIES

To evaluate the operational measuring capabilities of the radiosonde instrument, the GMD-2 rawin set and the FPS-16 radar, it is essential that the theoretical accuracy of each measurement be established.

The accuracy of the FPS-16 balloon position coordinates are specified, in Reference 2, to be:

Slant Range	± 5 meters (rms)
Azimuth Angle	± .0113 deg (rms)
Elevation Angle	± .0113 deg (rms)

The GMD-2 rawin set has a specified azimuth and elevation angular accuracy of ± 0.05 deg (rms) and a slant range accuracy of ± 25 meters rms (Reference 3).

The accuracy of radiosonde temperature measurement is specified in Reference 4 to be ± 0.7 degrees rms and the radiosonde pressure measurement accuracy in rms error with respect to altitude, is listed as:

3 km	0.7 mb
5 km	1.0 mb
10 km	1.2 mb
15 km	0.7 mb
20 km	0.4 mb
25 km	0.3 mb
30 km	0.12 mb

These theoretical balloon position coordinate and pressure errors should not be taken to represent the average or most likely error. In computing the expected height error, for example, it is more logical to assume errors of twice the rms values. These expected height errors may be computed from the GMD-2 and FPS-16 data by the following equation.

$$\Delta H = R \sin E - (R + 2\sigma_R) \sin(E + 2\sigma_E) \qquad (1)$$

where:

ΔH = expected height error
R = slant range
E = elevation angle
σ_R = rms error in slant range
σ_E = rms error in elevation angle

The expected height error may also be computed from radiosonde data in a similar manner by utilization of the hydrostatic equation and the assumption of a 2σ pressure and temperature error.

These expected height errors that are associated with 2σ errors in radiosonde, GMD-2 and FPS-16 measurements are listed below.

Pressure (mb)	Height (km)	Slant Range (km)	Expected Height Error (meters)		
			FPS-16	GMD-2	Radiosonde
500	5	10	7	20	24
300	8	20	14	40	40
100	17	50	35	100	84
10	30	100	70	200	144

These values are in good agreement with existing literature with exception to the expected GMD-2 height error at 17 and 30 km height. It will, however, be shown in this report that more accurate heights may be

obtained from radiosonde measurements than from GMD-2 measurements above 15 km altitude. Leviton (Reference 5) computed an expected height error of 40 meters at 300 mb from measured radiosonde data. The rms errors in height, which may be estimated for GMD-2 and FPS-16 measurements by taking one-half of the estimated error, agree fairly well with Sandlin's expression (Reference 6).

$$\sigma_H^2 = \sigma_R^2 \sin^2 E + R^2 \sigma_E^2 \cos^2 E \tag{2}$$

where:

σ_H = rms of height error
σ_R = rms of slant range
σ_E = rms of elevation angle.

The accuracy of wind vectors computed from FPS-16 measurements is specified to be 0.8 mps (rms) in Reference 4. The accuracy of wind vectors computed from GMD-1 (radiosonde) and GMD-2 measurements is also specified as illustrated below.

Altitude (km)	Mean Wind (m/sec)		
	<15	15-30	30-50
5	1	4	8
10	2	7	15
20	3	10	22
30	5	18	—

The Signal Corp study (Reference 7) agrees that the GMD-1 accuracy is 15 m/sec (rms) at 10 km altitude with a mean wind of 30 to 50 m/sec, but indicates the GMD-2 accuracy to be only 3 m/sec (rms) under the same conditions.

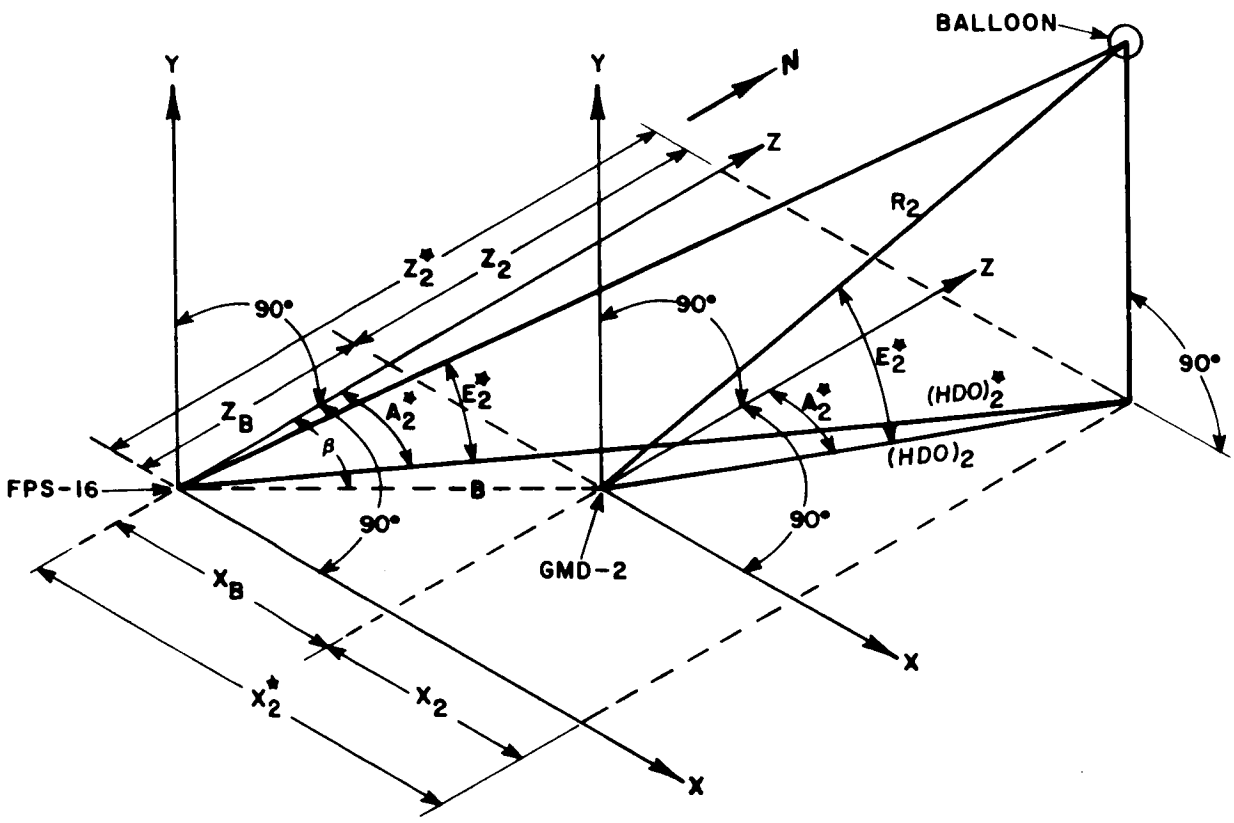
The theoretical accuracies established in this section are given so that they may be compared to the operational accuracies that will be

discussed in Section V. It should be realized that these theoretical accuracies do not include the error induced by (1) multi-path signal distortion (2) refraction (3) instrument lag (4) departure of the atmosphere from hydrostatic equilibrium and (5) human error.

SECTION V
OPERATIONAL ACCURACY

A. Tracking Analysis

The investigation of the tracking capabilities of the FPS-16 radar and GMD-2 rawin set is developed from an analysis of the differences between the FPS-16 measured balloon position coordinates (elevation angle, azimuth angle, and slant range) and the respective measured GMD-2 coordinates that have been transformed to the exact location of the FPS-16 radar. These differences do not represent the exact error in balloon position coordinates due to a very slight effect of the transformation technique used. As can be seen in the figure below, each transformed GMD-2 balloon position coordinate is a function of all three measured GMD-2 coordinates. Therefore, the error in each of the transformed coordinates is dependent upon the errors of all three measured coordinates.



As the effect of this error incorporation was found to be insignificant in comparison to the measurement errors, the differences between the FPS-16 and GMD-2 balloon position coordinates are taken to be total GMD-2 error. The FPS-16 measurements are assumed to be exact.

The tracking capabilities of the GMD-2 rawin set and FPS-16 radar may be best illustrated by graphic plots of the measured balloon position coordinates and their derivatives. The differences between the measured FPS-16 and transformed GMD-2 balloon position coordinates illustrate only the error in the GMD-2 measurements, but the derivatives of the balloon position coordinates may be used to investigate features concerning the tracking capability of both the GMD-2 and FPS-16 systems.

The measured FPS-16 elevation angle and the differences between the FPS-16 and transformed GMD-2 elevation angles are illustrated versus time and altitude, for each of the usable 16 tests, in Figures 1a through 1p.

The differences average about 0.3 degrees (see Table II) but increase to about 0.5 degrees at low elevation angles. As may be noted in Table II the absolute average elevation angle difference is 0.32 degrees for the Point Mugu tests and 0.21 degrees for the Wallops Island tests. No average elevation angle difference is computed for the Eglin AFB tests because only two tests were usable. It is thought that the larger differences at Point Mugu are due to a GMD-2 leveling error. These differences and the possibility of a leveling error will be discussed in more detail in the height analysis section.

Figures 2A through 2P compare the FPS-16 and transformed GMD-2 elevation angle derivatives taken over one minute intervals. Visual inspection of these plots shows that the FPS-16 elevation angle derivatives have smoother variations with time than the GMD-2 elevation angle derivatives. Further inspection of the plots reveals that at high altitudes and low elevation angles the GMD-2 elevation angle derivative becomes very erratic about the

FPS-16 elevation angle derivative. These erratic changes of the GMD-2 elevation angle with time are believed to be the cause of the erratic changes of the GMD-2 heights and pressures with time. Further discussion of the erratic behavior of the GMD-2 heights and pressures is included in the height and pressure analysis section.

The rms of the elevation angle differences, taken from the cumulative frequency distribution chart (Figure 3) is estimated to be 0.211 degrees. As this frequency distribution contains data from all of the tests, the rms value should not be taken to be representative of any one test. The estimated rms values of the three stations, taken separately, are 0.201, 0.167, and 0.310 degrees at Point Mugu, Wallops Island and Eglin AFB, respectively. (See Figures 4, 5 and 6.)

The average of the rms values of the elevation angle differences for all Point Mugu and Wallops Island tests is indicated to be 0.1431 degrees. (see Table II). Taken separately, the Point Mugu and Wallops Island average rms values are 0.1452 and 0.1389 degrees, respectively. The values are somewhat larger than the theoretical error of $\pm$ 0.05 degrees (rms) but they are not thought to be unreasonable for the operational accuracy of the GMD-2 rawin set.

Figures 7A through 7D illustrate the differences between the FPS-16 and transformed GMD-2 azimuth angles versus time and height. The absolute differences average about 1.45 degrees for all 16 tests (Table II). In the 10 Point Mugu tests (Figures 7A to 7J) the algebraic differences are entirely negative, except for the first six minutes of test 16, while the algebraic differences of the four Wallops Island tests are entirely positive. The negative bias of the Point Mugu tests amounts to about -1.78 degrees and the positive bias of the Wallops Island tests amounts to about +0.96 degrees. Errors in orientation of the GMD-2 equipment are thought to be the reason for the biased differences between the FPS-16 and transformed GMD-2 azimuth angles. This possibility is discussed in detail in the section on height and error analysis.

The FPS-16 and transformed GMD-2 azimuth angle derivatives taken over one minute intervals are illustrated in Figures 8A through 8P. The transformed GMD-2 azimuth angle derivative differs most from the FPS-16 azimuth angle derivative in the first portion of each test where the azimuth angle is changing the most with time. In the middle and upper regions of each test the two derivatives have only small differences.

The rms of the azimuth angle differences, taken from the cumulative frequency distribution chart composed of the data from all 16 tests (Figure 9) is estimated to be 0.842 degrees. The estimated rms values of the three stations, taken separately, are 0.417, 0.560, and 0.275 degrees at Point Mugu, Wallops Island and Eglin AFB, respectively (Figures 10, 11 and 12).

The average of the rms values of the azimuth angle differences for all Point Mugu and Wallops Island tests is indicated to be 0.3259 degrees (Table II). Taken separately the Point Mugu and Wallops Island average rms values are 0.3210 and 0.3380 degrees, respectively. As in the case for the rms values of the elevation angle differences these rms values of the azimuth angle differences are larger than the theoretical accuracy of $\pm.05$ degrees (rms) but are thought to be reasonable for the operational accuracy of the GMD-2 rawin set.

The differences between the FPS-16 and transformed GMD-2 slant ranges versus time and altitude are illustrated in Figures 13A through 13P. The absolute differences agerage about 140 meters (Table II) for all tests except test number 107 which had abnormally large differences (Figure 13M). The average absolute differences for Point Mugu and Wallops Island, taken separately, are 140.23 and 139.49 meters, respectively.

Figures 14A through 14P illustrate the FPS-16 and transformed GMD-2 slant range derivatives taken over one-minute intervals. The two derivatives compare closely in each test except for test 107 and have their largest value in the region of maximum wind speed, as would be expected.

From the cumulative frequency distribution chart (Figure 15) the rms value of the slant range differences is estimated to be 212 meters. The estimated rms values of the three stations, taken separately, are 173, 175 and 370 meters for Point Mugu, Wallops Island and Eglin AFB, respectively, as shown in Figures 16, 17 and 18.

The average of the rms values of the slant range differences for all Point Mugu and Wallops Island tests is indicated to be 90.43 meters (Table II). Taken separately, the Point Mugu and Wallops Island average rms values are 85.06 and 108.30 meters, respectively. Although the theoretical accuracy of the GMD-2 slant range is listed as 25 meters (rms) the rms slant range values for Point Mugu and Wallops Island are thought to be reasonable as an estimate of the operational accuracy of the GMD-2 system.

B. Height and Pressure Analysis

Geopotential heights that are computed from GMD-2 data and radiosonde data are illustrated versus time and altitude, as percent deviations from FPS-16 geopotential heights for all usable tests in Figures 19A through 19P. With the exception of test No. 3 (Figure 19C), all tests indicate the deviations of the radiosonde heights to be much smaller and less erratic than the deviations of the GMD-2 heights. The radiosonde heights generally deviate from the FPS-16 by less than two percent, but occasionally are as large as five percent at high altitudes. The GMD-2 heights are very erratic and occasionally deviate from the FPS-16 by 10 percent. The large deviations and erratic behavior of the GMD-2 height are due mainly to the somewhat erratic nature of the measured GMD-2 balloon position coordinates (elevation angle, azimuth angle and slant range). These large differences are indicated to be most common in the altitude regions of maximum wind speed.

Average and maximum differences between the GMD-2 and FPS-16 heights and the radiosonde and FPS-16 heights are presented for the standard pressure levels in Table III. These values were taken from the 16 tables in Appendix C. The average radiosonde height deviations agree with the theoretical radiosonde height error except at the 10 mb level. The average GMD-2

height differences are much larger than the theoretical error, especially in the 400 to 100 mb region where the measured GMD-2 elevation angle is lowest.

It may be speculated that the large GMD-2 height differences are due to an error in the leveling of the GMD-2 rawin set at Point Mugu. Figure 20, which was constructed from the scatter of the GMD-2 height deviations from all Point Mugu tests, shows a definite relationship between height error and measured GMD-2 azimuth angle. If this relationship were caused by non-level equipment, the short horizontal lines on Figure 20, near 150 degrees azimuth, should approximate the operational accuracy of GMD-2 heights for the various elevation angle measurements. Good agreement is found between these values and respective values taken from the broken line of Figure 21, which was developed independently from the scatter of the GMD-2 height differences found in the Wallops Island tests. Upon this reasoning, it is speculated that the Point Mugu GMD-2 rawin set was not leveled properly.

The relationship between the GMD-2 height errors and measured elevation angle is also illustrated for Point Mugu data in Figure 21. The dotted line was developed from all tests taken with FPS-16 radar No. 4 and the solid line from tests taken with FPS-16 radar No. 1. The differences in the operational accuracy indicated by these two lines is most likely due to the non-level GMD-2, but it could be caused by errors in the FPS-16 leveling or orientation.

Pressures may be computed from a geopotential height versus temperature relationship, if the atmosphere is assumed to be in hydrostatic equilibrium. Pressures computed using GMD-2 heights and radiosonde temperatures, and pressures measured by the radiosonde instrument are illustrated in Figure 22A through 22P for each of the 16 tests, as percent deviations of pressures computed from FPS-16 heights and radiosonde temperature. Generally, the radiosonde pressures deviate from the FPS-16 pressures by less than two percent, but occasionally deviate by as much as five percent above 25 km altitude. They are very smooth and are usually a little higher than the FPS-16 pressure. The GMD-2 pressures are very erratic and

deviate from the FPS-16 pressure by as much as 20% in the maximum wind region. They are generally lower than the FPS-16 pressure.

The average and maximum deviations of the GMD-2 and radiosonde pressures from the FPS-16 pressure, which are presented for each km altitude in Table IV, are taken from the 16 tables in Appendix C. As the average radiosonde pressure deviations agree almost exactly with the theoretical pressure measurement error, it may be speculated that the FPS-16 pressure error is insignificant. The average GMD-2 pressure differences are much larger than would be expected. They are, however, indicated to be better than the radiosonde pressures near 30 km altitude.

The rms of the deviations of the GMD-2 and radiosonde pressures from the FPS-16 pressure are computed for four ranges of pressure using data from each of the 16 tests. These values and their means are presented in Table V. The average GMD-2 pressure error is shown to be 4.5695 (rms) for pressure measurements greater than 400 mb, 5.3732 mb (rms) between 400 and 100 mb, 2.9135 mb (rms) between 100 and 10 mb, and 0.1394 mb (rms) for pressure measurements less than 10 mb. The radiosonde pressure error is indicated to be much smaller, having respective rms errors of: 1.2796, 1.1025, 0.7723 and 0.2977. The GMD-2 pressure is again indicated to be more accurate than the radiosonde for pressure measurements less than 10 mb. This is due to the poor sensitivity of the radiosonde pressure sensor at the lower pressures and the more accurate tracking capability of the GMD-2 at the higher altitudes, where the measured elevation angle is generally greater than 20°.

C. Temperature Analysis

Information concerning the effects of radiation on the radiosonde thermistor may be obtained from a rigorous comparison of mean radiosonde temperatures versus mean temperatures computed from radiosonde pressure and FPS-16 geopotential height. However, as may be noted in Table B-6,

the FPS-16 mean temperatures, computed in this study, deviate erratically from the mean radiosonde temperatures. These erratic deviations are due to the error induced by the use of radiosonde pressures that are measured only to the nearest mb.

The FPS-16 mean temperatures are computed by the utilization of the hydrostatic equation.

$$MVT_1 = \frac{(G_1)_\eta - (G_1)_{\eta - .5}}{29.29085 \ln \frac{(P_3)_{\eta - .5}}{(P_3)_\eta}}$$

where:

MVT_1 = mean virtual temperature

G_1 = FPS-16 geopotential height

P_3 = radiosonde pressure

Considering the hypothetical case, where: G_1 is 16879.3 gpm at level η and 16699.0 gpm at level η -.5, and P_3 is 97.00 mb at level η and 95.00 mb at level η-.5, the mean FPS-16 temperature is computed to be 295.47°K. Now, if maximum pressure round-off error is assumed, such that P_3 is 97.49 mb at level η and 94.51 mb at level η -.5, the mean virtual temperature is computed to be 198.29°K. This difference in computed mean temperatures of 97.18°K, which is caused by pressure round-off error only, should show conclusively that mean temperatures cannot be computed from FPS-16 heights and radiosonde pressures with any confidence.

The temperature analysis and studies concerning the effect of solar radiation on the radiosonde thermistor must, therefore, be omitted from this project.

D. Wind Analysis

Wind speeds and directions are computed for each 1/2 minute flight time for all of the usable 16 tests using (1) FPS-16 elevation angle, azimuth angle, and slant range (2) GMD-2 elevational angle, azimuth angle and slant range (3) GMD-2 geometric altitude, slant range and azimuth angle, (4) radiosonde height, and GMD-2 slant range and azimuth angle, and (5) radiosonde height and GMD-2 elevation angle and azimuth angle.

As may be noted in Table B-10 of Appendix B (Page B-122), the differences in these five computed wind speeds and directions are generally very slight, less than 2° direction and 1.5 m/sec wind speed. The differences on the other 15 tests are similar to these illustrated in Table 10-B, but occasionally have a few erratic fluctuations. Wind speeds computed from FPS-16 and GMD-2 elevation angle, azimuth angle and slant range are illustrated for each of the usable 16 tests in Figures 23A through 23P. The differences were so slight in some of the tests that it was necessary to plot the FPS-16 wind speed and its deviations from the GMD-2 wind speed.

These figures are also an indication of the wind direction differences, as both wind direction and speed are computed from the zonal and meridional wind components.

The zonal and meridional wind components, that are computed by the five different tests using data from each of the 16 tests, are given for the standard pressure levels in Tables C-1 through C-16.

These components are very nearly of the same value, with exception to the components that are computed from radiosonde height and GMD-2 elevation angle and azimuth angle. The more erratic fluctuation in these components, which is identified as VX_5 and VZ_5 in Tables C-1 through C-16, are due to the sensitivity of the equation used in computing horizontal distance (HD_5), see Equation (63) page A-16. A very slight fluctuation in

the GMD-2 elevation angle is amplified to a very erratic fluctuation in (HD_5) and in VX_5 and VZ_5.

The average differences between VX_2 and VX_1 and VX_4 and VX_1 are illustrated in Table VI. This in essence is a comparison of wind components computed using GMD-2 heights with wind components computed using radiosonde heights. However, very little difference is noted in the two wind component values.

The rms of the VX_2 - VX_1 and VX_4 - VX_1 wind component differences of each usable test are given for two ranges of elevation angle measurement in Table VII. The VX_4 - VX_1 rms values are smaller than the VX_2 - VX_1 rms values in 12 of the 16 tests when the measured elevation angle is less than 8°, but only in 5 of the 16 when the measured elevation angle is between 12 and 90°. The average VX_4 - VX_1 rms is smaller when the measured elevation angle is less than 8° and larger than the average VX_2 - VX_1 rms when the measured elevation angle is between 12 and 90°. This indicated the wind component that is computed from radiosonde height and GMD-2 elevation angle and azimuth angle (VX_4) to be better at low elevation angles, and the wind component that is computed from GMD-2 elevation angle, azimuth angle and slant range to be better at high elevation angles.

SECTION VI
CONCLUSIONS AND RECOMMENDATIONS

The conclusions listed below should not be considered as being representative of the theoretical measuring capabilities of the FPS-16 radar or GMD-2 rawin systems. They are based upon 16 test observations that were taken under jetstream conditions and therefore, represent the operational measuring capabilities under these conditions.

1. The tracking capability of the FPS-16 radar is indicated to be much better than the GMD-2 rawin system.

2. Heights computed from radiosonde pressure and temperature are more accurate than heights computed from GMD-2 elevation angle and slant range.

3. Pressures computed from FPS-16 height and radiosonde temperatures are more accurate than measured radiosonde pressures.

4. Pressures computed from GMD-2 height and radiosonde temperature are very erratic and are not as accurate as measured radiosonde pressure.

5. FPS-16 wind data are much smoother and more reliable than GMD-2 wind data.

6. Wind data computed using GMD-2 elevation angle and azimuth angle and radiosonde height are more accurate than wind data computed from GMD-2 elevation angle, azimuth angle and slant range when the measured elevation angle is less than 8°.

The reverse is true when the measured elevation angle is greater than 8°.

A more detailed analysis of the comparative data presented in this report would generate much more information concerning the measuring capabilities of the FPS-16 radar, GMD-2 rawin set and transponder radiosonde instrument. However, due to the poor quality of most of these comparative data, this additional information would not be conclusive and any results obtained would be very speculative.

The quality of the comparative data would very likely be improved by the following list of recommendations.

1. All observations should be conducted at one location.

2. All equipment should be very carefully oriented and leveled before each test.

3. Base line checks should be conducted with extreme precision.

4. Train lengths should be measured to the nearest foot.

5. Flight trains should be simultaneously tracked by a GMD-2 rawin set and at least two FPS-16 radar systems.

6. A time comparison between all timing devices should be recorded throughout every test.

7. Care should be taken to see that all records are identified properly and that all data are recorded properly.

It is also recommended that some of the observations be conducted under moderate to light wind conditions. Low angles measured by the

GMD-2 rawin set, which generally occur under jet stream conditions, cause erratic fluctuations in computed height data. These erratic computed heights, which at times decrease with increasing observation time, cannot be used in pressure computations and prevent the comparison of pressures.

ACKNOWLEDGEMENT

Acknowledgement and appreciation is expressed to Mr. O. E. Smith of the NASA Aero-Astrodynamics Laboratory for the many technical discussions concerning this project. All data reduction was performed in the NASA Computation Laboratory. It was coordinated by Mr. Frank Baker under the direction of Mr. Paul Harness. Appreciation is also expressed to Mr. Al Holman of General Electric and to Mr. Paul Wright of HREC/LMSC.

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TABLE I

USABLE RAWINSONDE COMPARISON TESTS

Test Number[1]	Date	Time (Z)	Maximum Wind Observed (m/sec)	Altitude Reached (km)
1	7 Mar 64	0043	62	36
2	7 Mar 64	1105	58	31
3	7 Mar 64	1659	33	36
4	2 Mar 64	2345	65	21
6	17 Mar 64	0221	55	25
9	24 Mar 64	1109	48	17
12	29 Jul 64	0334	18	15
14	3 Mar 64	1745	50	24
15	5 Mar 64	2220	50	21
16	12 Mar 64	1748	45	15
102	27 Jan 64	2022	77	33
105	16 Jan 64	2316	38	27
107	19 Mar 64	1145	57	32
111	13 May 64	0241	35	32
405	5 Mar 64	1653	69	15
406	6 Mar 64	1855	65	13

[1]Tests 1 through 16 were observed at Point Mugu; 102 through 111 were observed at Wallops Island; 405 and 406 were observed at Eglin AFB.

TABLE II

AVERAGE ABSOLUTE DIFFERENCES AND AVERAGE RMS OF THE DIFFERENCES BETWEEN FPS-16 AND TRANSFORMED GMD-2 ELEVATION ANGLES, AZIMUTH ANGLES, AND STANT RANGES

Test	$\lvert\overline{\Delta E}\rvert$	$\sigma(\Delta E)$	$\lvert\overline{\Delta A}\rvert$	$\sigma(\Delta A)$	$\lvert\overline{\Delta R}\rvert$	$\sigma(\Delta R)$
1	0.63	0.1487	1.86	0.3752	286.57	167.68
2	0.62	0.1419	1.82	0.3226	323.46	99.63
3	0.09	0.0822	1.66	0.3503	66.20	73.38
4	0.23	0.2567	1.68	0.2663	32.32	27.59
6	0.10	0.1071	1.76	0.3375	198.74	124.92
9	0.33	0.1321	1.64	0.1936	121.85	63.21
12	0.31	0.1298	0.34	0.1592	133.34	104.03
13	0.13	0.1222	1.49	0.3641	80.09	70.14
15	0.57	0.1737	1.56	0.2458	122.28	65.59
16	0.23	0.1576	1.62	0.5955	128.49	54.48
Total	3.24	1.4519	15.43	3.2101	1402.34	850.65
Average	0.32	0.1452	1.54	0.3210	140.23	85.06
102	0.09	0.1133	0.82	0.2405	306.12	211.53
105	0.15	0.1182	1.52	0.3172	32.32	40.60
107	0.42	0.1625	0.68	0.3047	—	—
111	0.17	0.1575	1.85	0.4898	80.03	72.78
Total	0.83	0.5515	4.87	1.3522	418.47	324.91
Average	0.21	0.1389	1.22	0.3380	139.49	108.30
Total	4.07	2.0034	20.30	4.5623	1820.81	1175.56
Average	0.29	0.1431	1.45	0.3259	140.06	90.43

TABLE III

AVERAGE AND MAXIMUM GEOPOTENTIAL HEIGHT DIFFERENCES AT STANDARD PRESSURE LEVELS

RAOB Pressure Level (mb.)	Number of Tests	Average FPS-16 Height (gpm)	$\overline{G_2 - G_1}$ (gpm)	Maximum $G_2 - G_1$ (gpm)	$\overline{G_3 - G_1}$ (gpm)	Maximum $G_3 - G_1$ (gpm)
850	15	1485.9	21.6	88.2	- 5.9	63.9
700	16	3052.6	33.6	146.9	- 23.2	-177.5
500	16	5639.3	142.6	424.4	- 33.4	-210.0
400	16	7273.0	217.2	649.4	- 36.2	-189.0
300	16	9277.6	279.1	786.0	- 50.0	-271.5
250	16	10494.4	412.1	1083.1	- 54.6	-273.1
200	16	11964.1	539.0	1247.0	- 93.2	-378.9
150	15	13707.7	561.9	1309.0	- 79.4	-460.1
100	12	16301.1	685.3	1539.1	- 95.4	-588.4
50	10	20672.9	393.1	1310.9	-115.9	-434.4
30	8	24093.8	255.5	1469.9	-162.9	-569.7
10	4	31334.8	173.4	1071.2	-330.8	-902.2

TABLE IV

AVERAGE AND MAXIMUM PRESSURE DIFFERENCES AT FPS-16 HEIGHT LEVELS

FPS-16 Height (km)	Number of Tests	Average RAOB Pressure	$\overline{P_2 - P_1}$ (mb.)	Maximum $P_2 - P_1$ (mb.)	$\overline{P_3 - P_1}$ (mb.)	Maximum $P_3 - P_1$ (mb.)
1	14	901.6	- 0.4	- 2.9	1.2	5.0
2	16	797.6	- 1.5	- 9.5	0.8	2.9
3	16	703.6	- 2.9	-12.4	1.3	14.0
4	16	618.9	- 4.7	-14.6	1.1	11.4
5	16	543.0	- 6.9	-20.1	1.4	10.8
6	16	475.0	-10.4	-37.7	1.8	9.0
7	16	414.1	-12.2	-38.2	1.7	8.9
8	16	359.8	-12.7	-42.1	1.6	6.3
9	16	311.4	-12.1	-30.1	1.8	7.0
10	16	268.5	- 9.7	-30.2	1.3	6.2
11	16	230.7	-14.4	-36.9	1.6	7.4
12	16	197.7	-15.1	-37.0	2.0	8.1
13	15	158.1	-13.3	-29.4	1.7	8.3
14	15	144.2	- 7.6	-21.6	1.9	9.3
15	13	122.6	- 7.1	-23.1	1.7	7.8
16	12	104.2	- 7.5	-23.4	1.1	8.1
17	11	88.9	- 6.2	-18.9	1.2	8.0
18	11	75.9	- 5.8	-16.2	1.7	9.0
19	11	64.7	- 3.6	-13.4	1.6	9.2
20	10	55.2	- 2.8	-12.2	0.9	3.0
21	10	47.1	- 1.8	- 9.1	1.1	3.3
22	8	40.3	- 1.1	- 7.3	0.5	- 2.6
23	8	34.5	- 1.6	- 5.8	0.2	2.5
24	8	29.5	- 0.8	- 5.8	0.6	2.8
25	5	25.4	- 0.9	- 4.2	0.2	2.1
26	5	21.7	- 0.8	- 3.6	0.0	1.6
27	5	18.6	- 0.6	- 2.8	0.1	1.5
28	5	16.0	- 0.6	- 2.4	0.2	1.8
29	5	13.8	- 0.4	- 1.8	0.6	1.8
30	4	11.8	- 0.2	- 1.7	0.6	1.3

TABLE V

RMS OF PRESSURE DIFFERENCES

Test No.	$P_1 > 400$ mb.		$400 > P_1 > 100$		$100 > P_1 > 10$		$10 > P_1$	
	$\sigma(P_2-P_1)$	$\sigma(P_3-P_1)$	$\sigma(P_2-P_1)$	$\sigma(P_3-P_1)$	$\sigma(P_2-P_1)$	$\sigma(P_3-P_1)$	$\sigma(P_2-P_1)$	$\sigma(P_3-P_1)$
1	7.3637	1.5215	6.2386	1.6192	5.4433	0.5806	0.1404	0.0056
2	5.5219	1.6367	4.8287	0.7058	2.7608	0.8415	—	—
3	0.8922	0.7701	1.0500	0.6511	0.6091	0.6101	0.1431	0.1786
4	2.6660	1.2311	6.4460	1.0192	6.4258	0.9154		
6	1.5075	0.8361	5.8956	0.9788	1.0095	0.3780		
9	2.9266	1.2040	8.4853	1.0084	—	—		
12	1.5233	1.2267	0.6463	0.8129	—	—		
14	1.7978	1.4906	5.3472	1.8111	3.2488	0.7812		
15	6.4817	1.5765	3.0988	1.4296	1.8722	0.6446		
16	1.6978	1.7728	6.0710	0.9576	—	—		
102	1.6572	1.2668	4.4122	1.4275	4.1182	0.6752	0.2307	0.6923
105	3.6450	1.2134	2.8508	1.0527	1.7041	1.2347		
107	8.4687	1.2634	4.8266	0.8665	4.1369	1.1712		
111	2.1423	1.3942	2.8152	0.7033	0.7194	0.6625	0.0435	0.2044
405	16.0674	0.8790	15.6893	1.8681	—	—		
406	8.7532	1.3745	7.2701	1.7280	—	—		
Sum	73.1123	20.4740	85.9717	17.6398	32.0481	8.4950	0.5577	1.1909
Av.	4.5695	1.2796	5.3732	1.1025	2.9135	0.7723	0.1394	0.2977

TABLE VI

WIND COMPONENT DIFFERENCES AT STANDARD PRESSURE LEVELS

Pressure Level (mb.)	Zonal Wind			Meridional Wind		
	Average VX_1 (m/sec)	$\overline{VX_2-VX_1}$ (m/sec)	$\overline{VX_4-VX_1}$ (m/sec)	Average VZ_1 (m/sec)	$\overline{VZ_2-VZ_1}$ (m/sec)	$\overline{VZ_4-VZ_1}$ (m/sec)
850	6.63	0.08	0.05	-4.62	-0.04	-0.04
700	13.82	0.25	0.33	-4.77	0.02	0.02
500	25.19	0.19	0.27	-7.91	0.24	0.24
100	20.27	-0.03	0.04	-2.65	-0.39	-0.39

TABLE VII

RMS OF WIND COMPONENT DIFFERENCES

Test No.	$E_1 < 8^o$		$12 < E_1 < 90$	
	rms VX_2-VX_1	rms VX_4-VX_1	rms VX_2-VX_1	rms VX_4-VX_1
1	1.1386	0.8806	0.8234	0.7704
2	1.1816	1.0088	0.3937	0.3976
3	0.1025	0.0969	0.8018	0.6910
4	2.3148	1.9251	0.3046	0.3165
6	0.5992	0.9974	0.4958	0.5146
9	0.9422	0.6368	0.2873	0.3503
12	0.1930	0.1851	0.1992	0.3061
14	1.7062	1.5433	0.5371	0.5910
15	1.1132	0.9294	0.3282	0.3196
16	0.6539	0.7486	0.4283	0.5845
102	1.1126	0.9425	0.5226	0.5407
105	0.6662	0.6685	0.5580	0.6176
107	2.8870	2.8662	1.1204	1.2848
111	—	—	0.6512	0.7359
405	2.0686	1.9987	0.7533	0.7453
406	1.1005	0.9454	1.0168	1.0594
Sum	17.7801	16.3733	9.2217	9.8253
Average(σ)	1.1853	1.0916	0.5764	0.6141

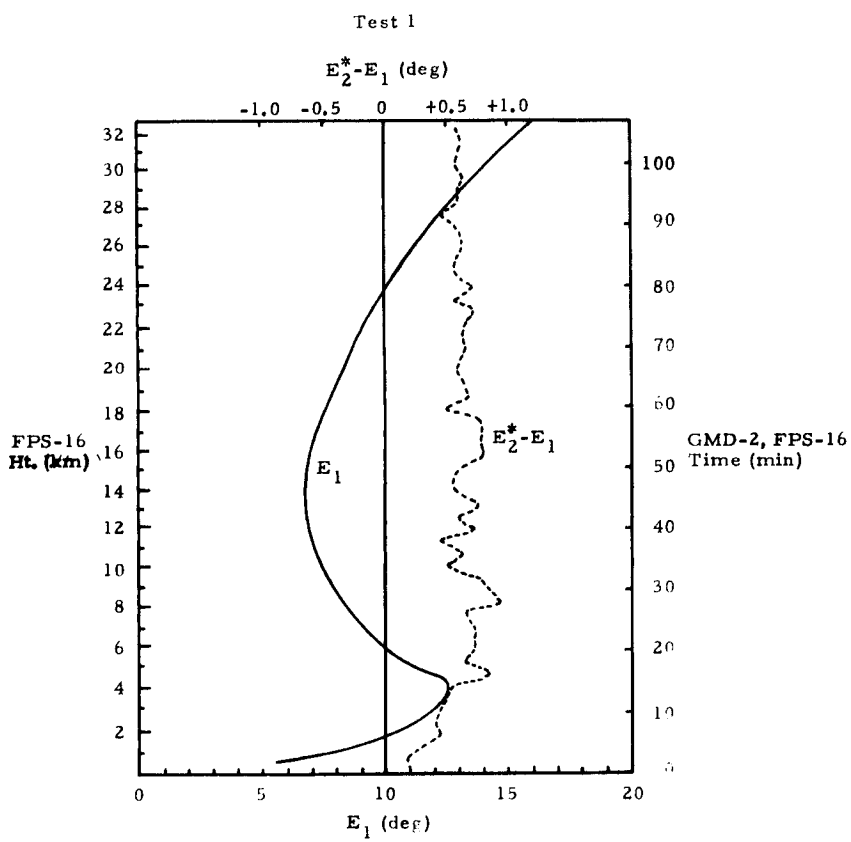

Figure 1A - Transformed GMD-2 Elevation Angle (E_2^*) and Differences Between E_2^* and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

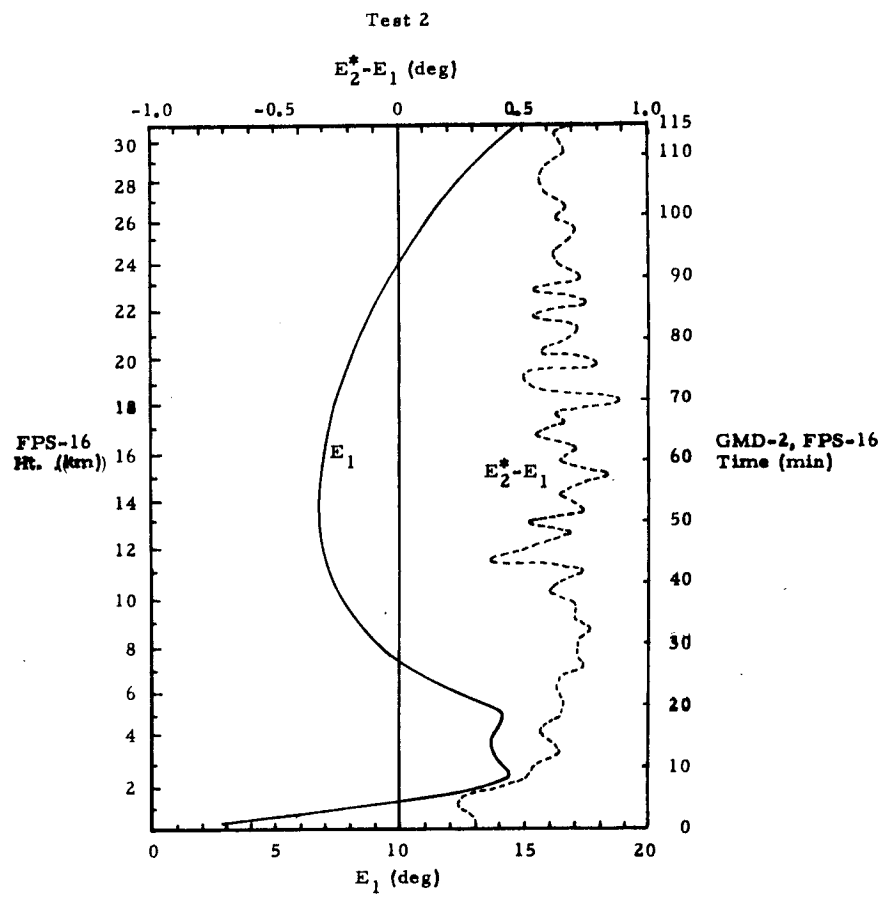

Figure 1B - Transformed GMD-2 Elevation Angle (E_2^*) and Differences Between E_2^* and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

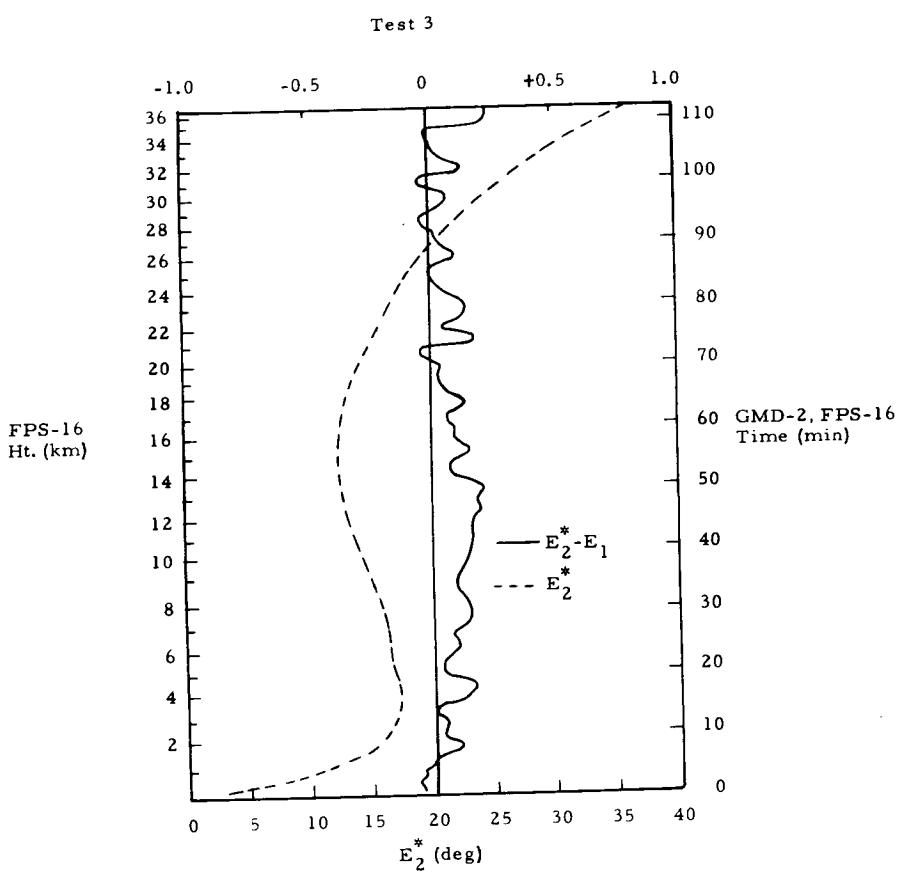

Figure 1C - Transformed GMD-2 Elevation Angle (E_2^*) and Differences Between E_2^* and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

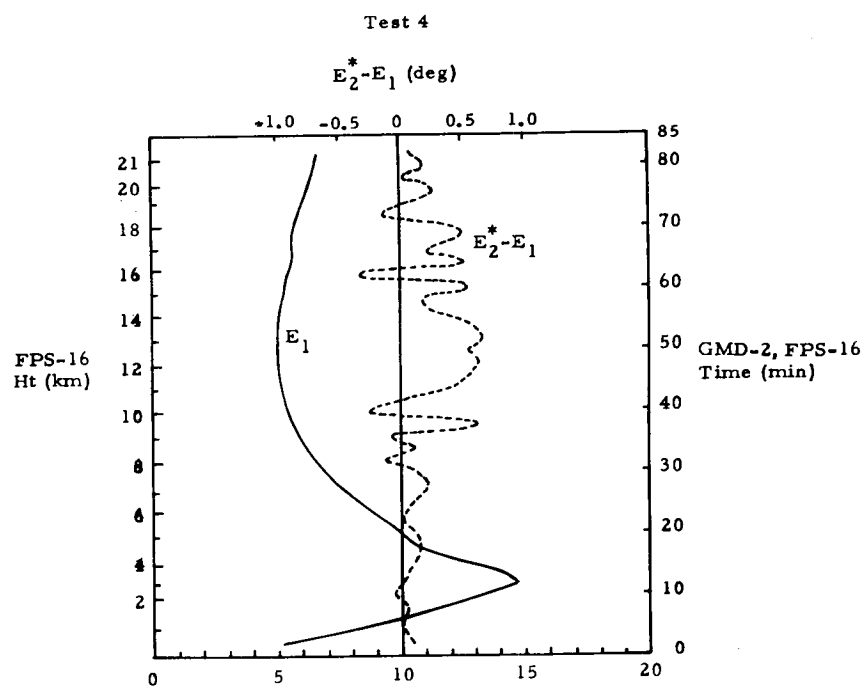

Figure 1D - Transformed GMD-2 Elevation Angle (E_2^*) and Differences Between E_2^* and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

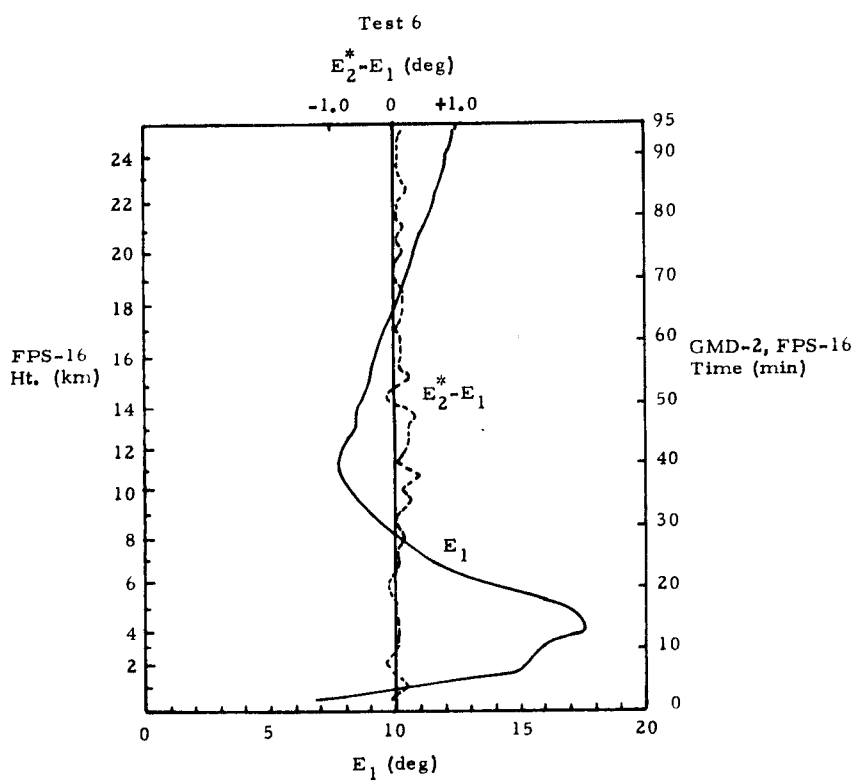

Figure 1E - Transformed GMD-2 Elevation Angle (E_2^*) and Differences Between E_2^* and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

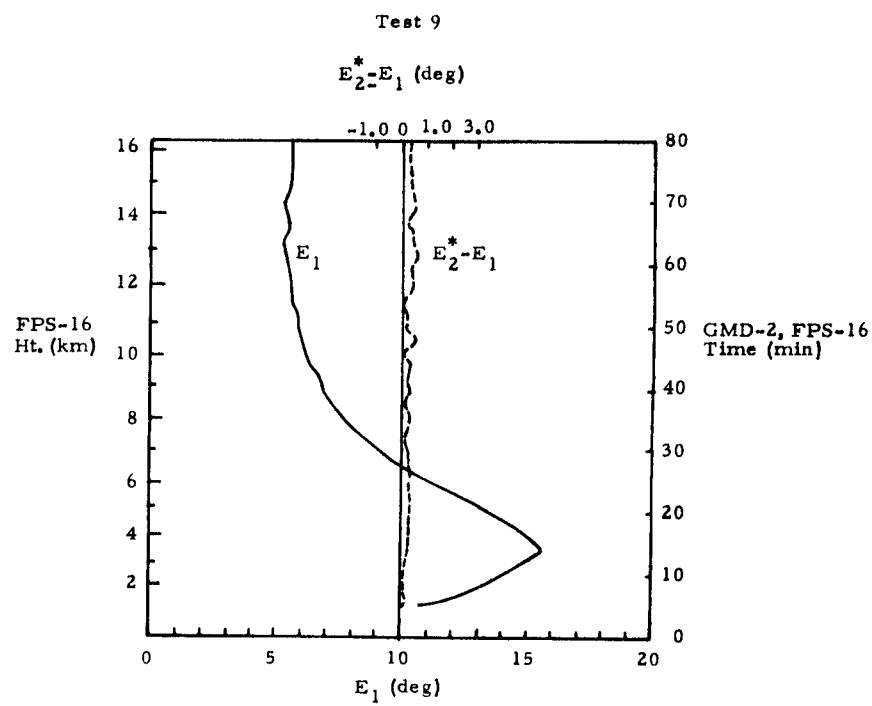

Figure 1F - Transformed GMD-2 Elevation Angle (E_2^*) and Differences Between E_2^* and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

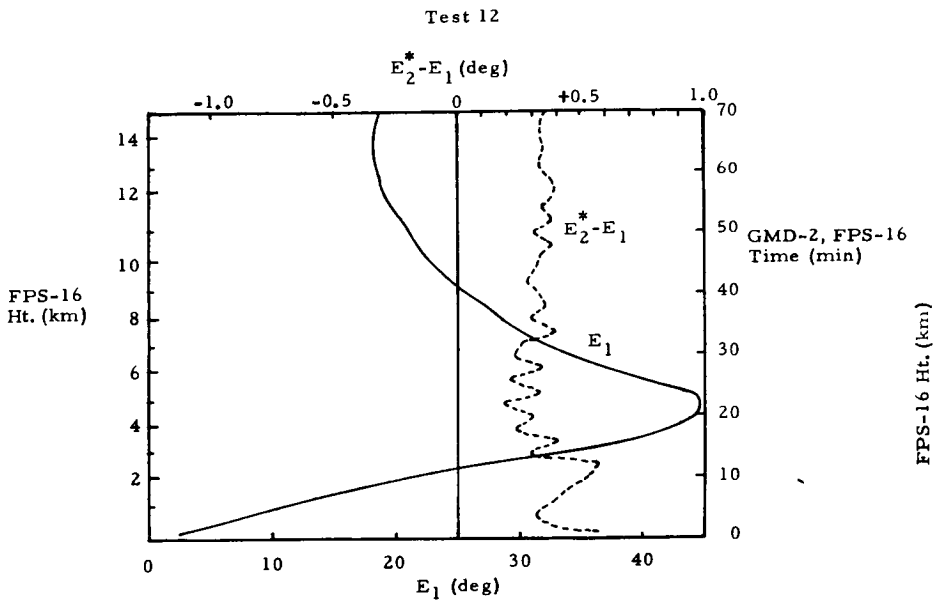

Figure 1G - Transformed GMD-2 Elevation Angle (E_2^*) and Differences Between E_2^* and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

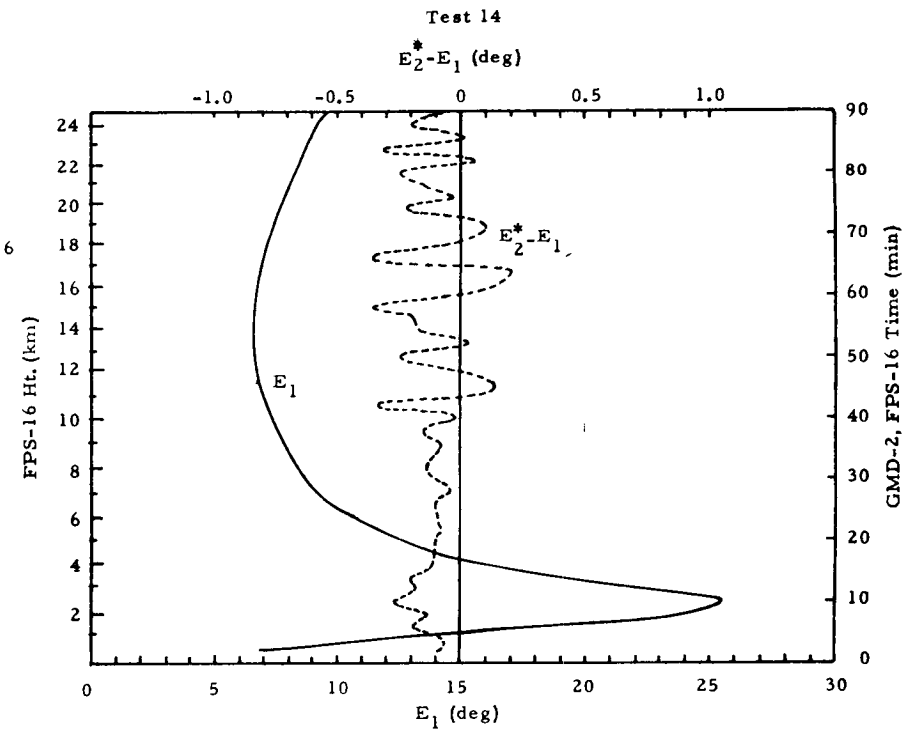

Figure 1H - Transformed GMD-2 Elevation Angle (E_2^*) and Differences Between E_2^* and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

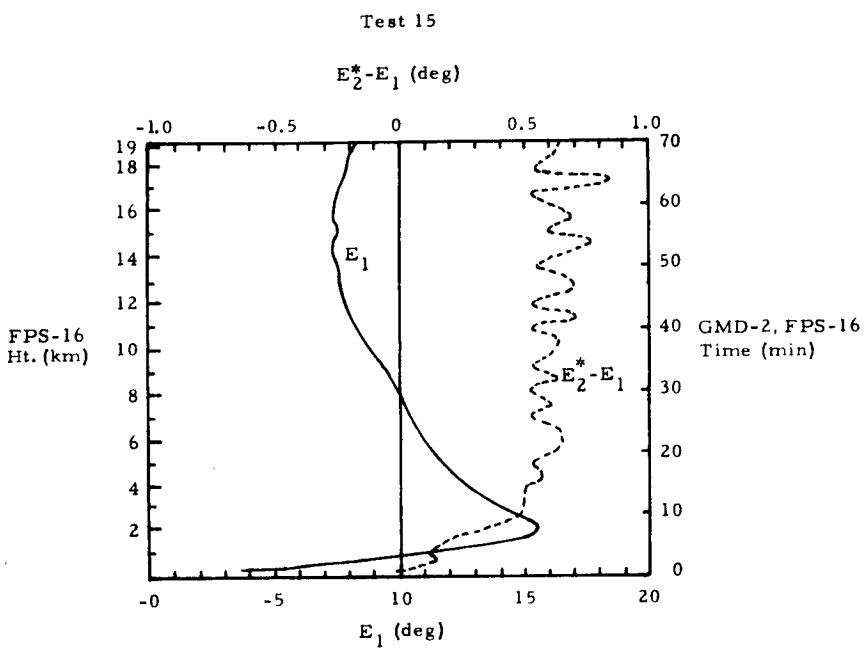

Figure 1I - Transformed GMD-2 Elevation Angle (E_2^*) and Differences Between E_2^* and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

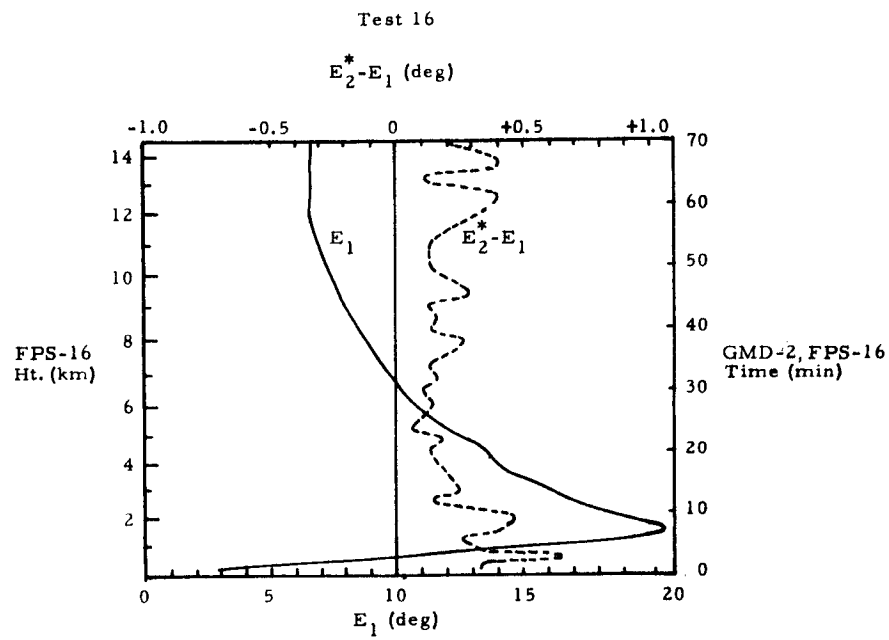

Figure 1J - Transformed GMD-2 Elevation Angle (E_2^*) and Differences Between E_2^* and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

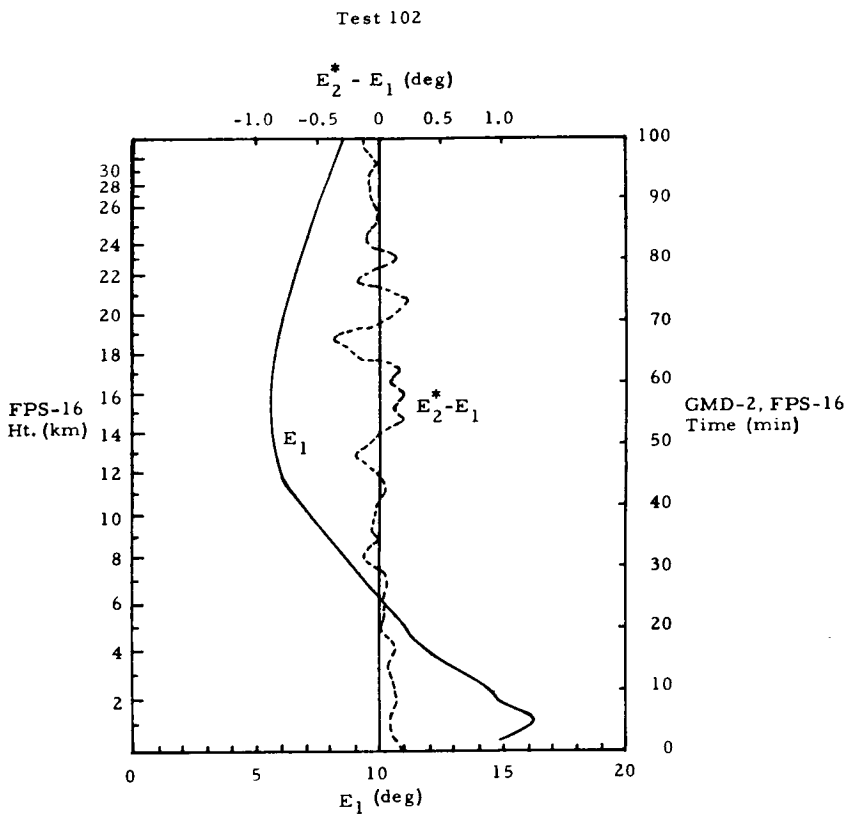

Figure 1K - Transformed GMD-2 Elevation Angle (E_2^*) and Differences Between E_2^* and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

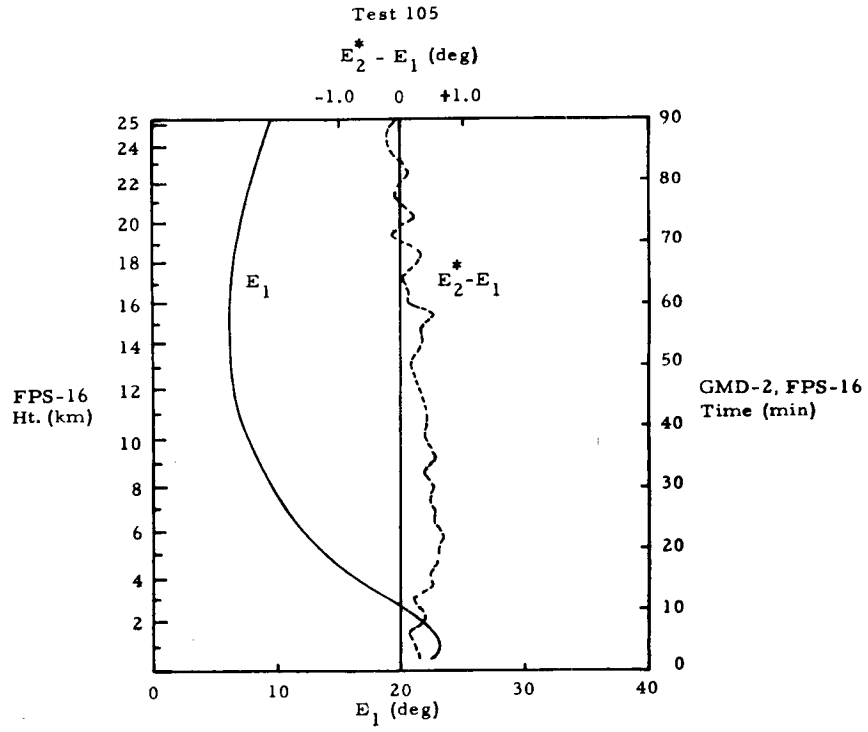

Figure 1L - Transformed GMD-2 Elevation Angle (E_2^*) and Differences Between E_2^* and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

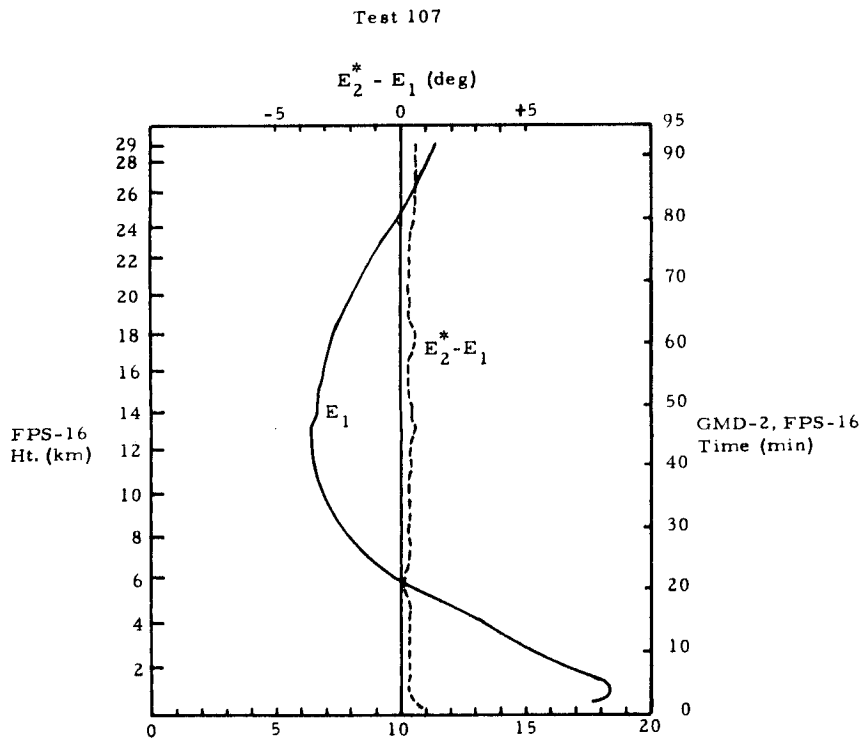

Figure 1M - Transformed GMD-2 Elevation Angle (E_2^*) and Differences Between E_2^* and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

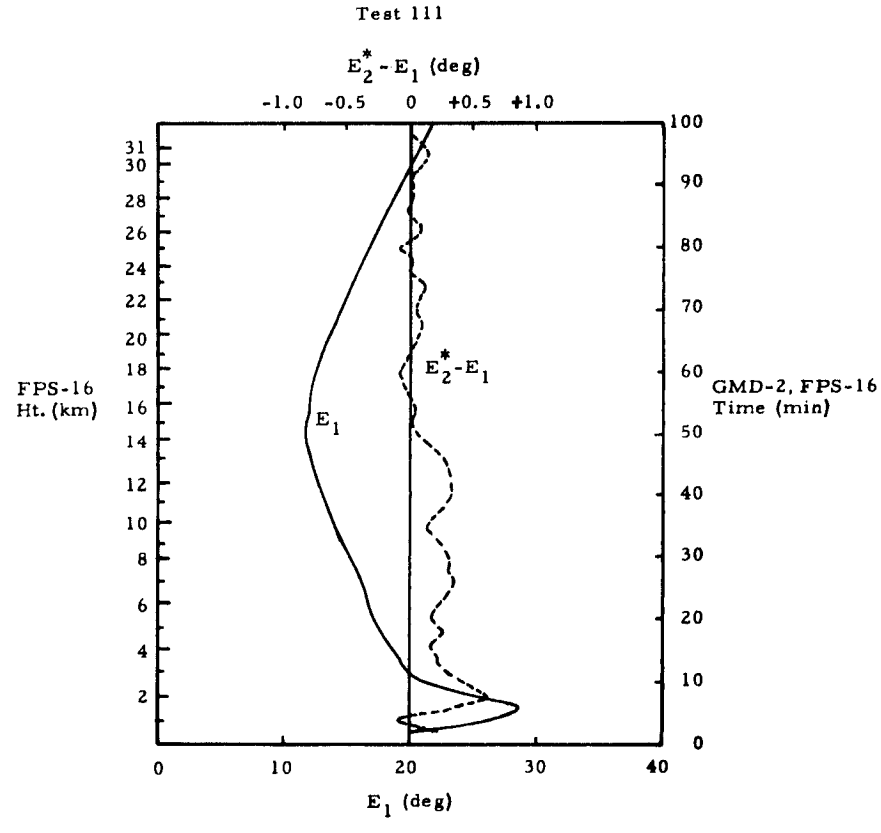

Figure 1N - Transformed GMD-2 Elevation Angle (E_2^*) and Differences Between E_2^* and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

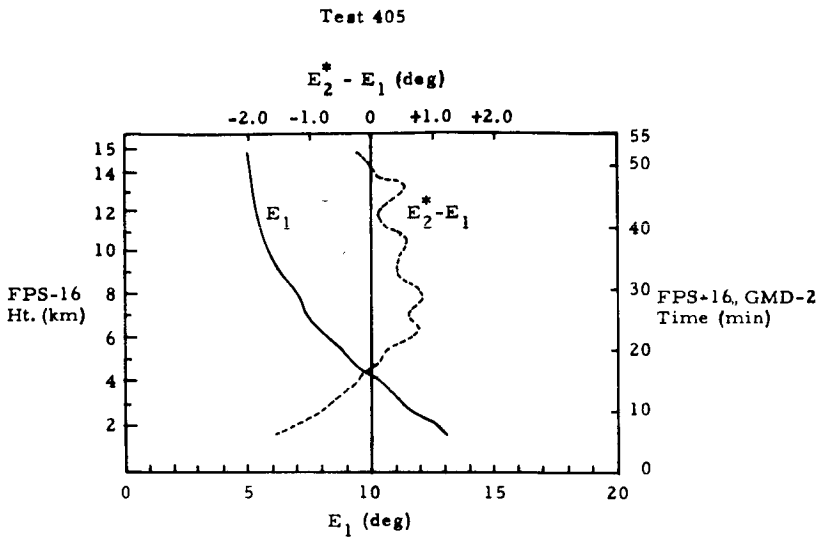

Figure 1O - Transformed GMD-2 Elevation Angle (E_2^*) and Differences Between E_2^* and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

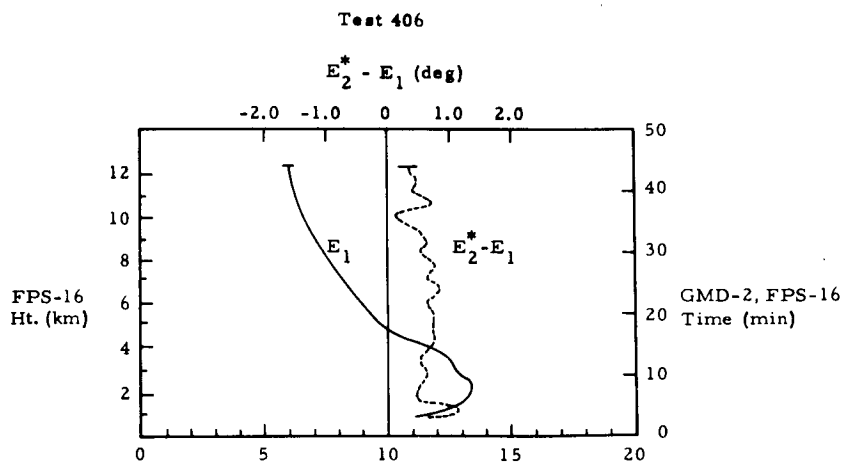

Figure 1P - Transformed GMD-2 Elevation Angle (E_2^*) and Differences Between E_2^* and FPS-16 Elevation Angle (E_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

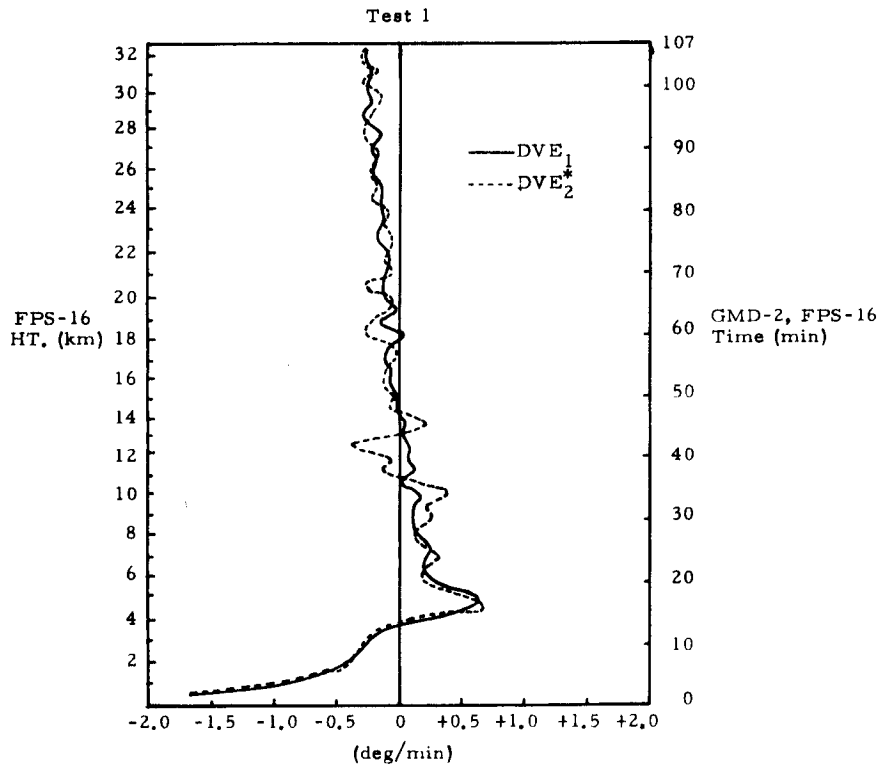

Figure 2A - Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

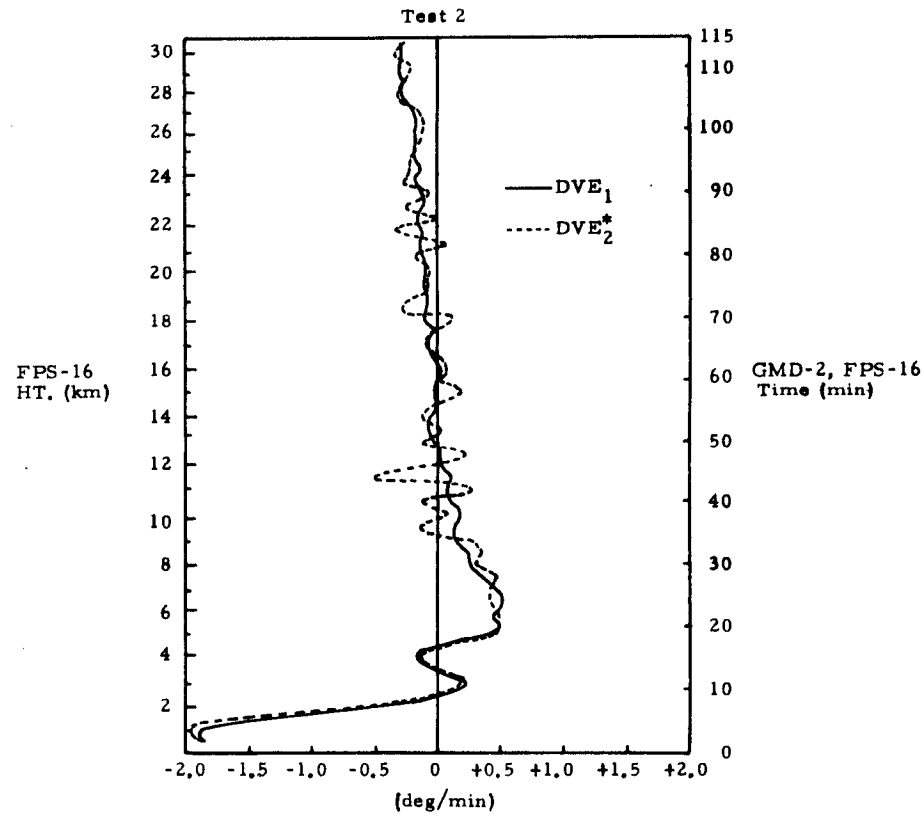

Figure 2B - Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

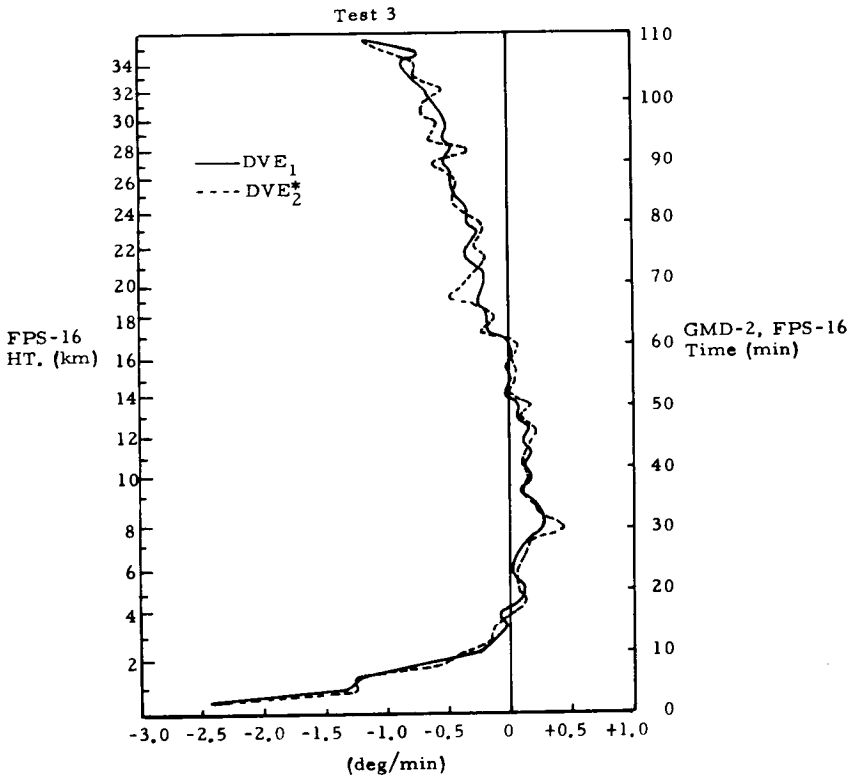

Figure 2C - Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

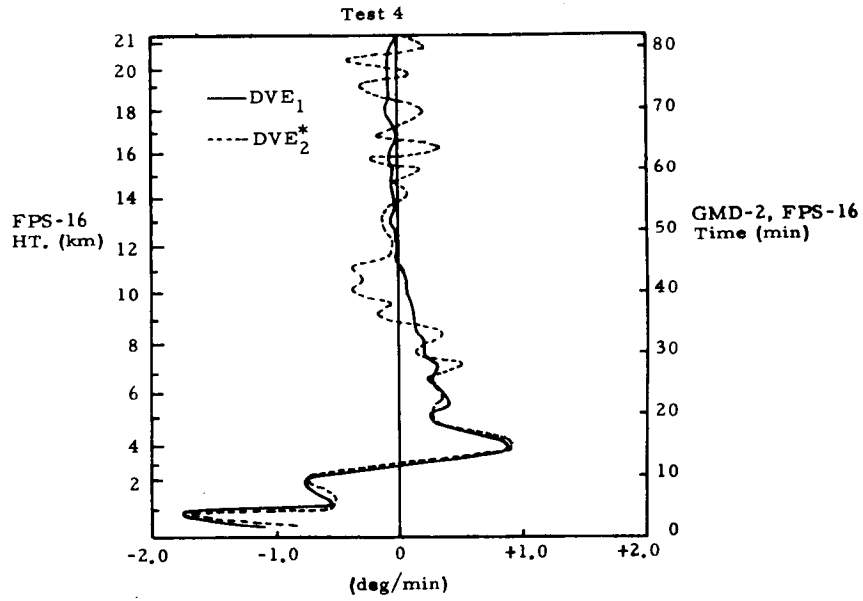

Figure 2D - Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

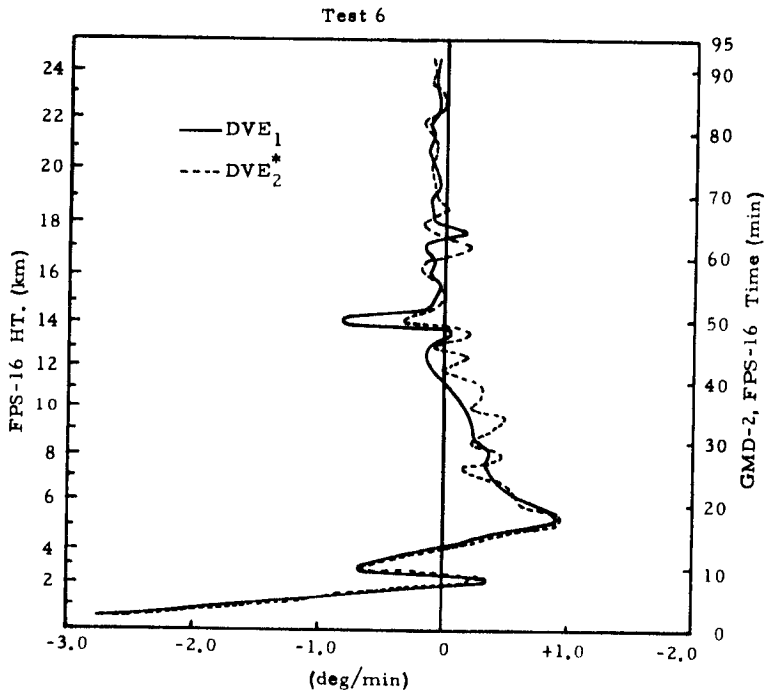

Figure 2E - Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

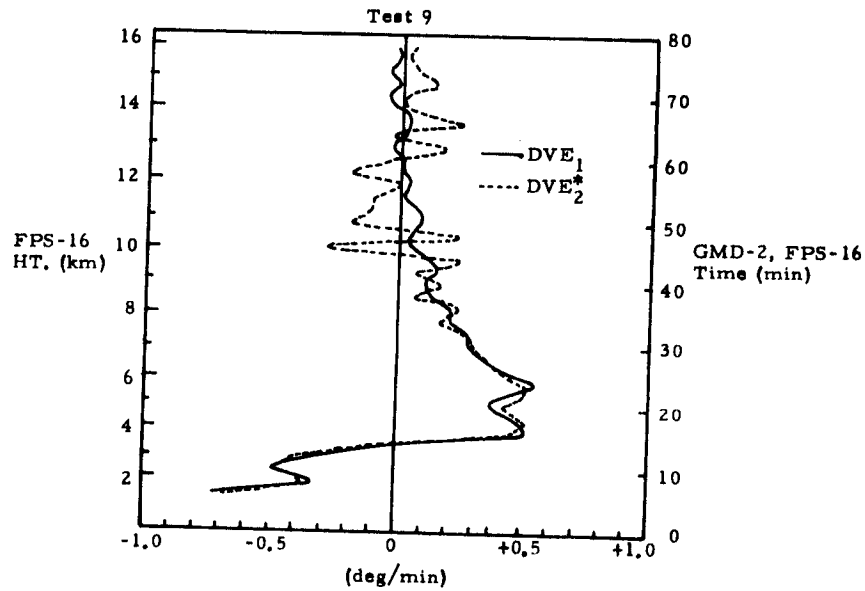

Figure 2F - Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

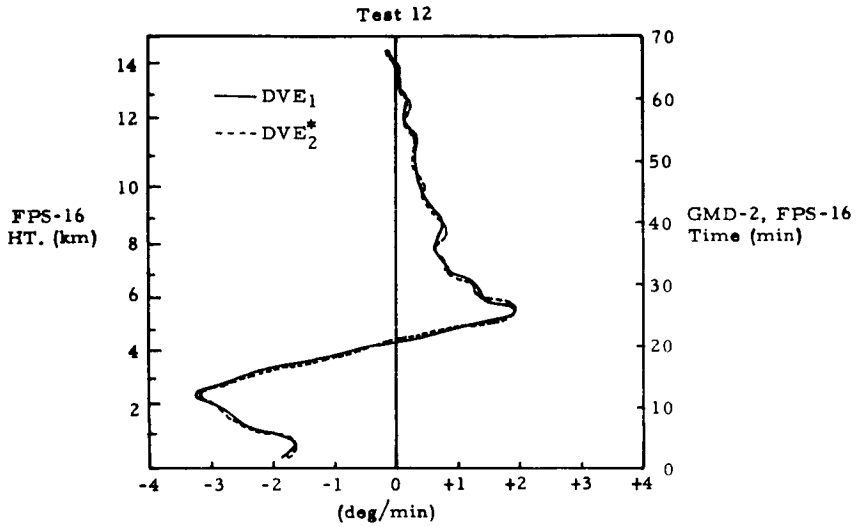

Figure 2G - Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

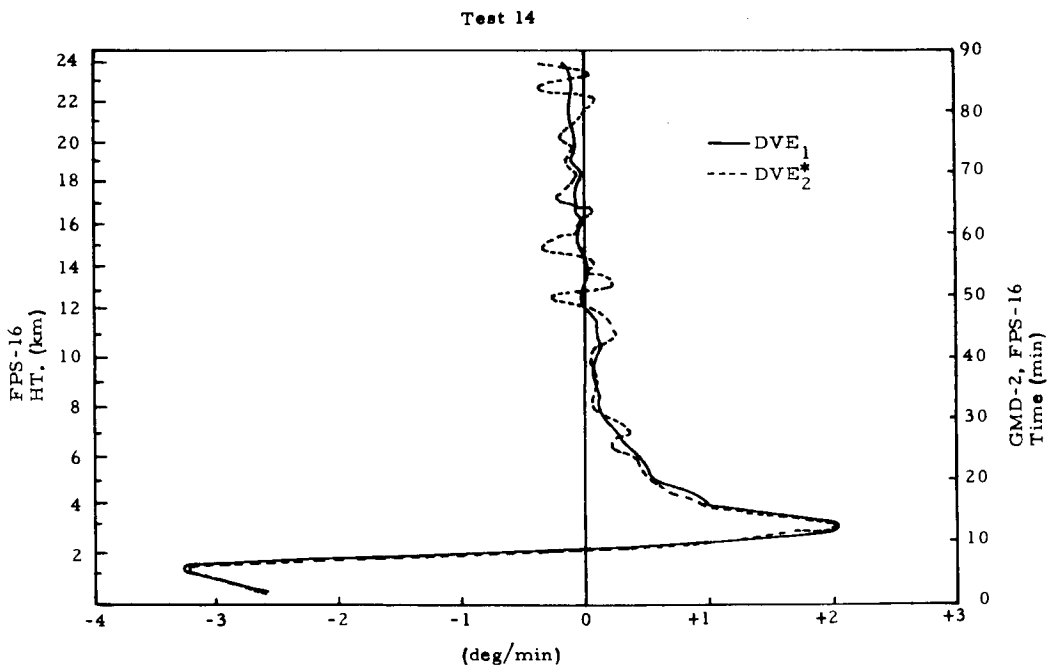

Figure 2H - Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

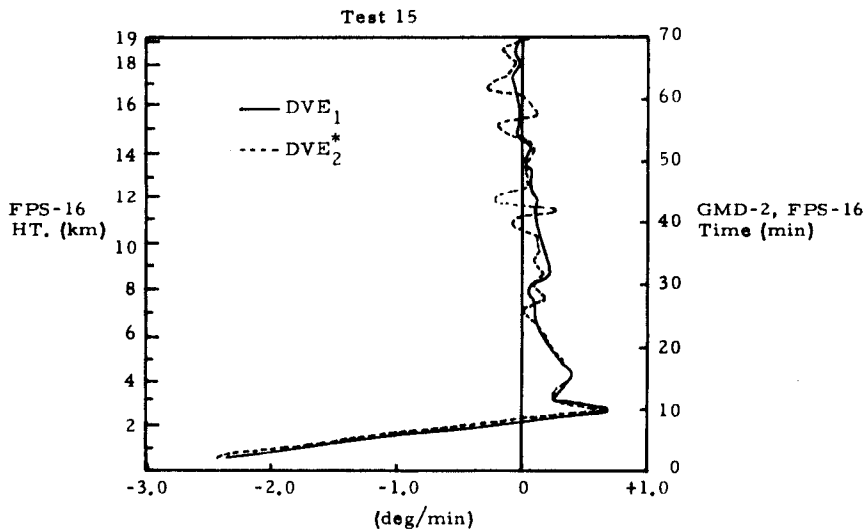

Figure 2I - Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

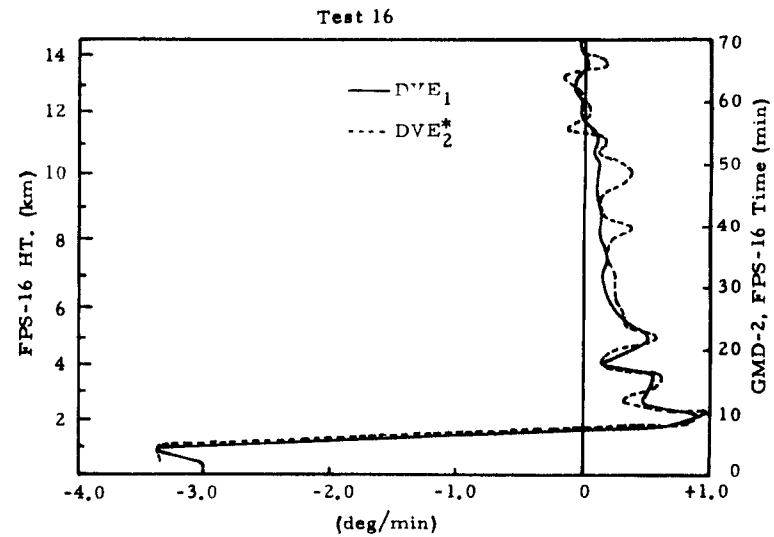

Figure 2J - Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

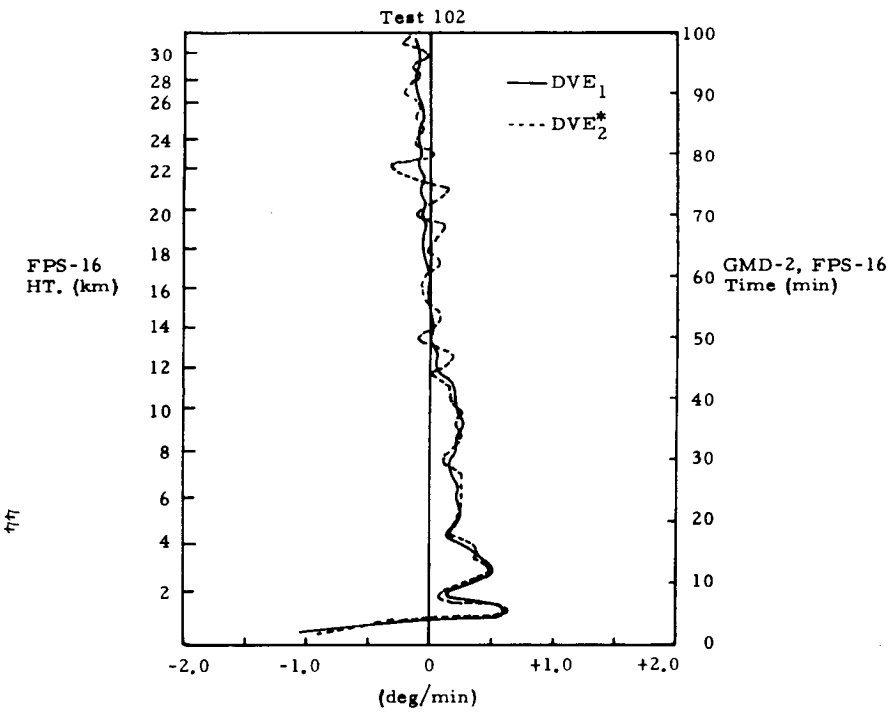

Figure 2K - Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPD-16 Time and FPS-16 Height (H_1)

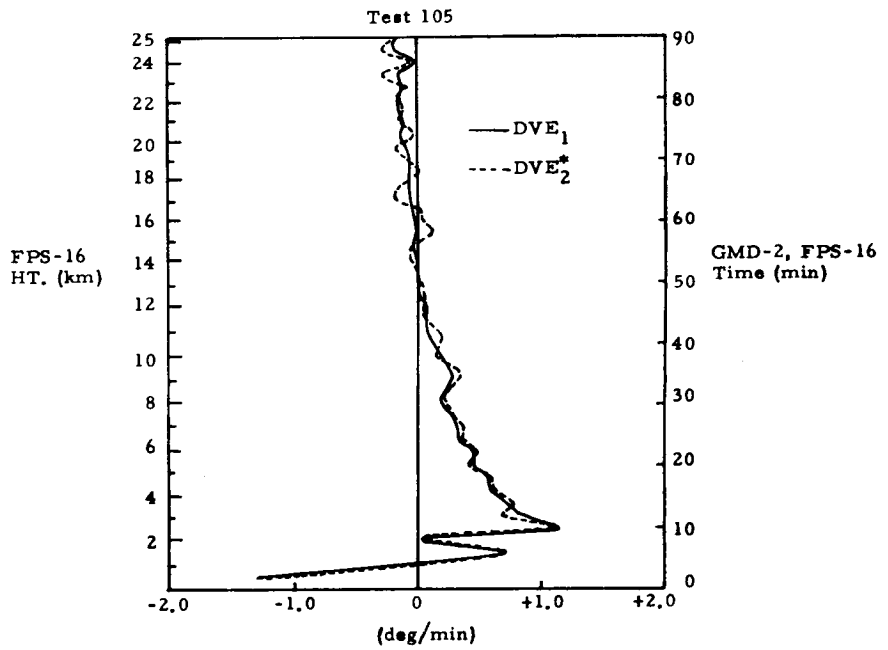

Figure 2L - Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPD-16 Time and FPS-16 Height (H_1)

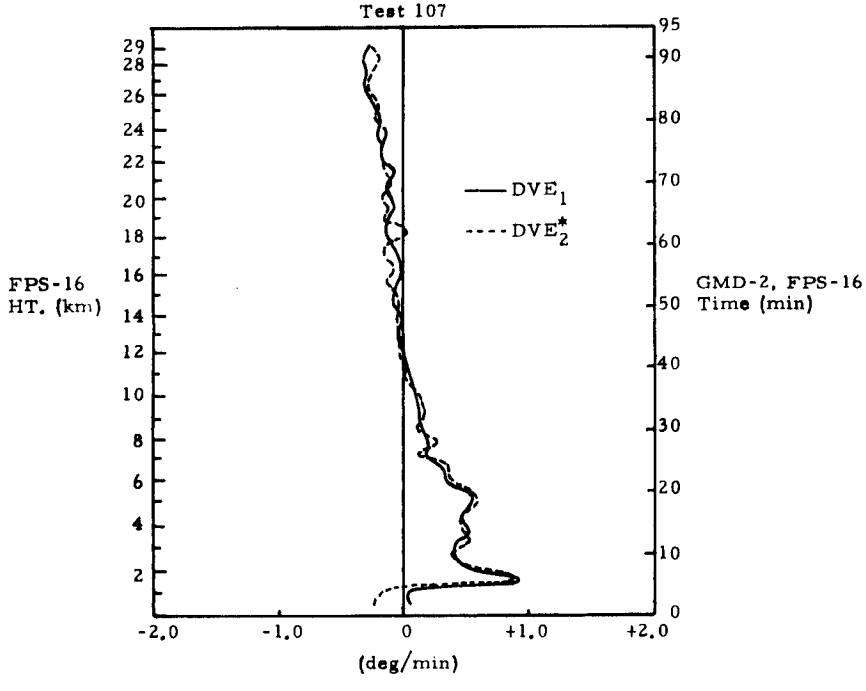

Figure 2M - Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPD-16 Time and FPS-16 Height (H_1)

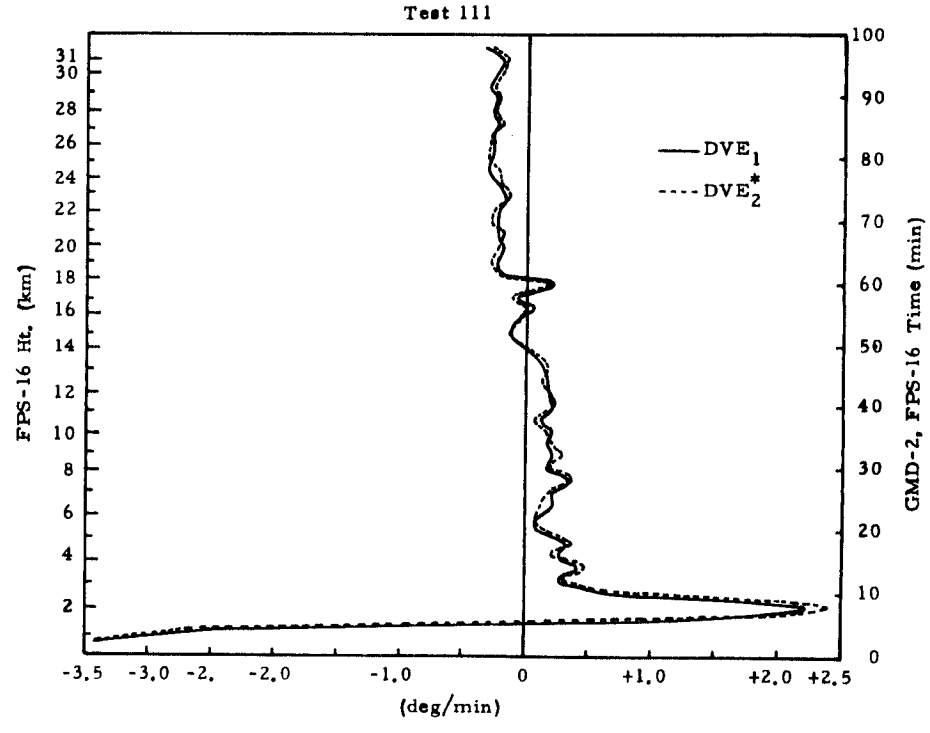

Figure 2N - Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPD-16 Time and FPS-16 Height (H_1)

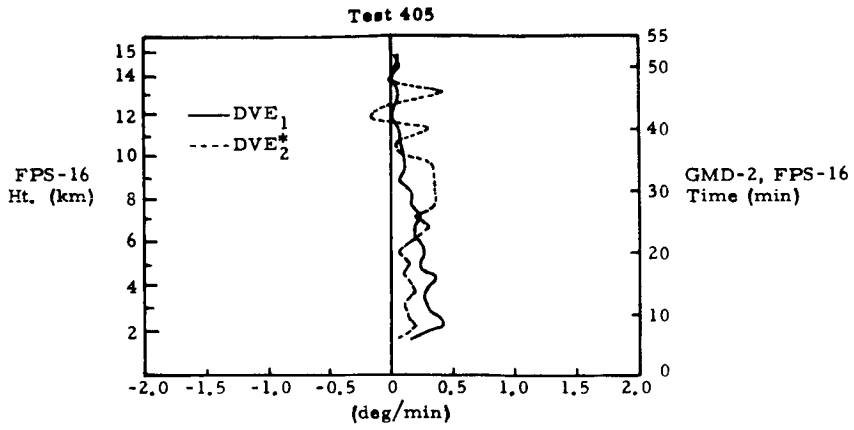

Figure 2O - Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPD-16 Time and FPS-16 Height (H_1)

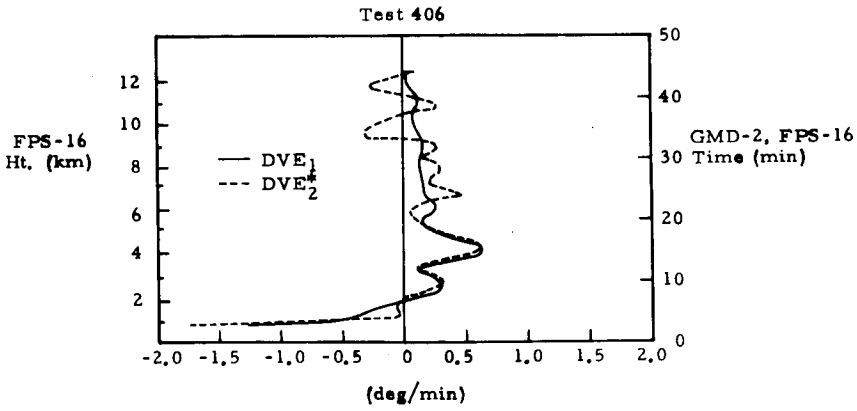

Figure 2P - Comparison of the Derivatives of FPS-16 Elevation Angle (DVE_1) and Transformed GMD-2 Elevation Angle (DVE_2^*) vs Synchronized GMD-2, FPD-16 Time and FPS-16 Height (H_1)

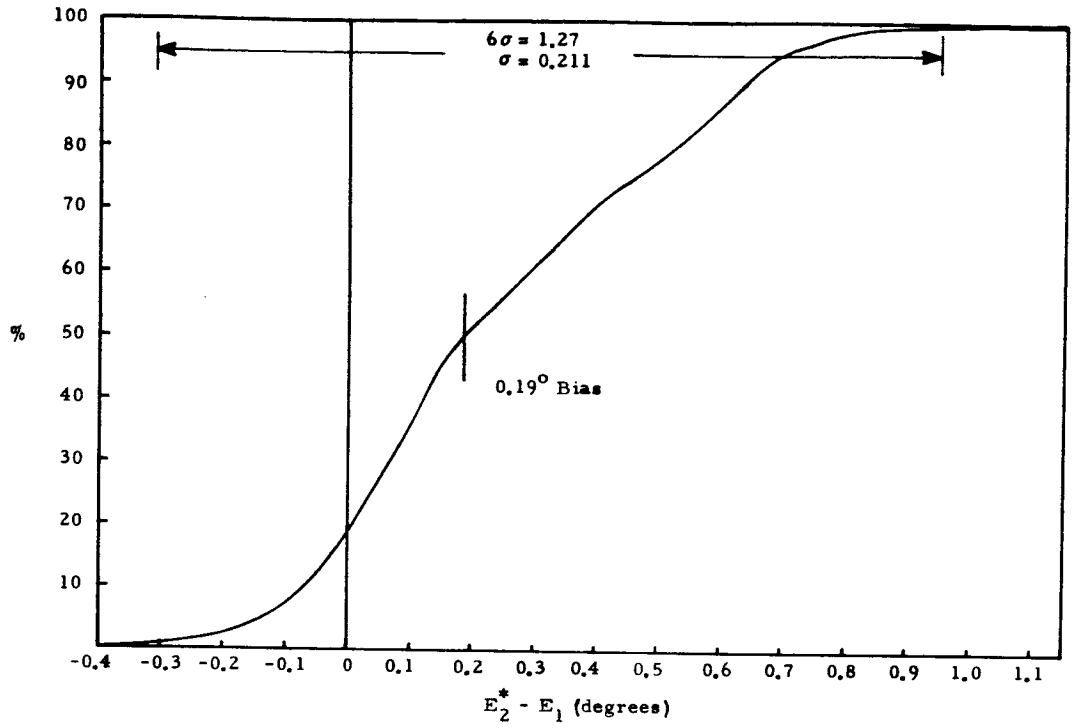

Figure 3 - Cumulative Frequency Distribution of the Difference between Transformed GMD-2 Elevation Angle (E_2^*) and FPS-16 Elevation Angle (E_1) for all 16 Tests

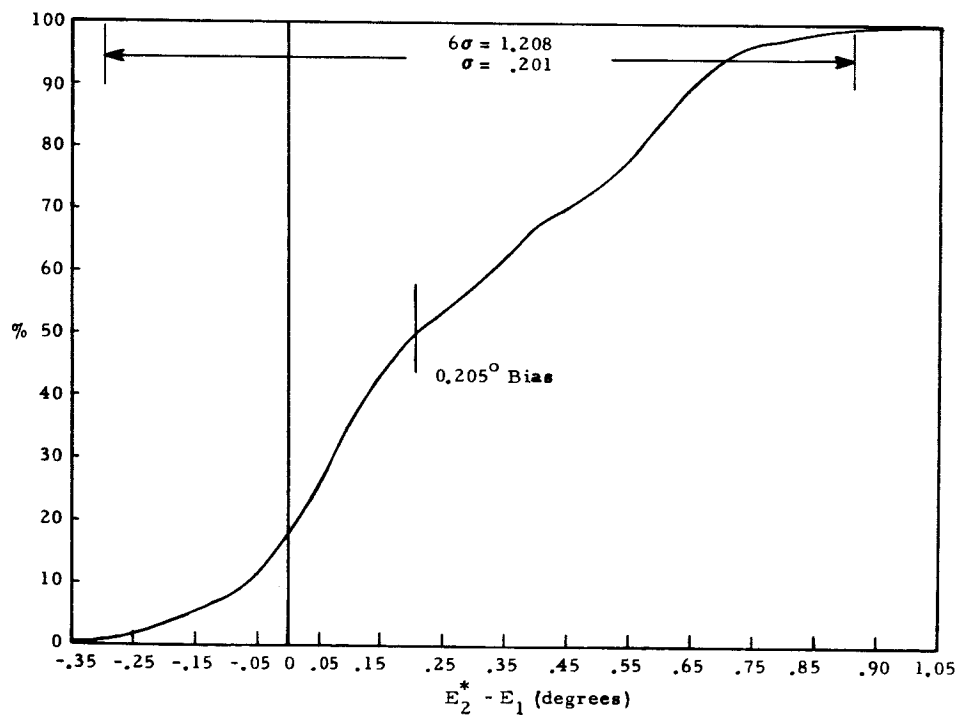

Figure 4 - Cumulative Frequency Distribution of the Difference between Transformed GMD-2 Elevation Angle (E_2^*) and FPS-16 Elevation Angle (E_1) for all Point Mugu Tests

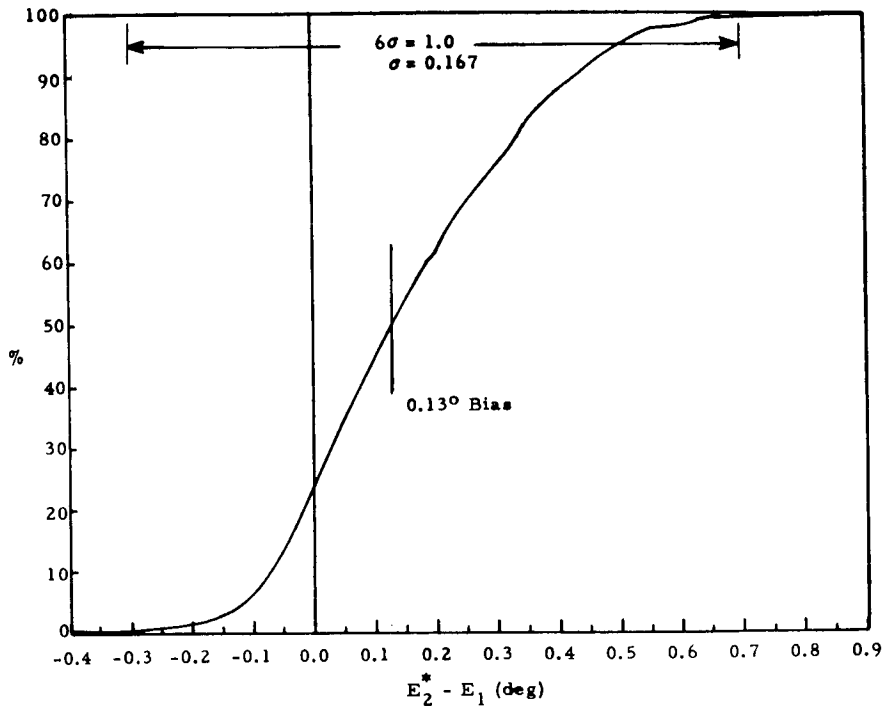

Figure 5 - Cumulative Frequency Distribution of the Difference Between Transformed GMD-2 Elevation Angle (E_2^*) and FPS-16 Elevation Angle (E_1) for all Wallops Island Tests

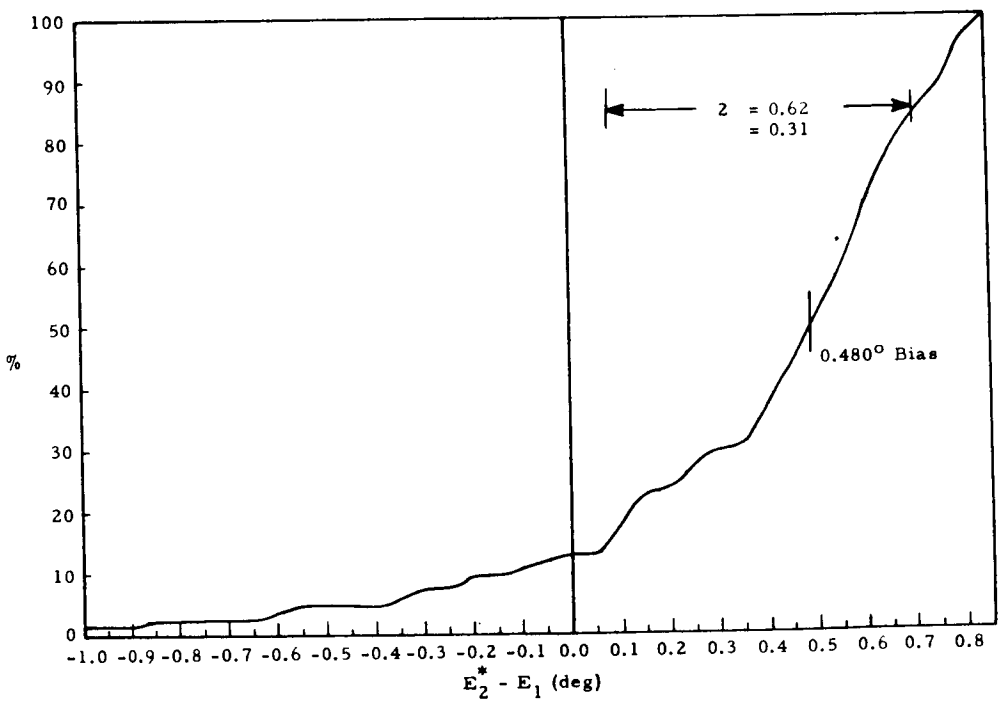

Figure 6 - Cumulative Frequency Distribution of the Difference Between Transformed GMD-2 Elevation angle (E_2^*) and FPS-16 Elevation Angle (E_1) for all Eglin Tests

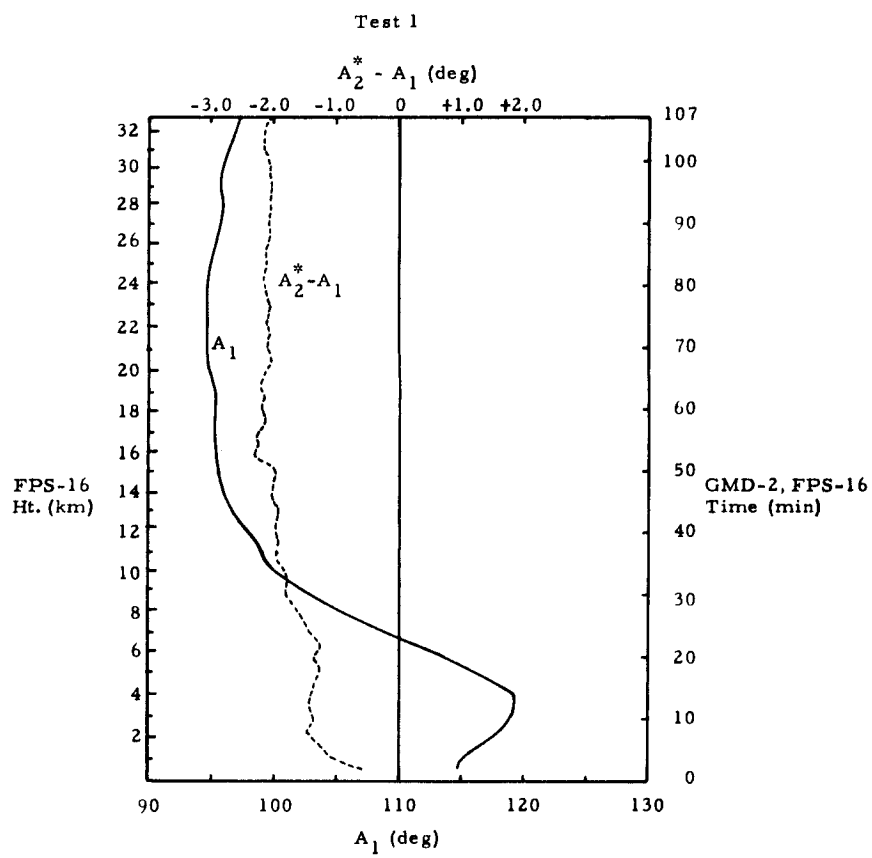

Figure 7A - Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

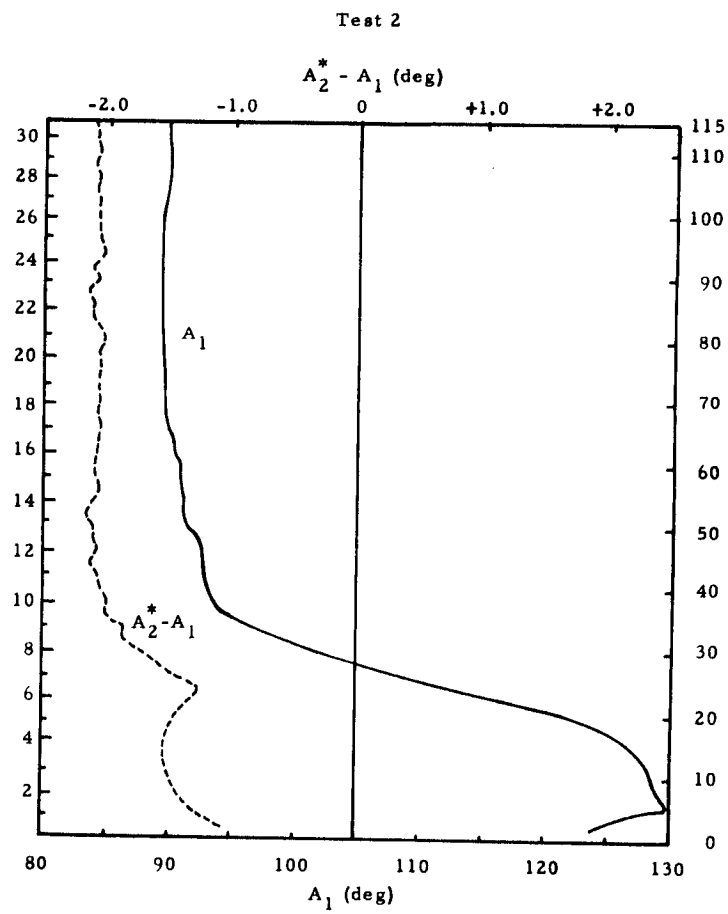

Figure 7B - Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

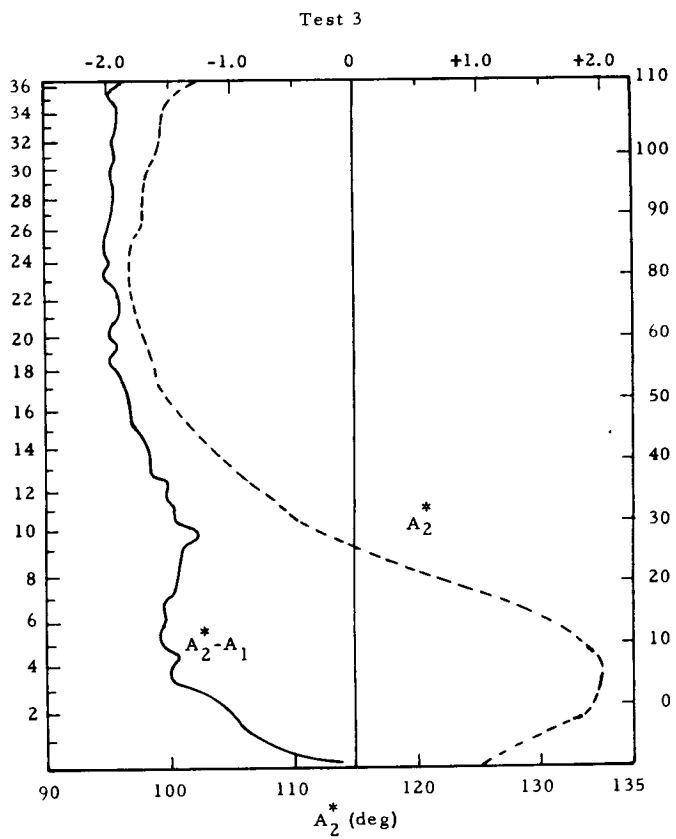

Figure 7C - Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

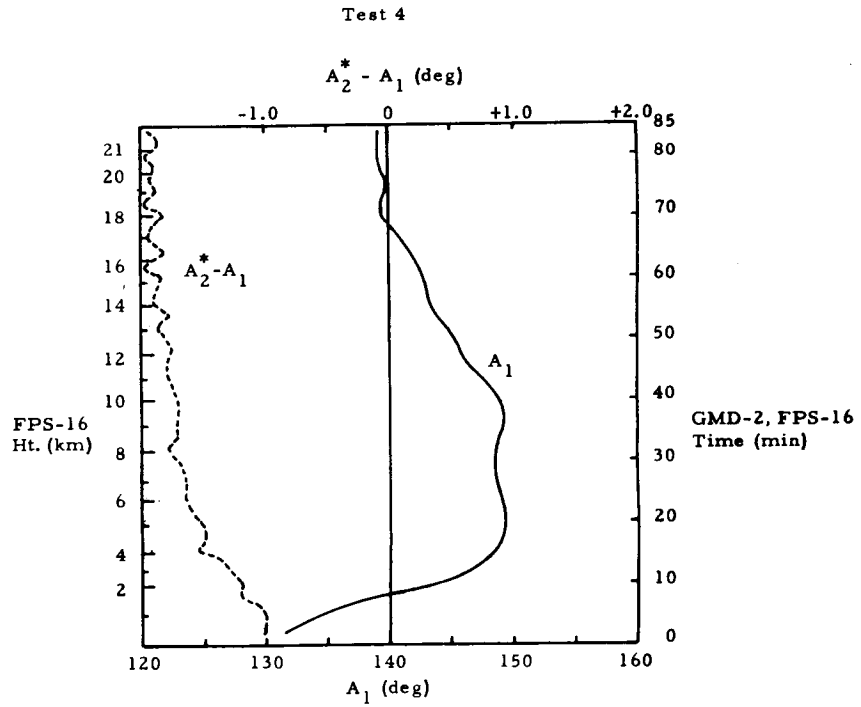

Figure 7D - Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

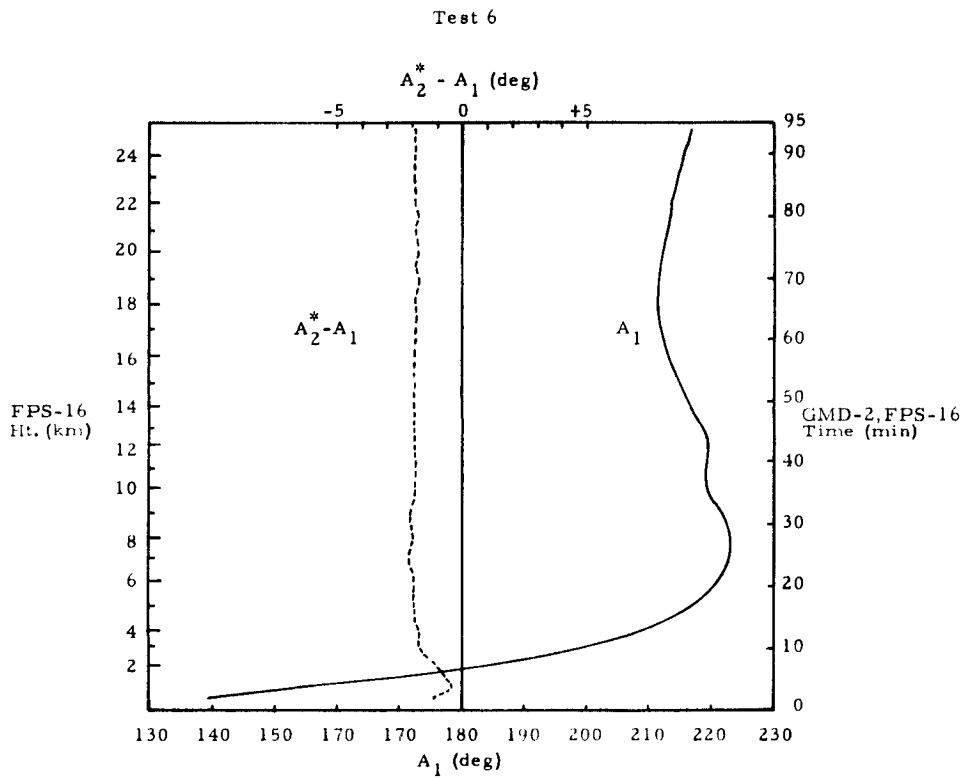

Figure 7E - Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

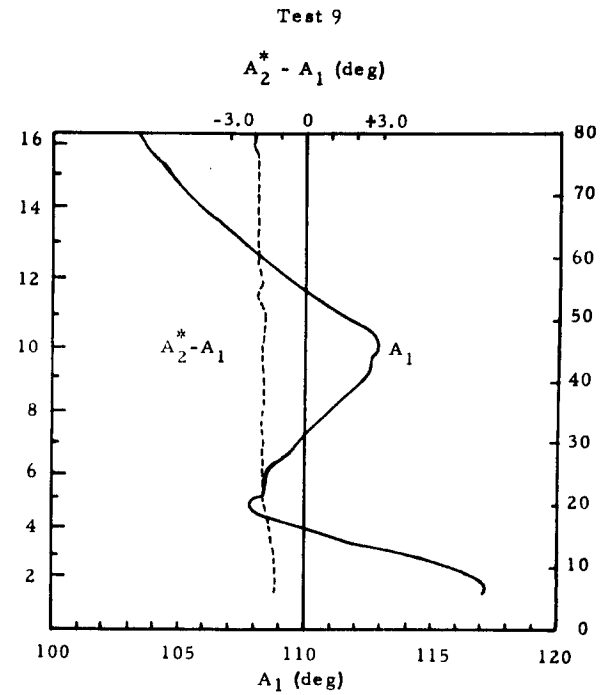

Figure 7F - Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

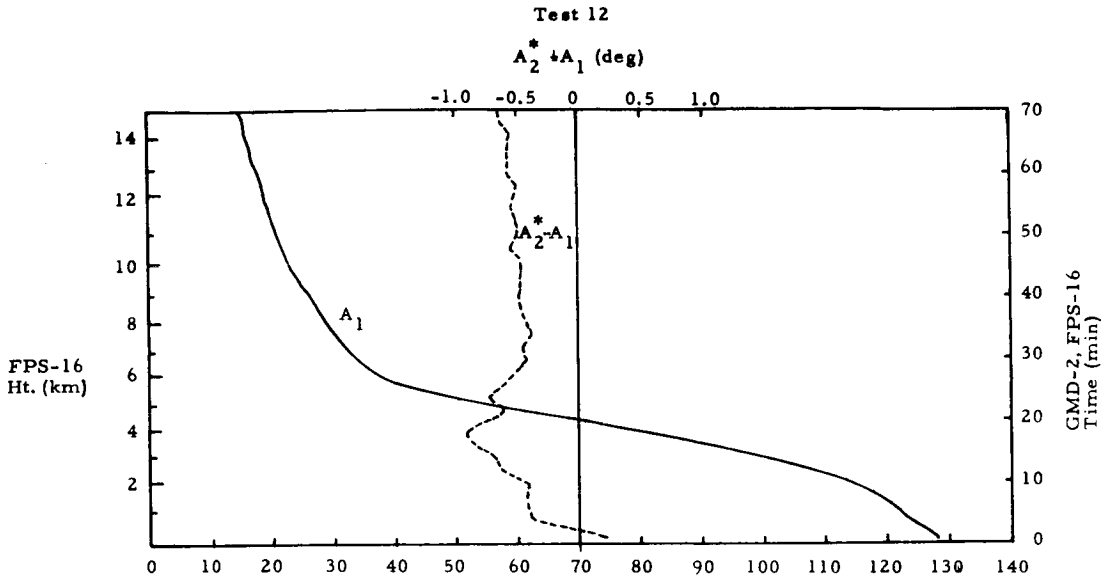

Figure 7G - Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

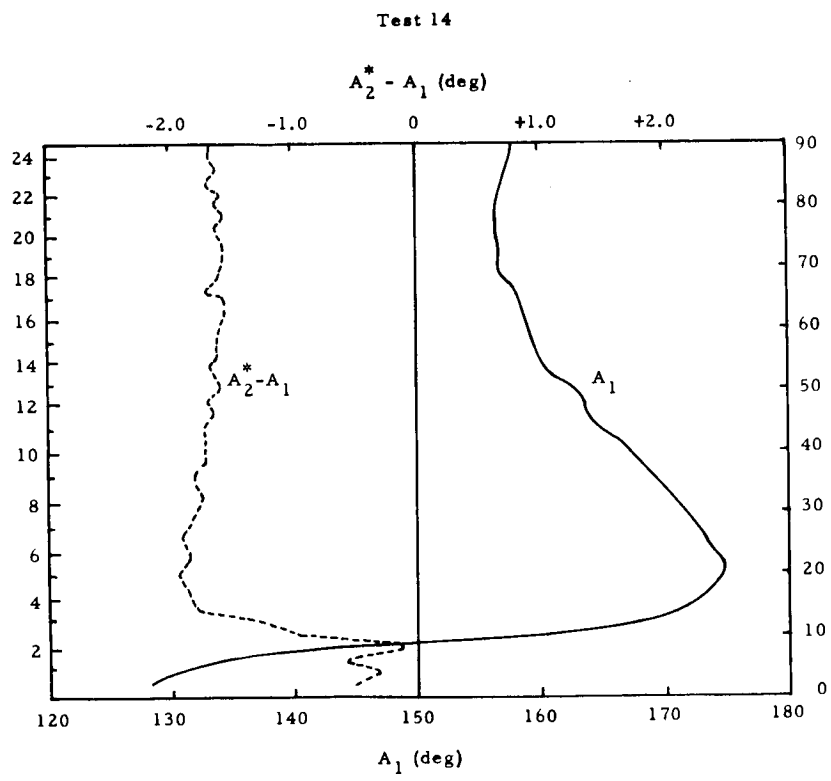

Figure 7H - Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

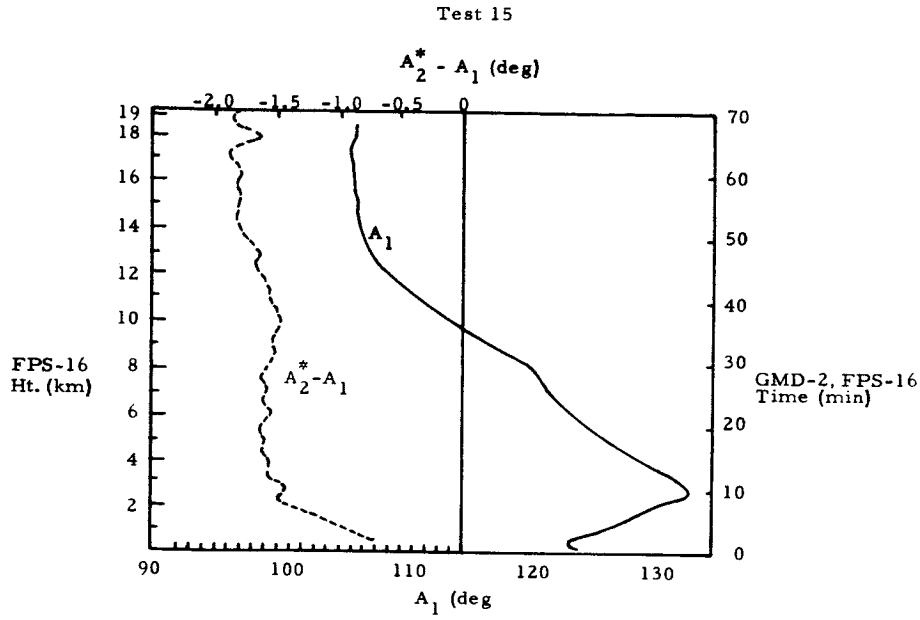

Figure 7I - Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

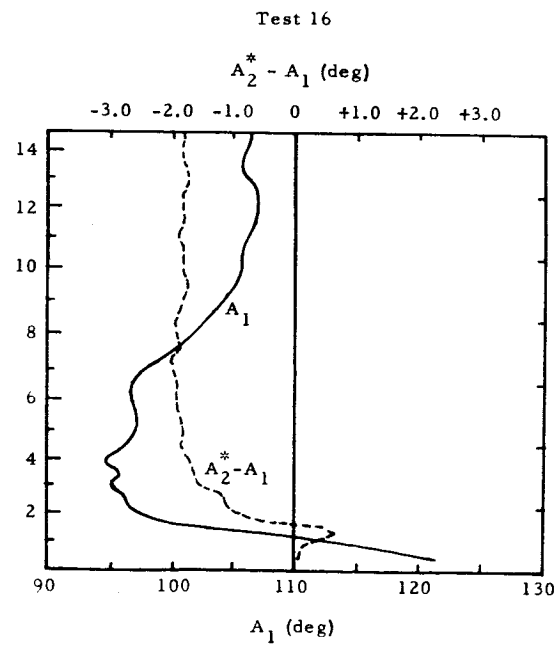

Figure 7J - Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

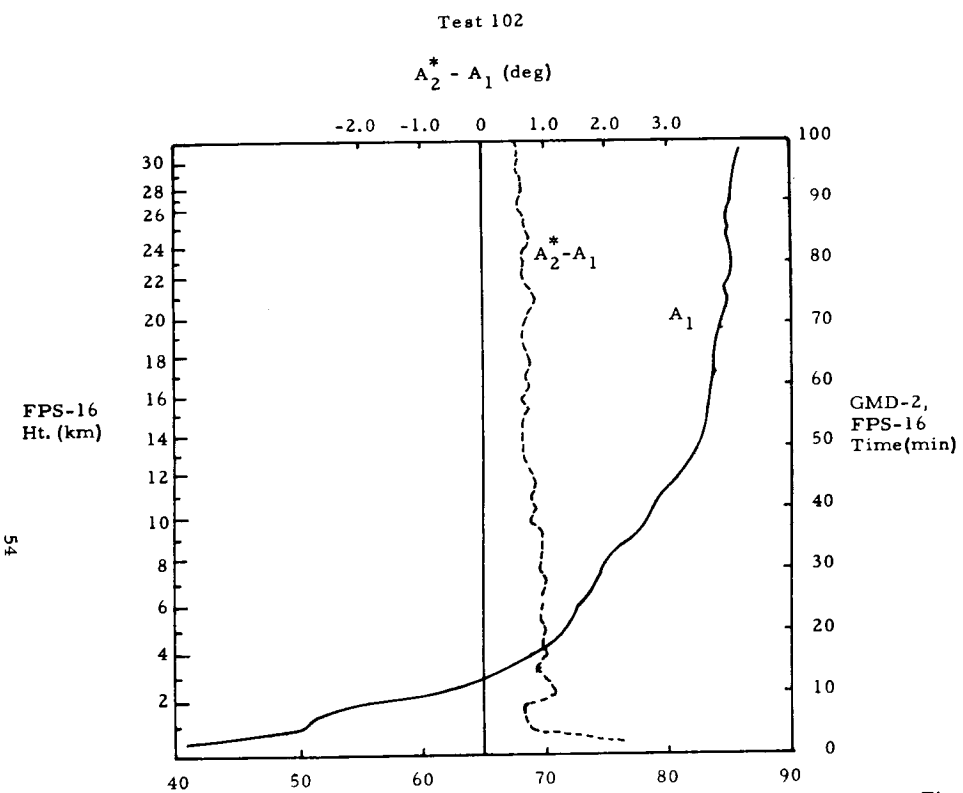

Figure 7K - Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

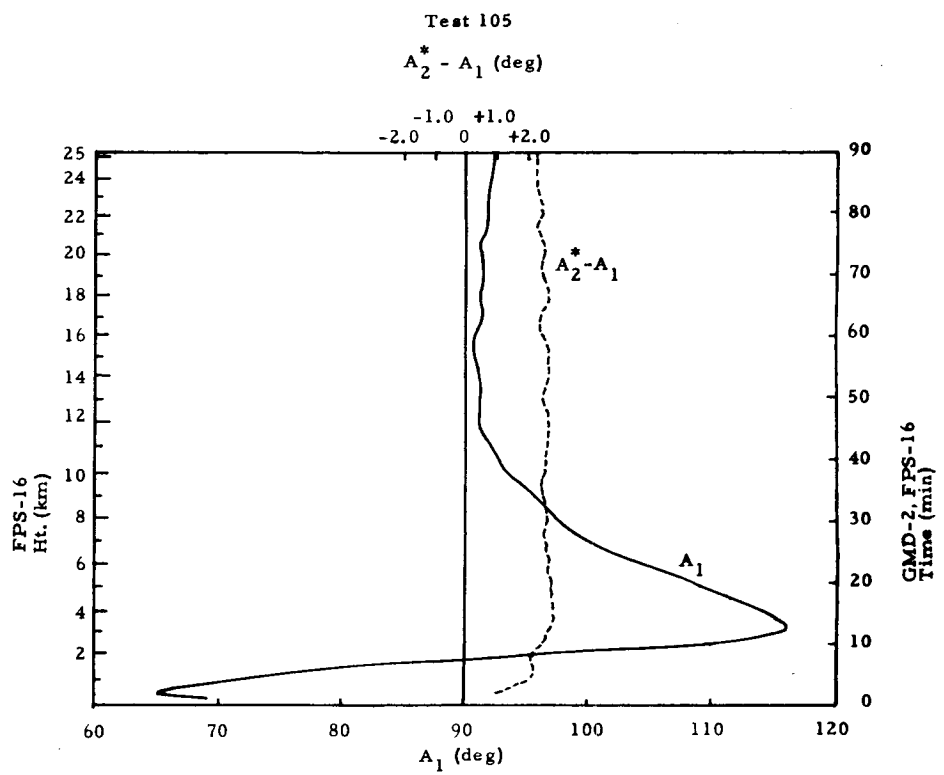

Figure 7L - Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

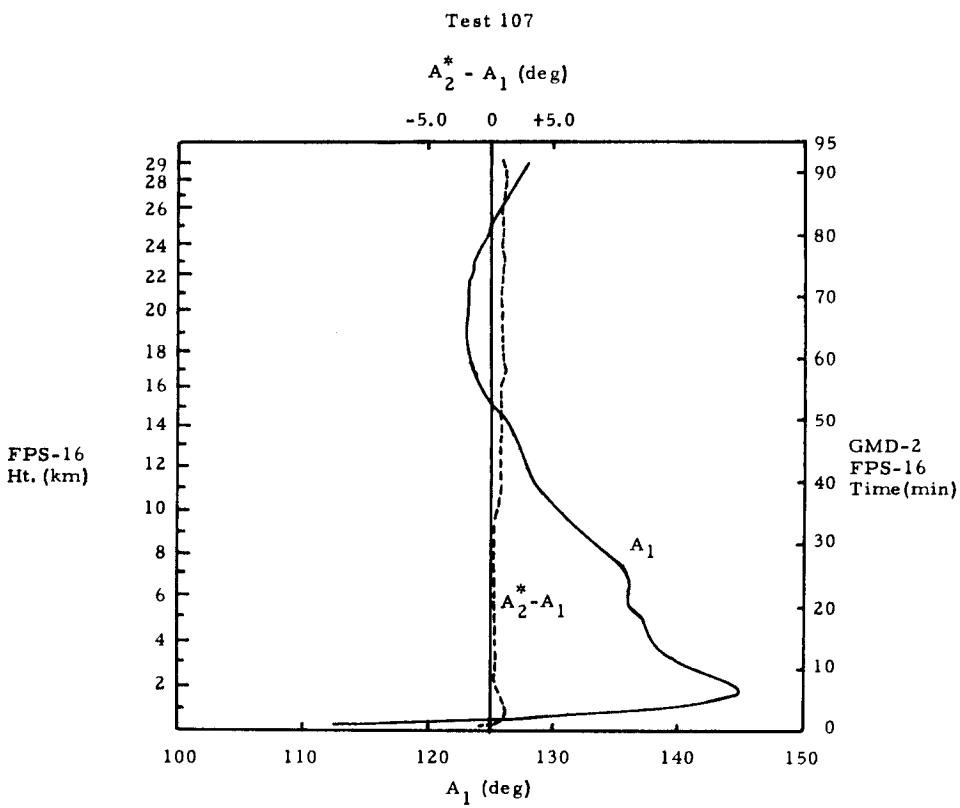

Figure 7M - Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

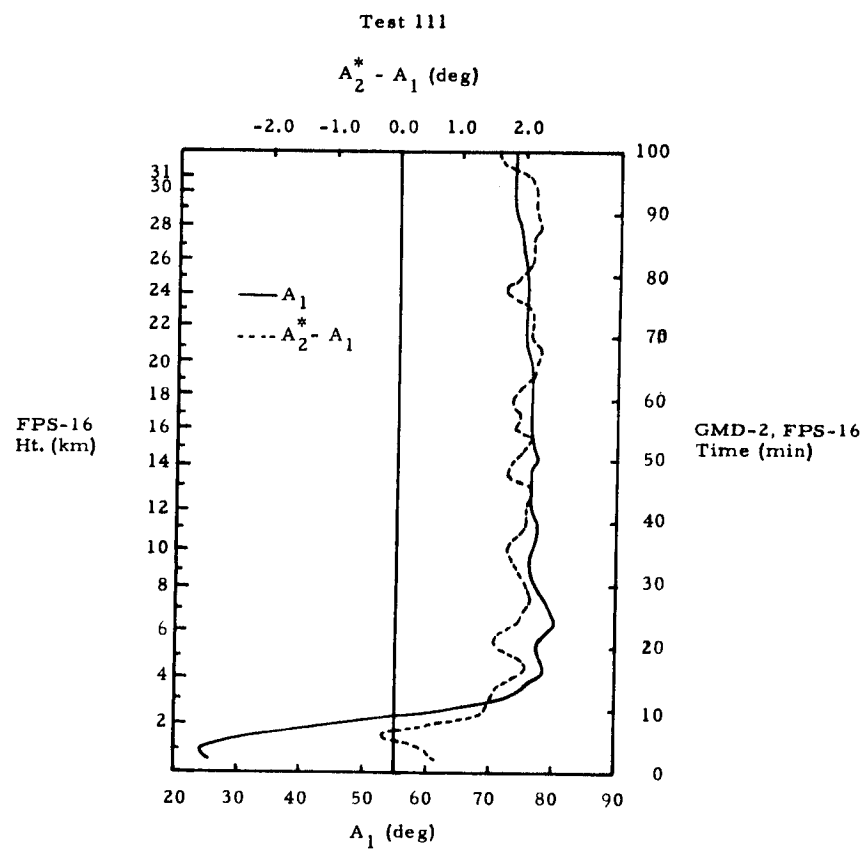

Figure 7N - Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

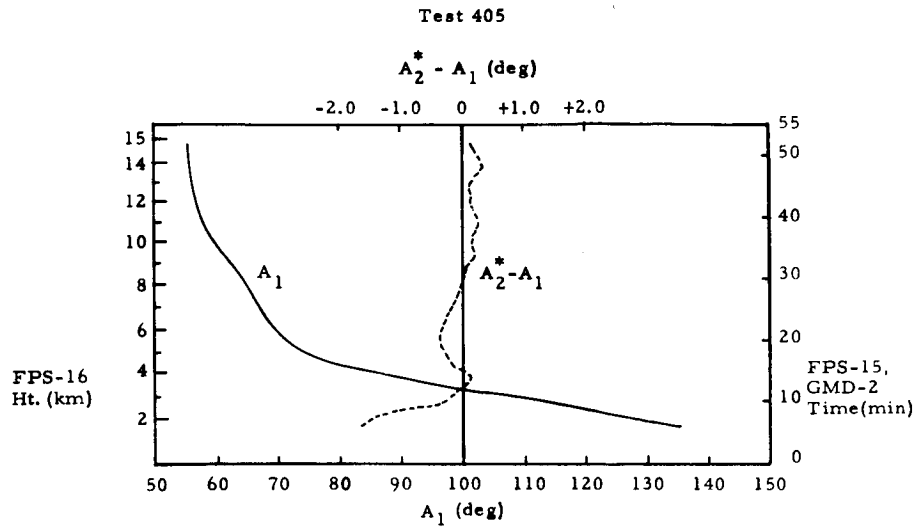

Figure 7O - Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

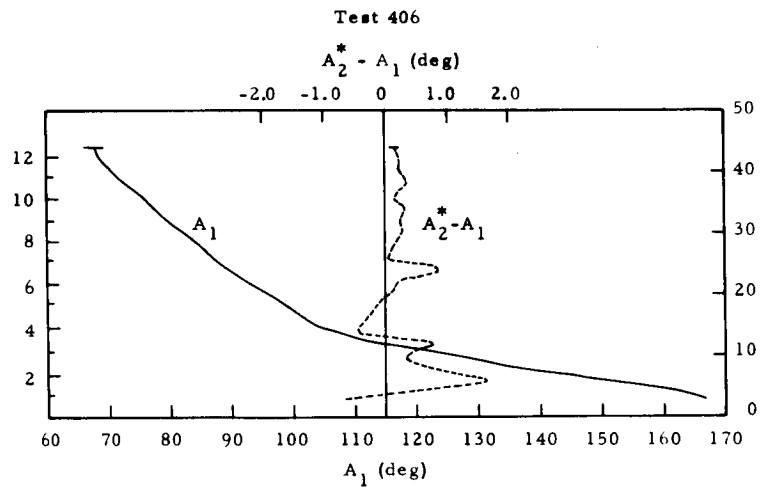

Figure 7P - Transformed GMD-2 Azimuth Angle (A_2^*) and Differences Between A_2^* and FPS-16 Azimuth Angle (A_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

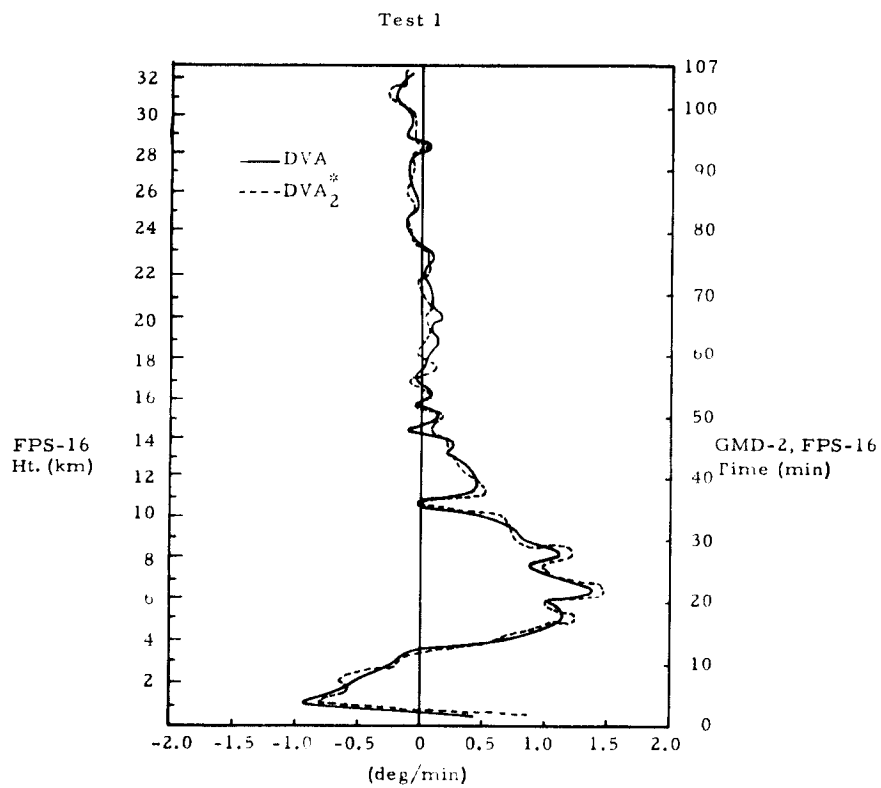

Figure 8A - Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (DVA_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

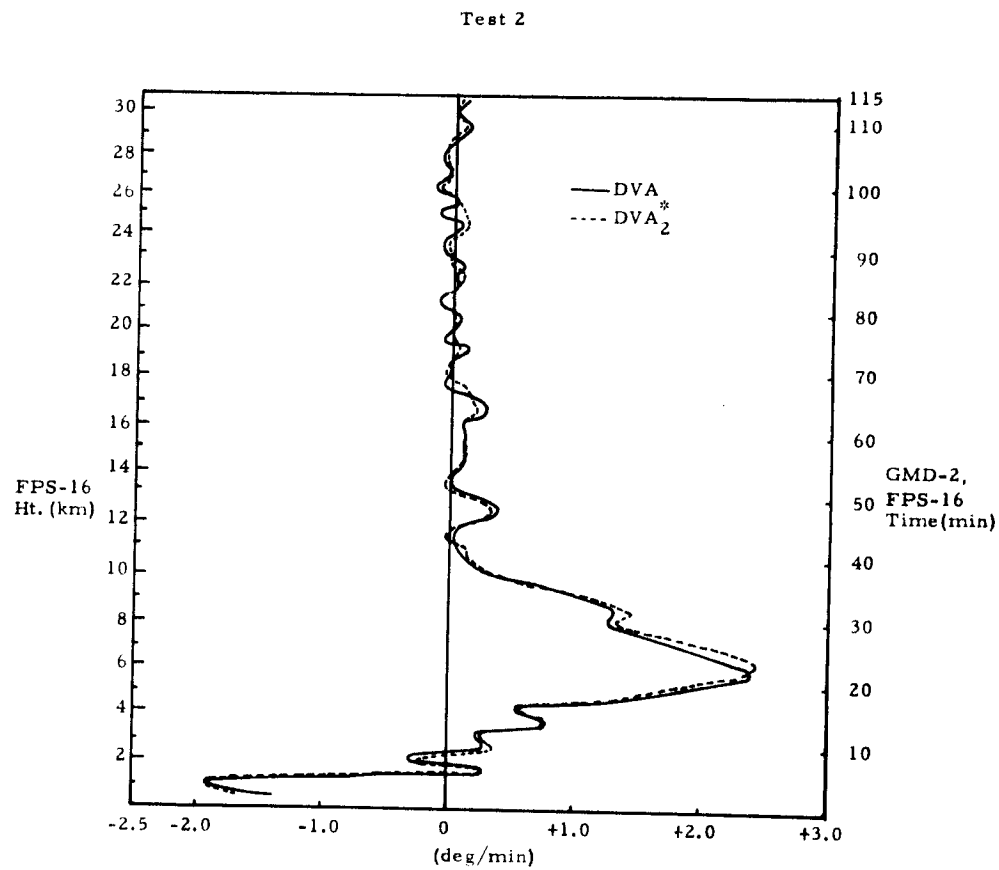

Figure 8B - Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (DVA_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

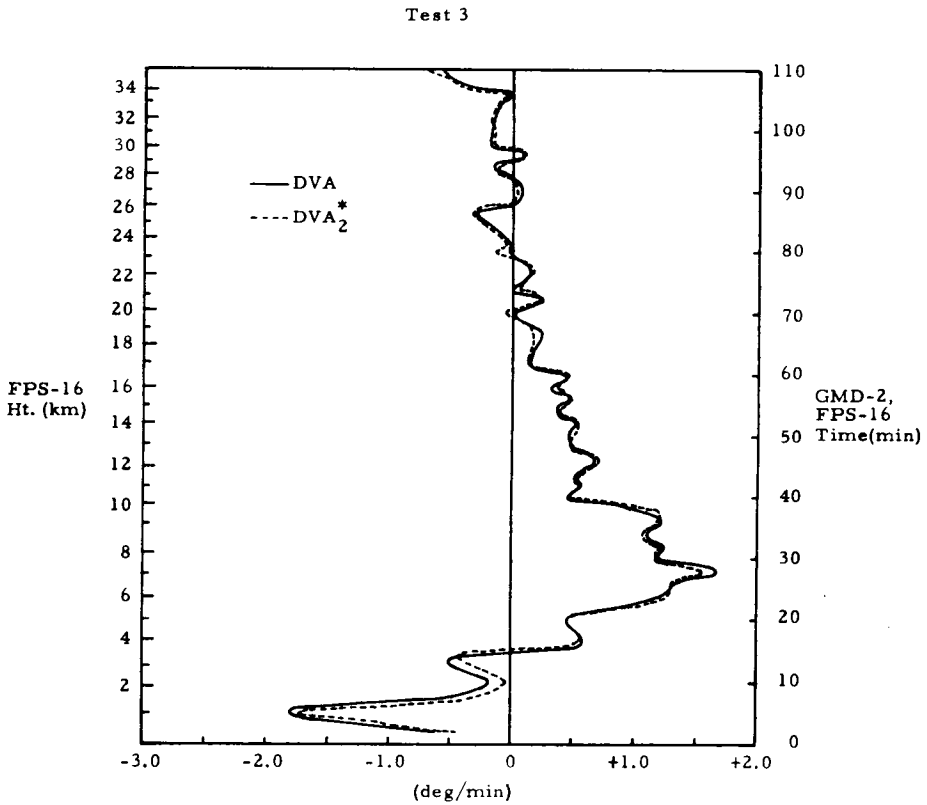

Figure 8C - Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (DVA_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

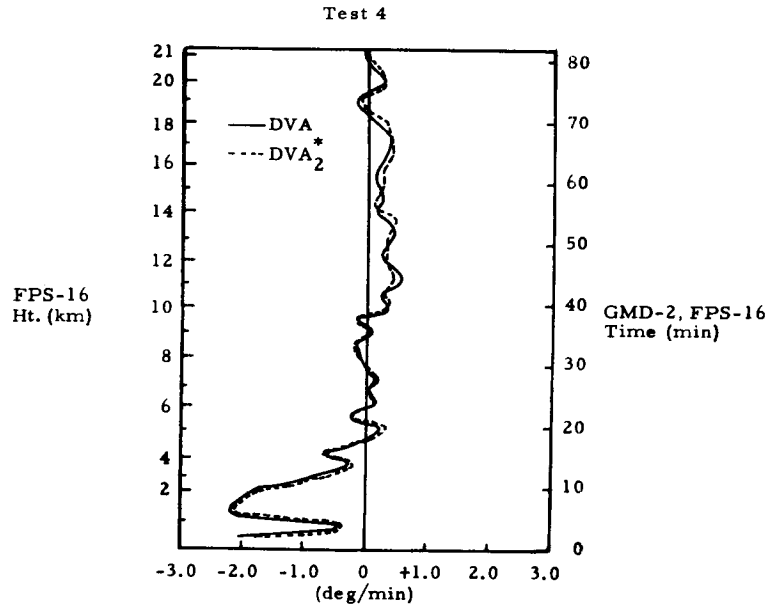

Figure 8D - Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (DVA_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 6

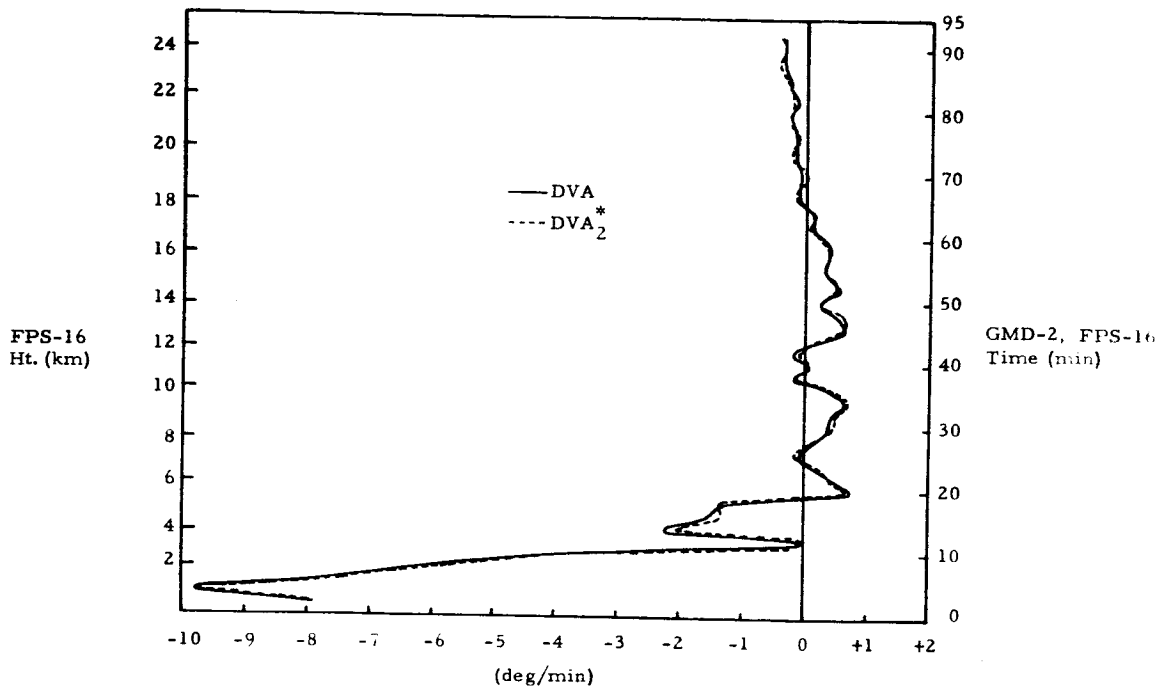

Figure 8E - Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (DVA_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 9

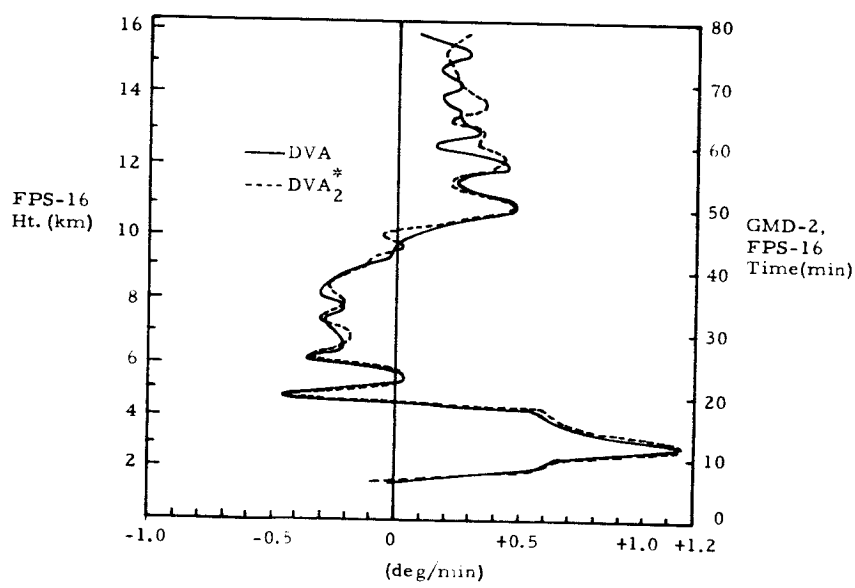

Figure 8F - Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (DVA_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

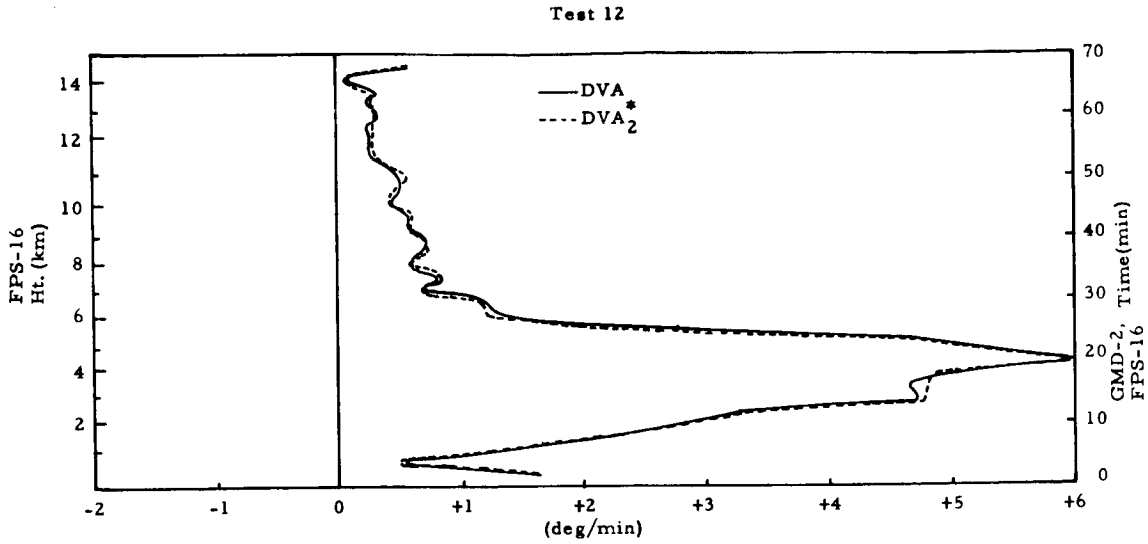

Figure 8G - Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (DVA_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

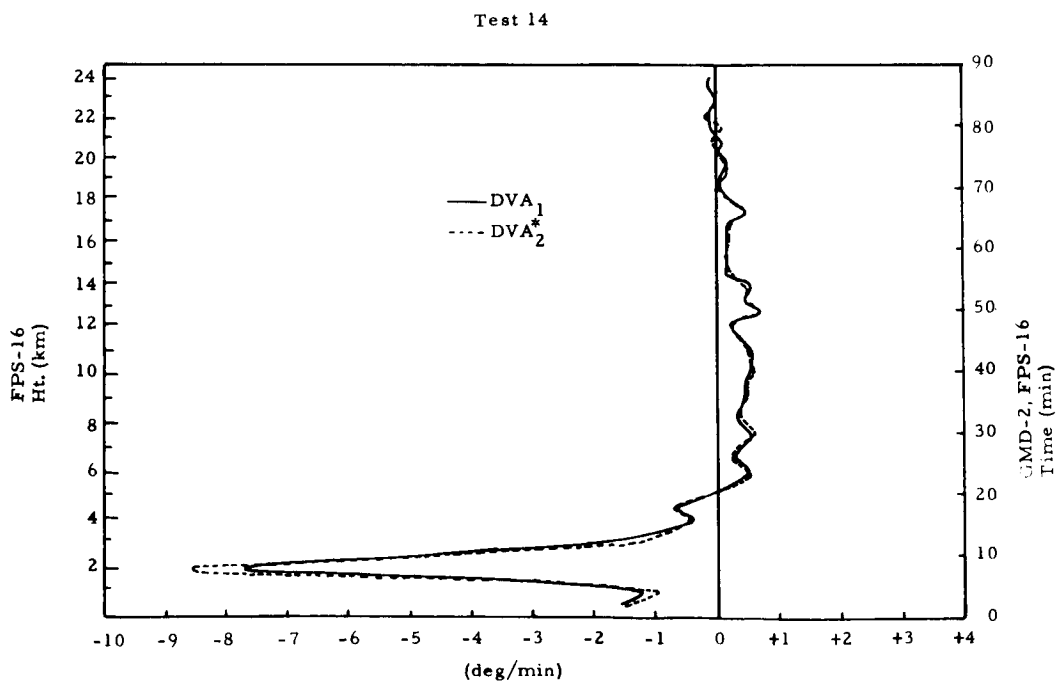

Figure 8H - Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (DVA_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

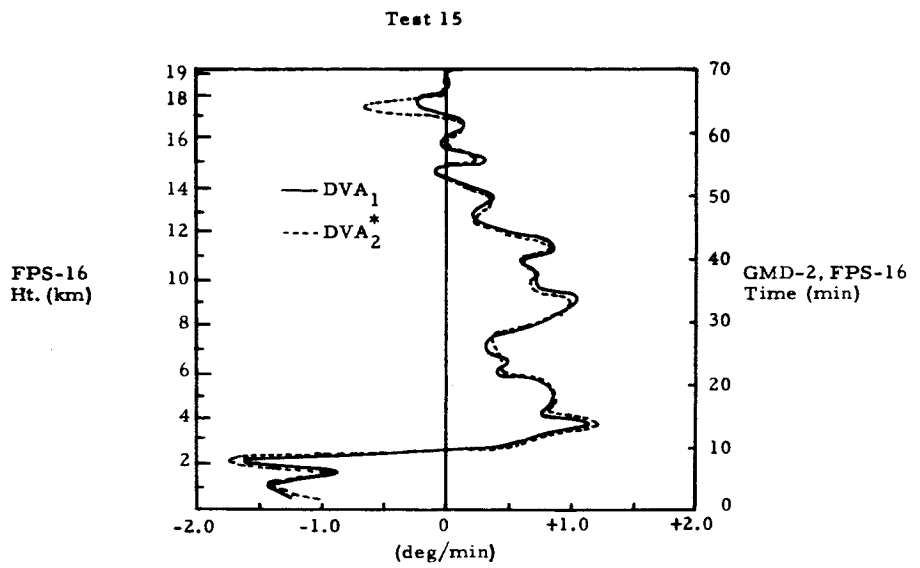

Figure 8I - Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (DVA_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

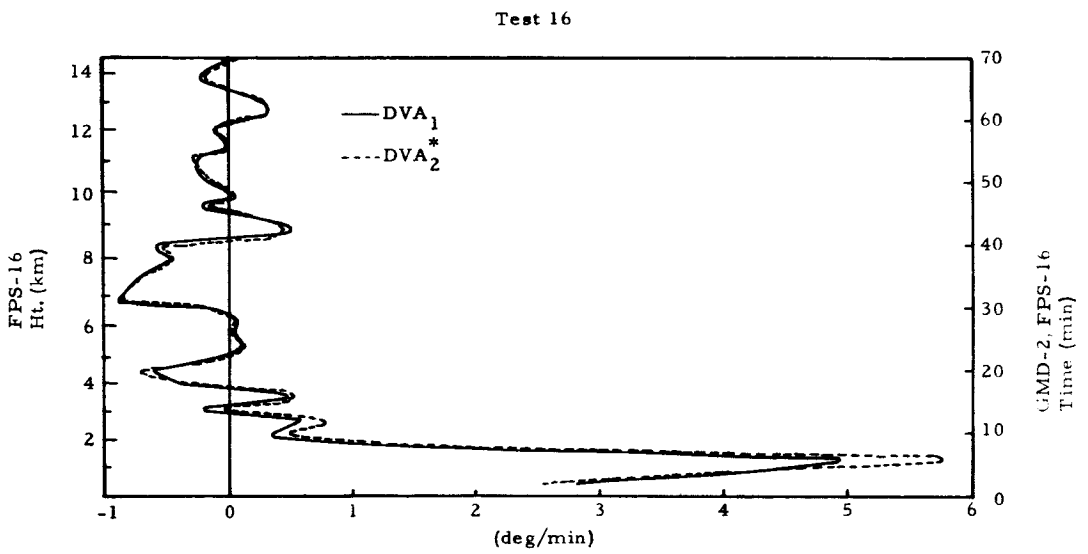

Figure 8J - Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (DVA_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

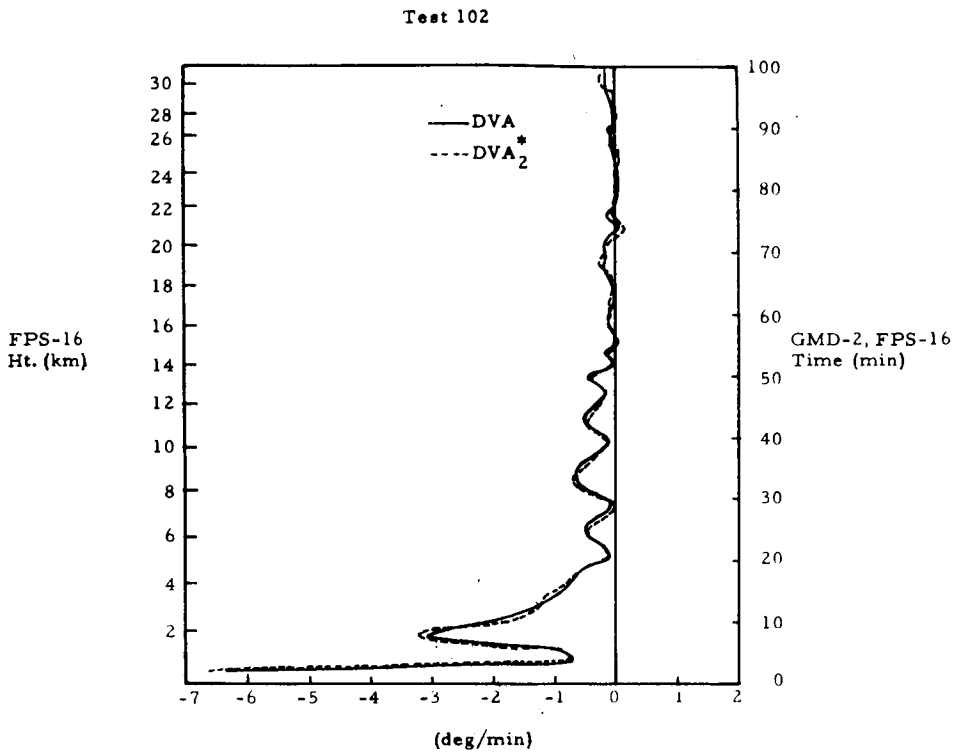

Figure 8K - Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (DVA_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

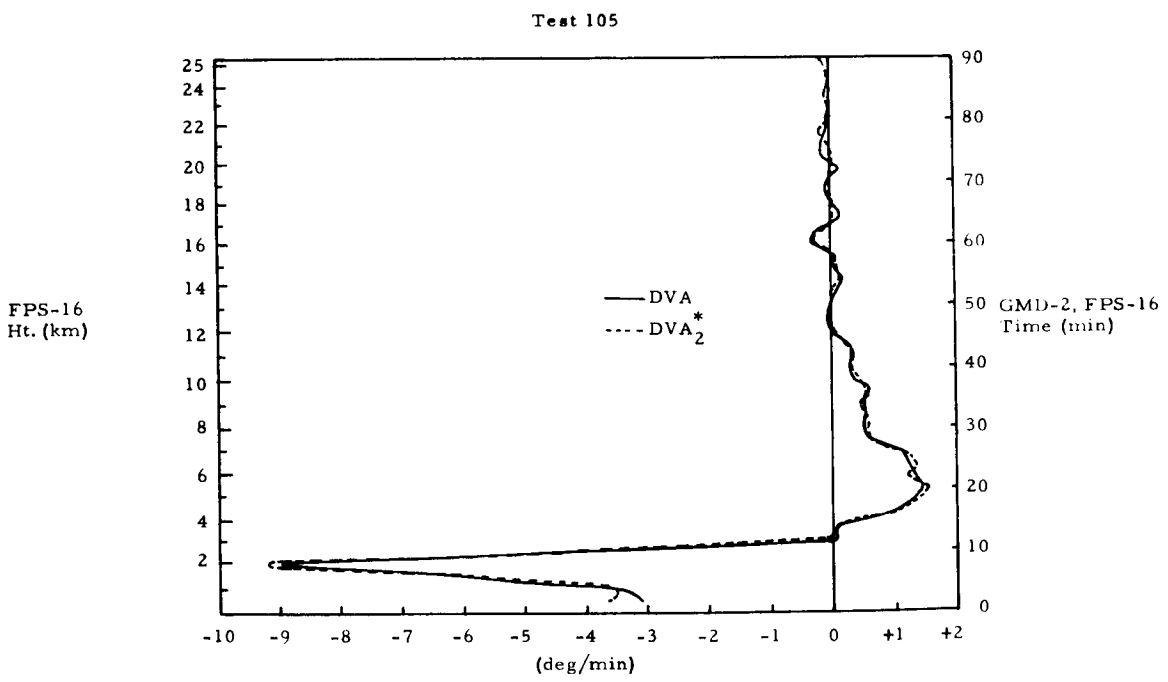

Figure 8L - Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (DVA_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 107

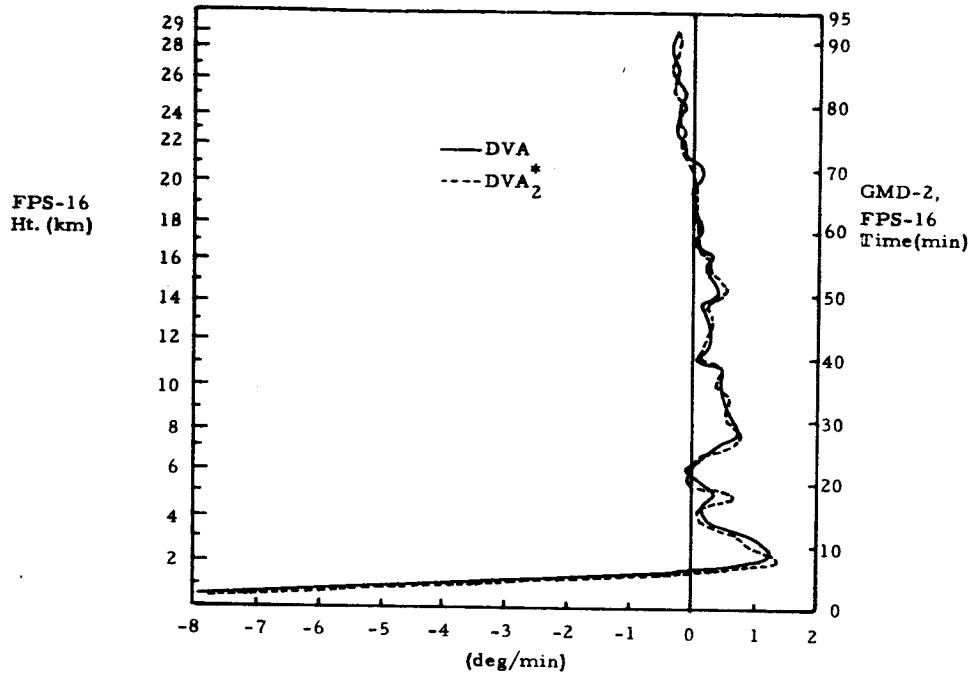

Figure 8M - Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (DVA_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 111

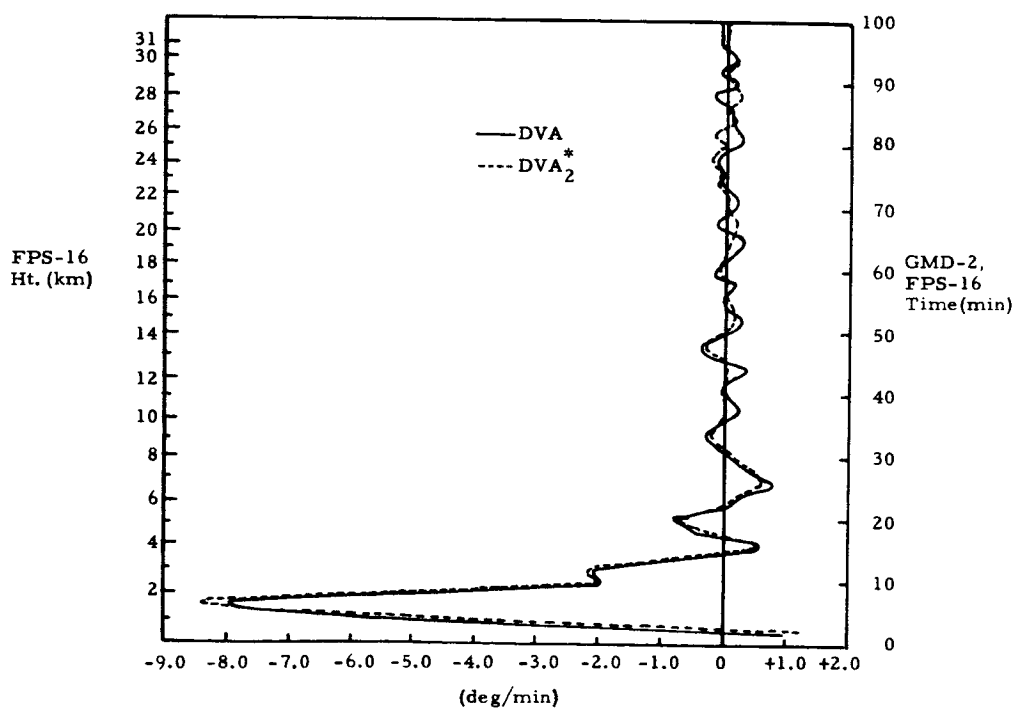

Figure 8N - Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (DVA_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

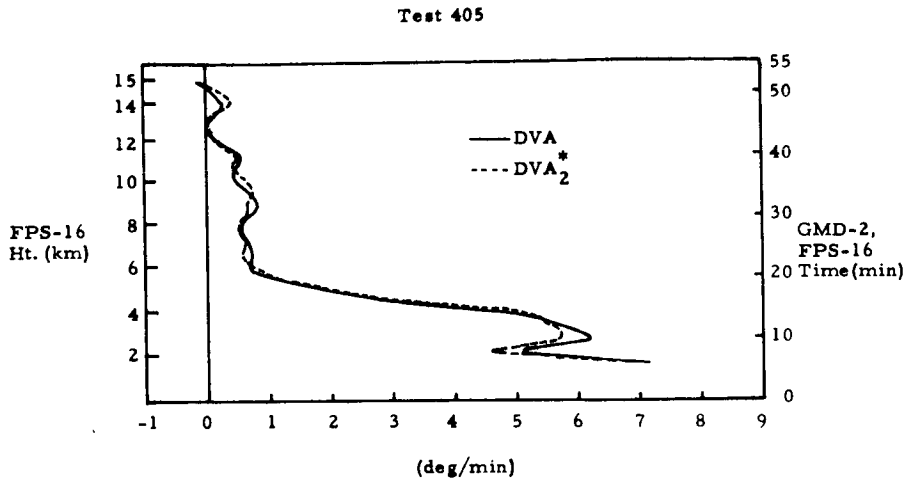

Figure 8O - Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (DVA_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

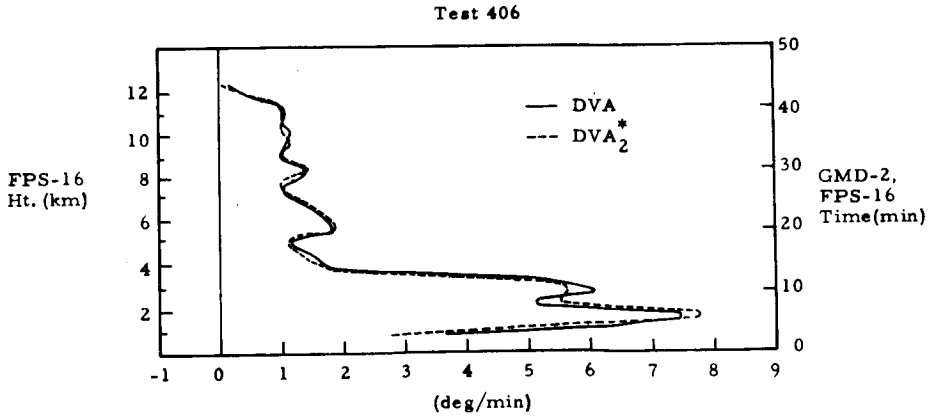

Figure 8P - Comparison of the Derivatives of FPS-16 Azimuth Angle (DVA_1) and Transformed GMD-2 Azimuth Angle (DVA_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

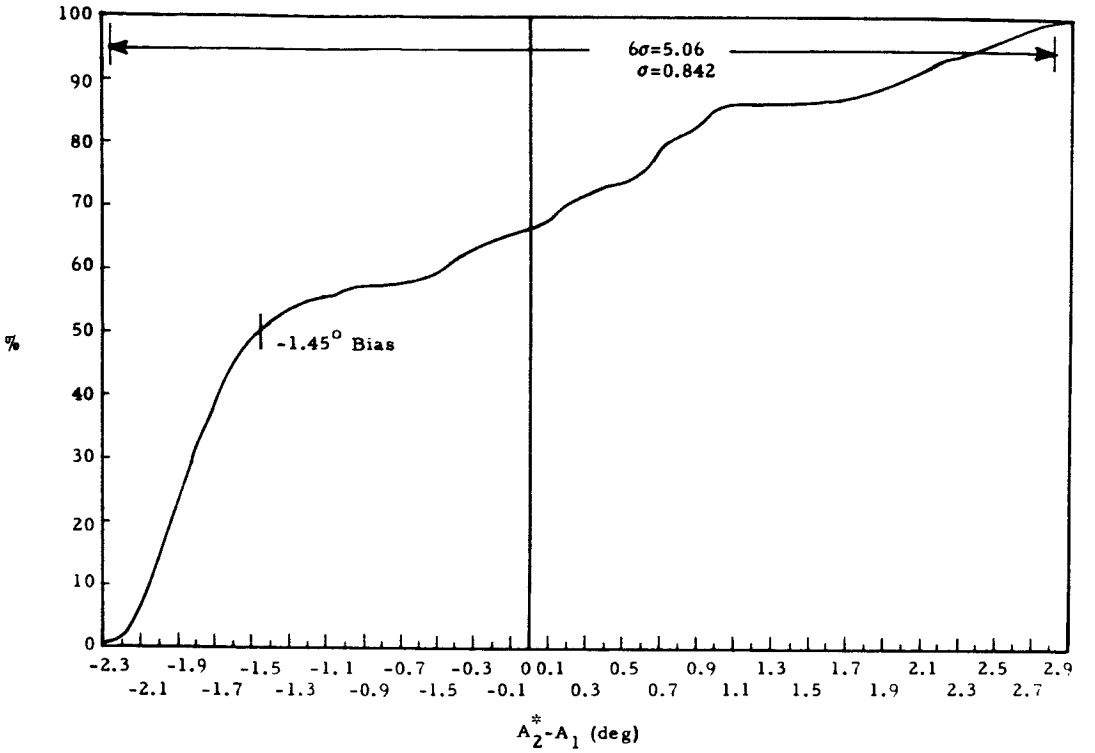

Figure 9 - Cumulative Frequency Distribution of the Difference Between Transformed GMD-2 Azimuth Angle (Z_2^*) and FPS-16 Azimuth Angle (A_1) for all 16 Tests

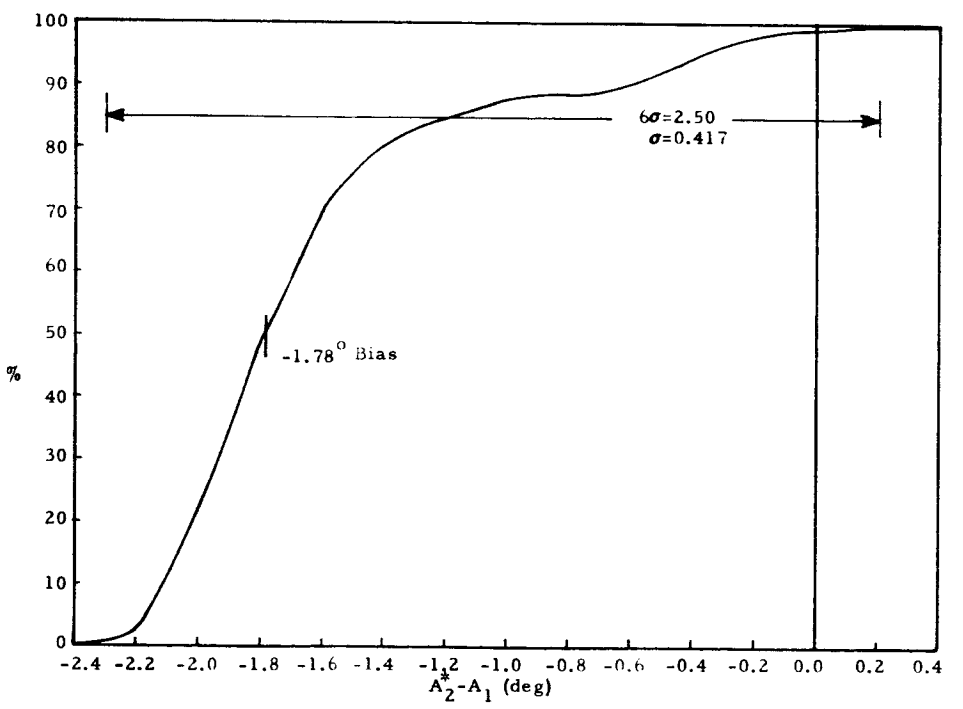

Figure 10 - Cumulative Frequency Distribution of the Difference Between Transformed GMD-2 Azimuth Angle (A_2^*) and FPS-16 Azimuth Angle (A_1) for all Point Mugu Tests

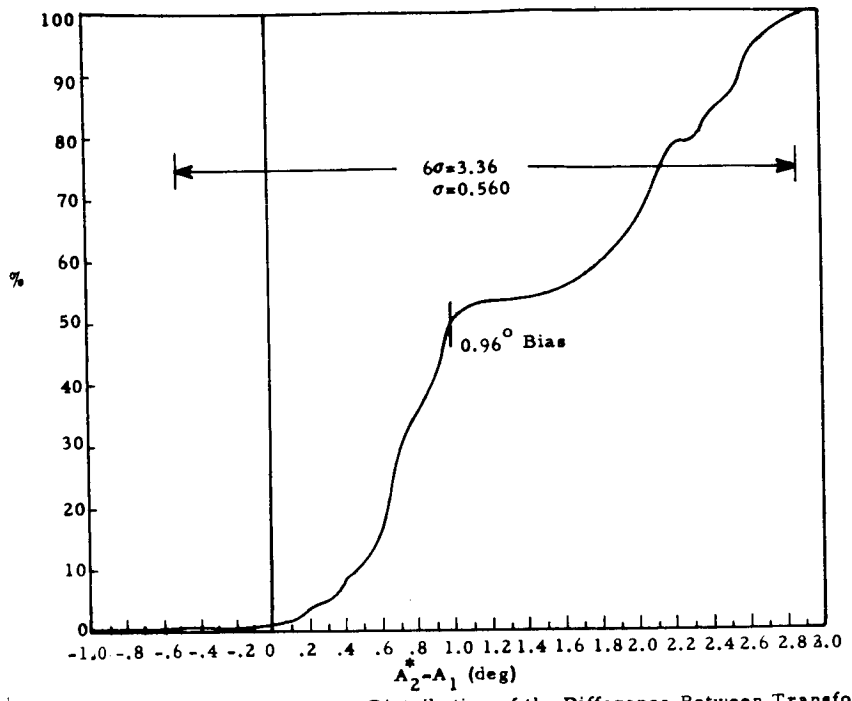

Figure 11 - Cumulative Frequency Distribution of the Difference Between Transformed GMD-2 Azimuth Angle (A_2^*) and FPS-16 Azimuth Angle (A_1) for all Wallops Island Tests

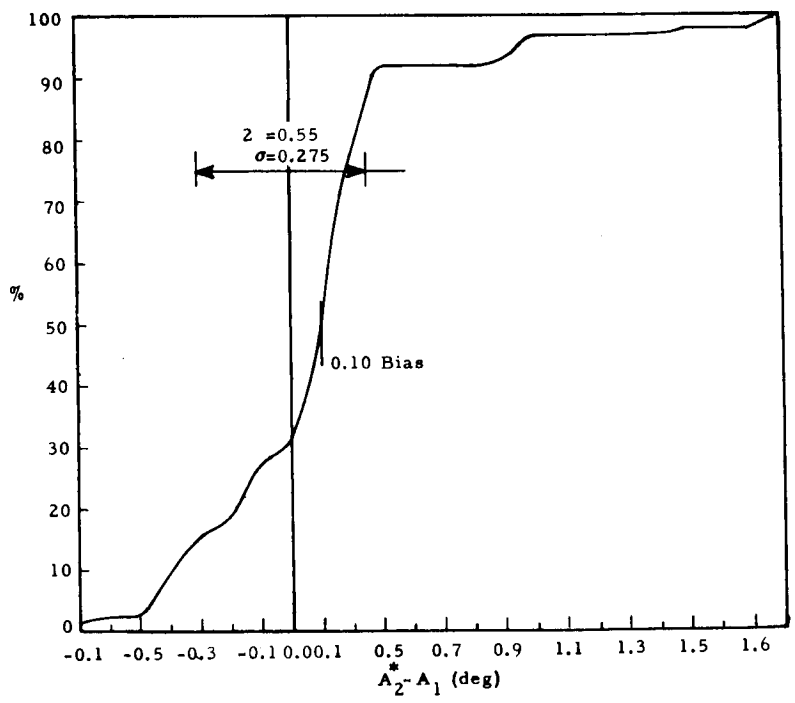

Figure 12 - Cumulative Frequency Distribution of the Difference Between Transformed GMD-2 Azimuth Angle (A_2^*) and FPS-16 Azimuth Angle (A_1) for all Eglin Tests

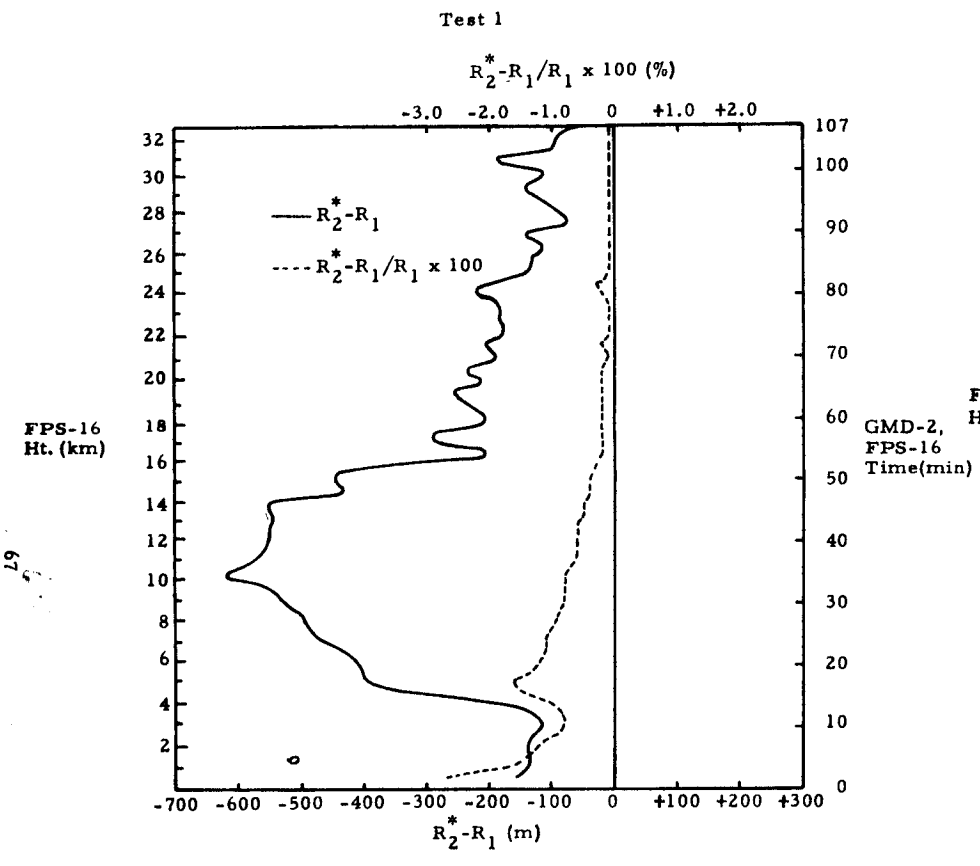

Figure 13A - Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

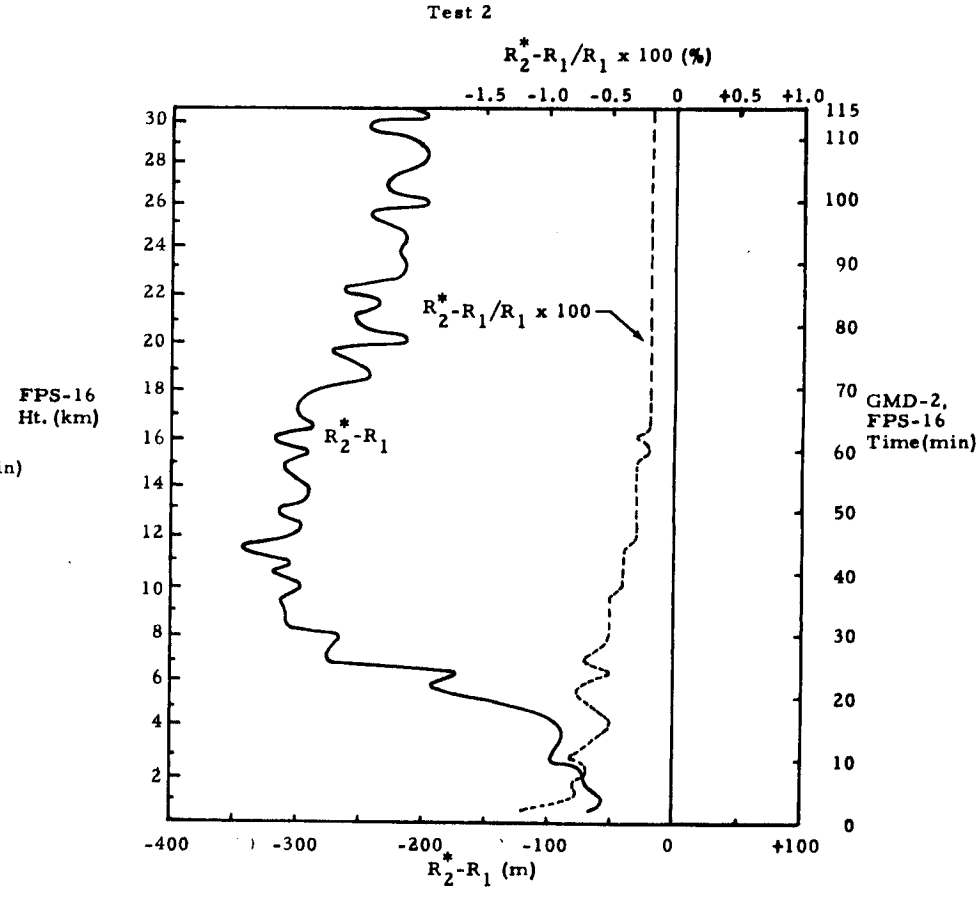

Figure 13B - Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

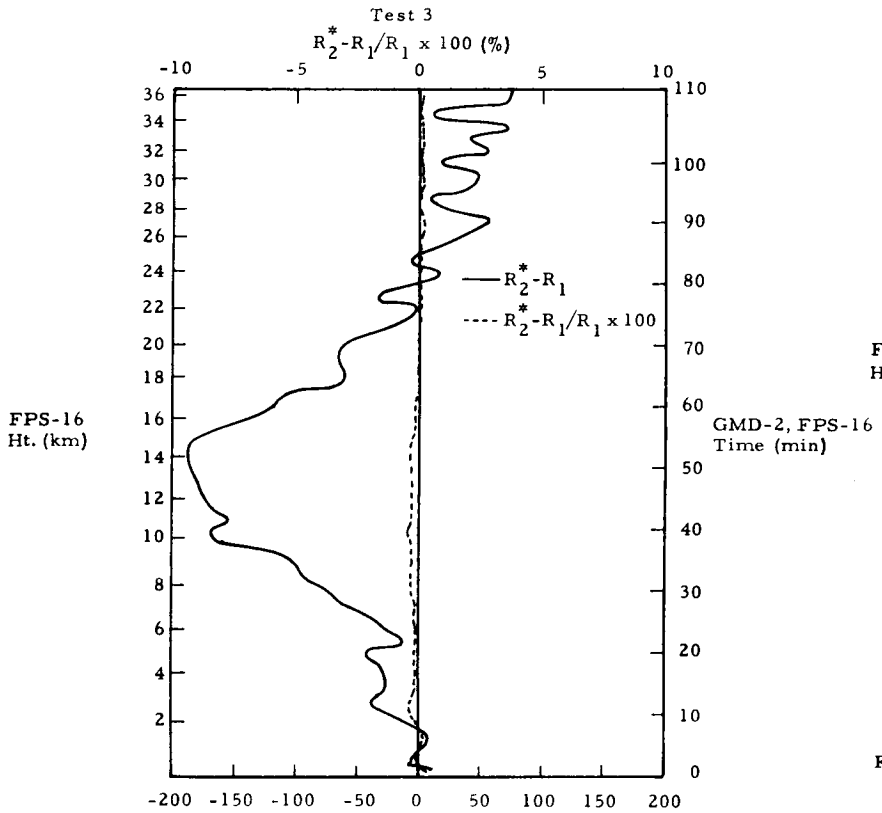

Figure 13C - Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

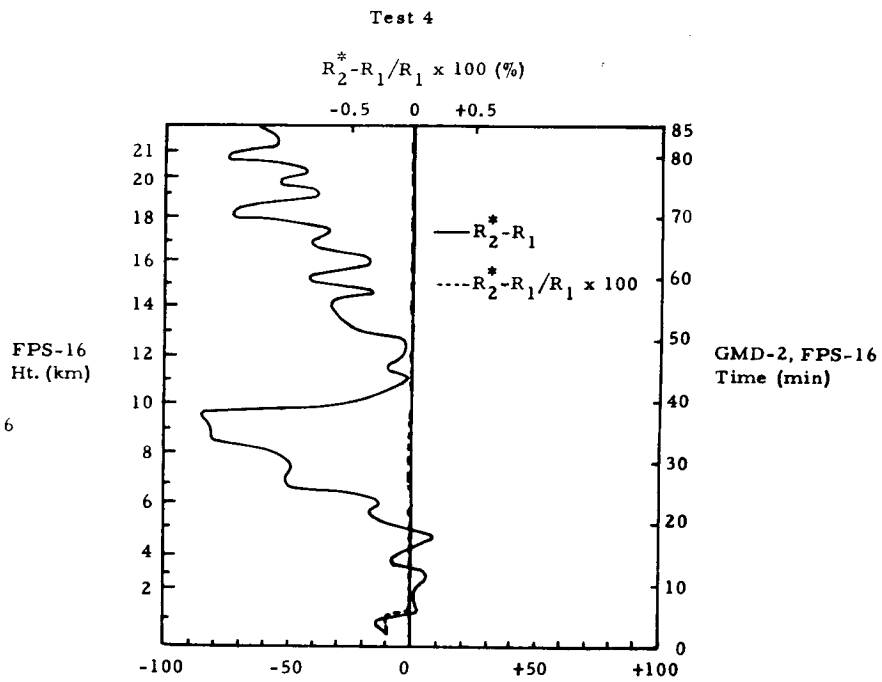

Figure 13D - Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 8

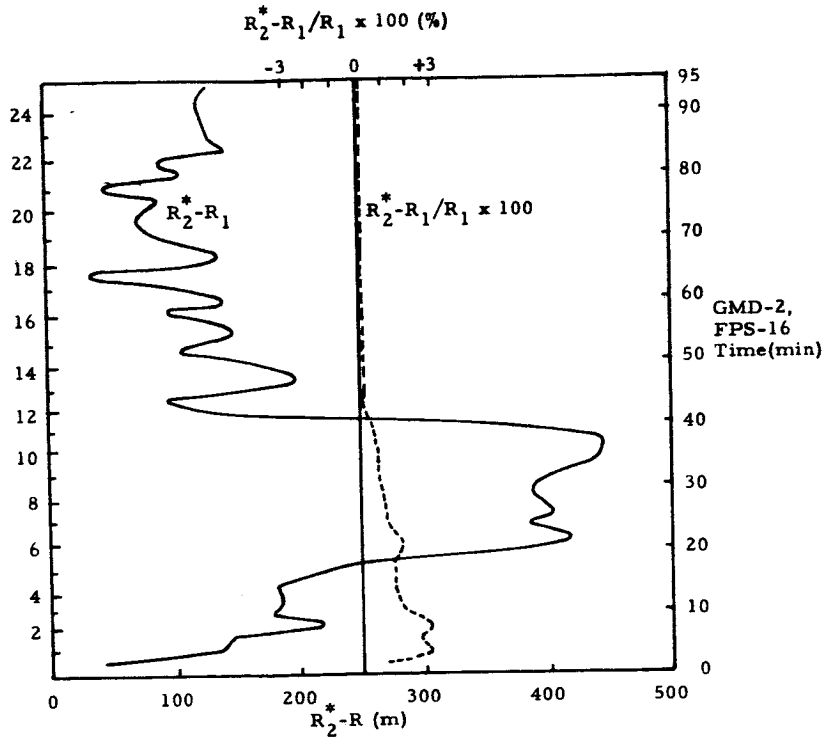

Figure 13E - Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 9

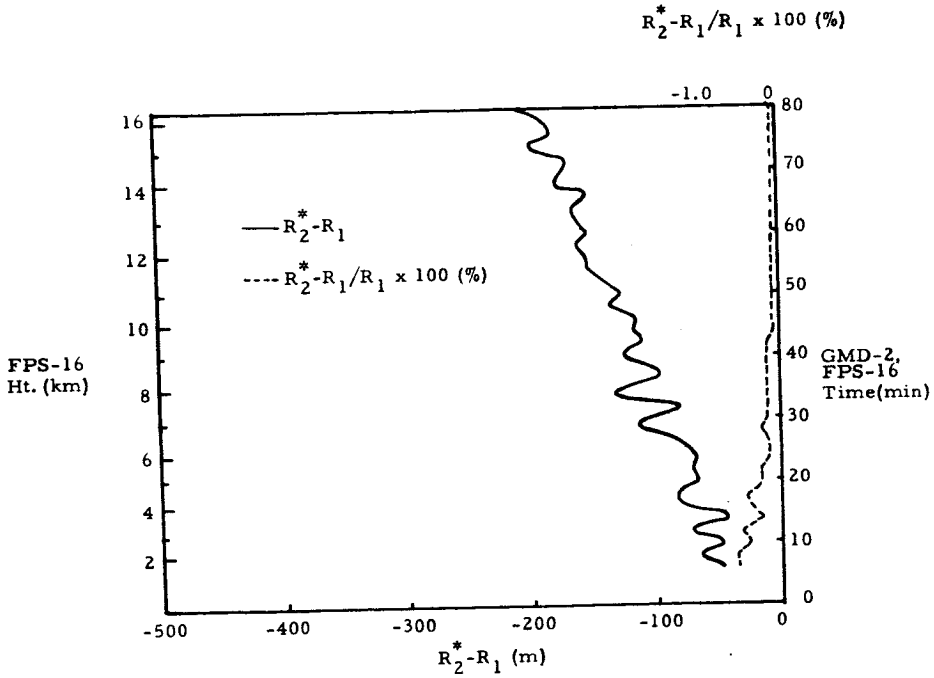

Figure 13F - Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 12

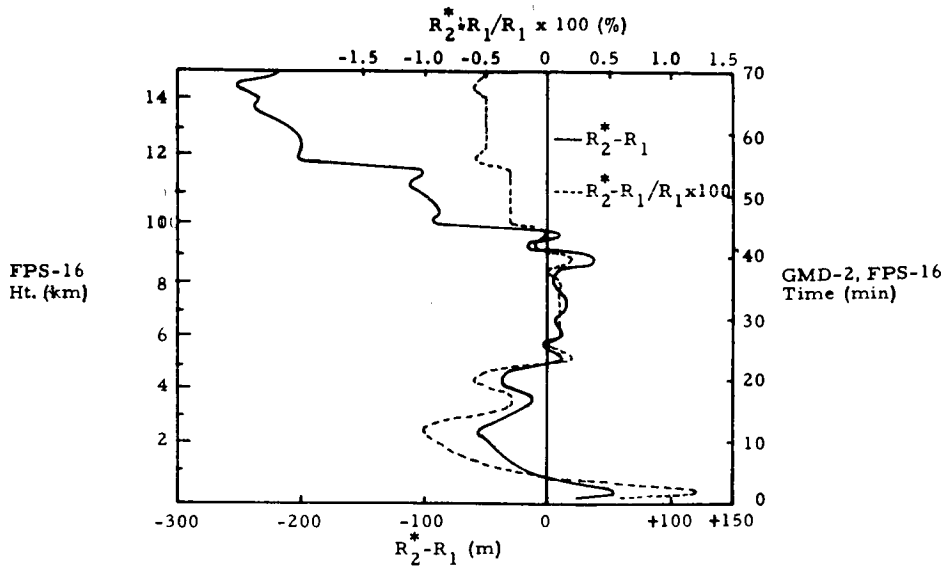

Figure 13G - Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 14

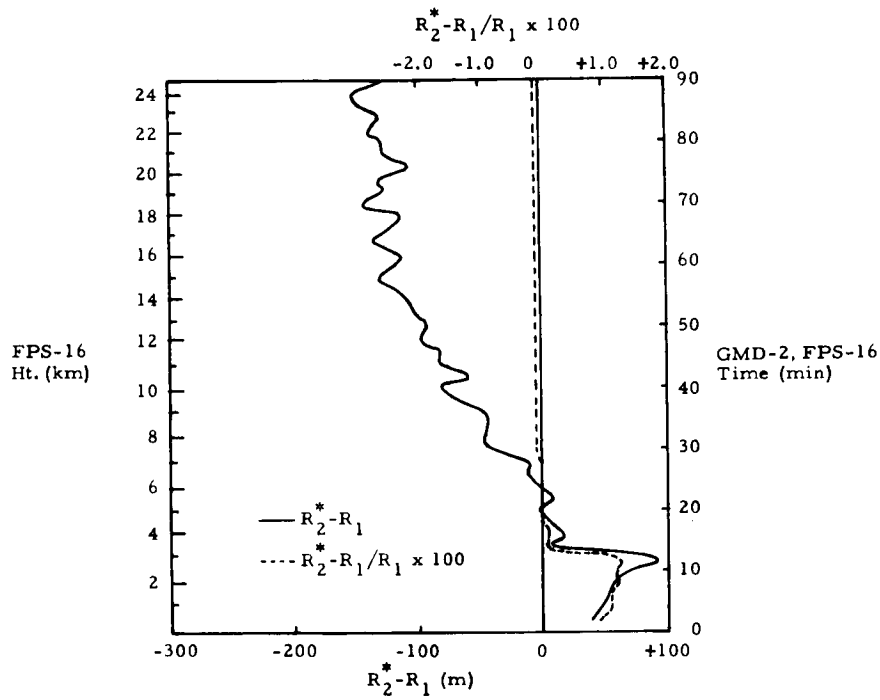

Figure 13H - Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 15

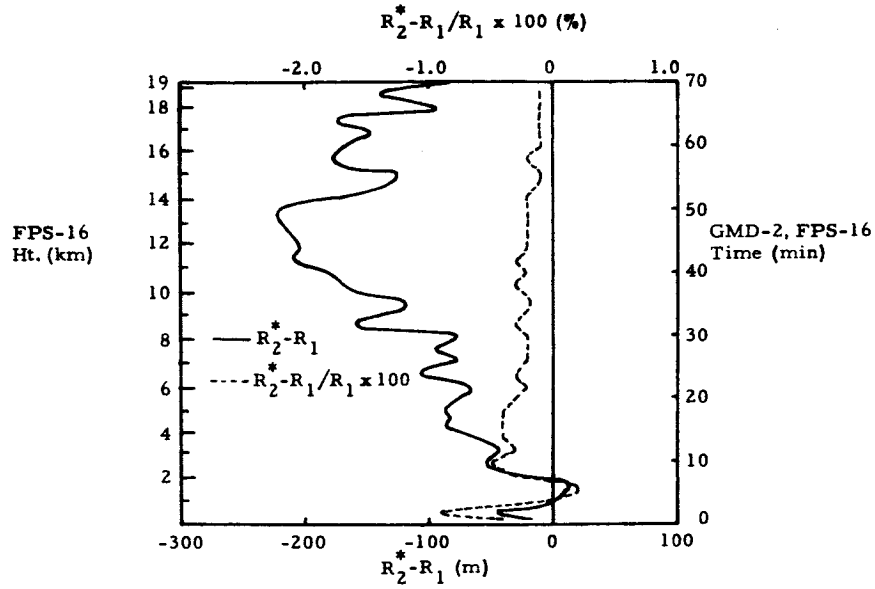

Figure 13I - Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 16

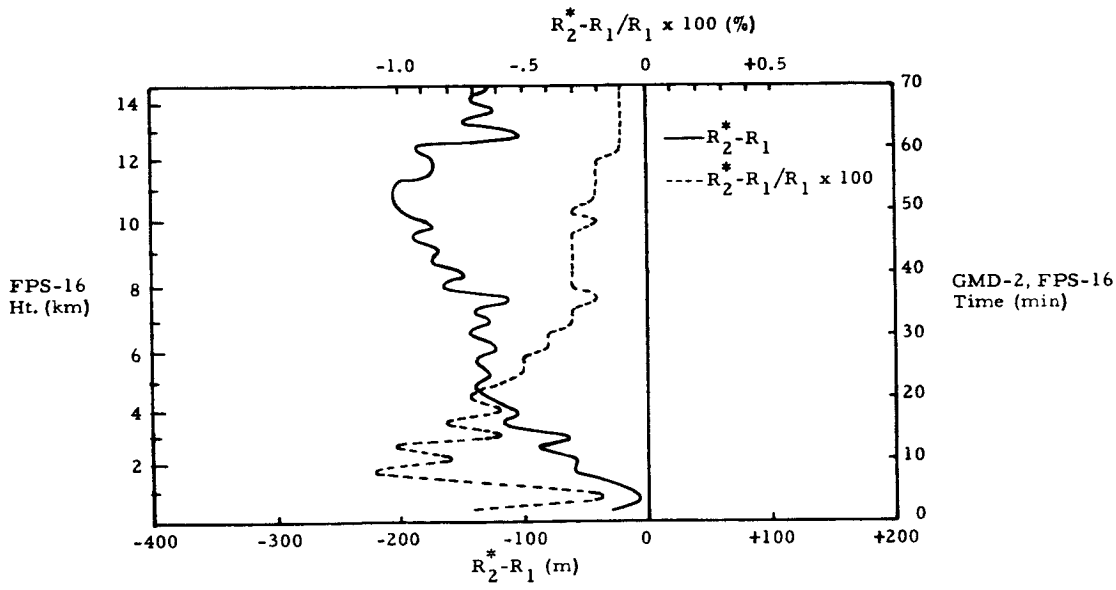

Figure 13J - Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

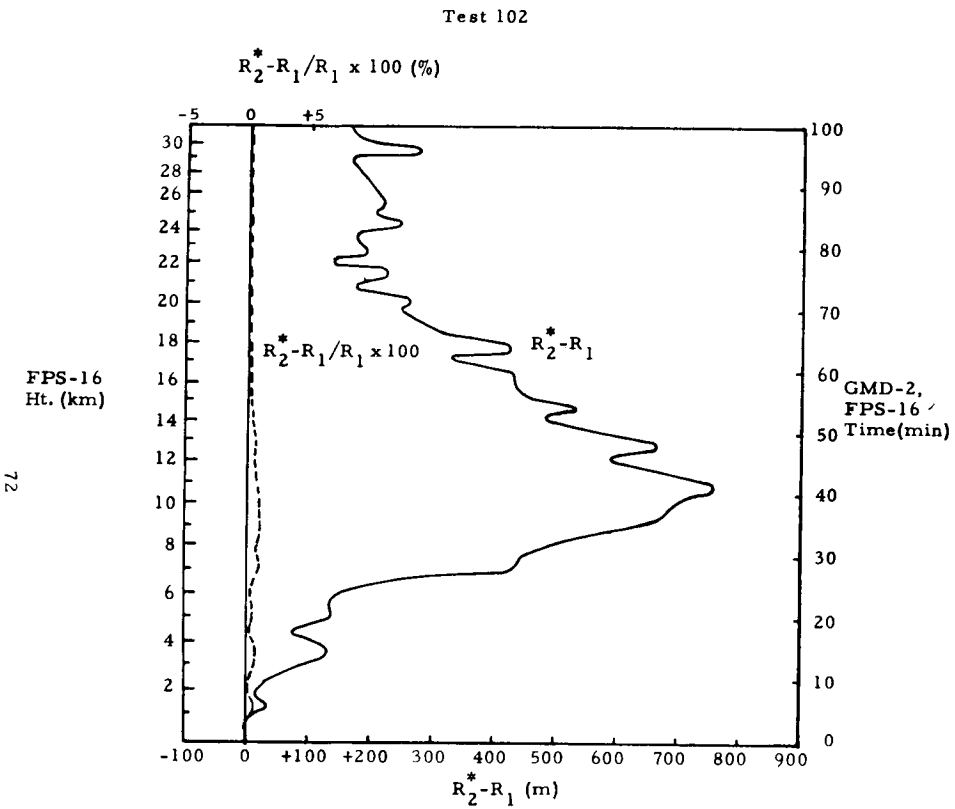

Figure 13K - Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

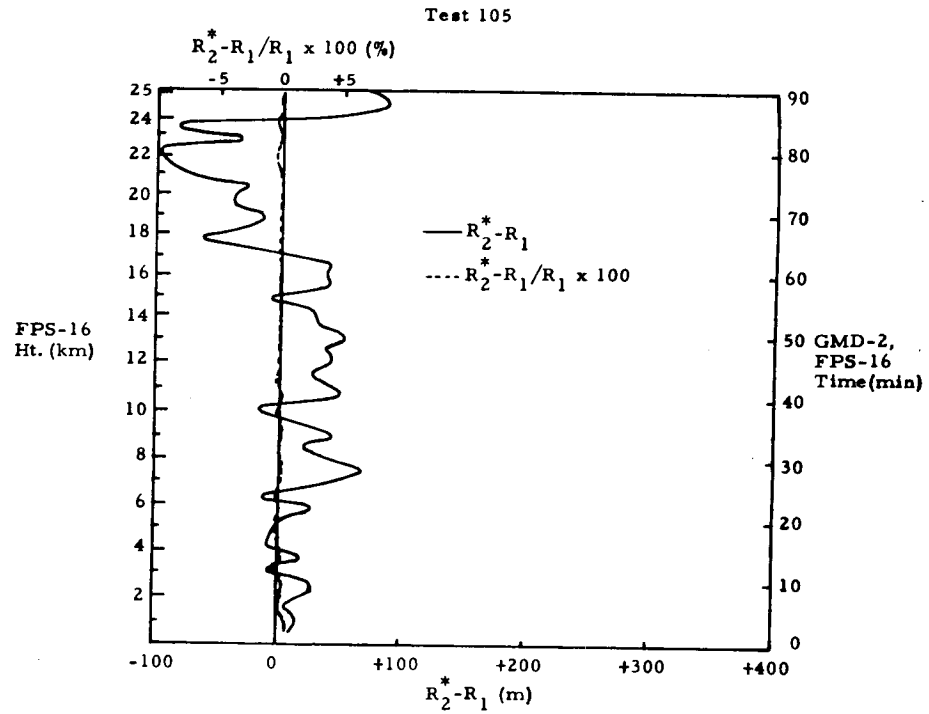

Figure 13L - Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized FPS-16 Time and FPS-16 Height (H_1)

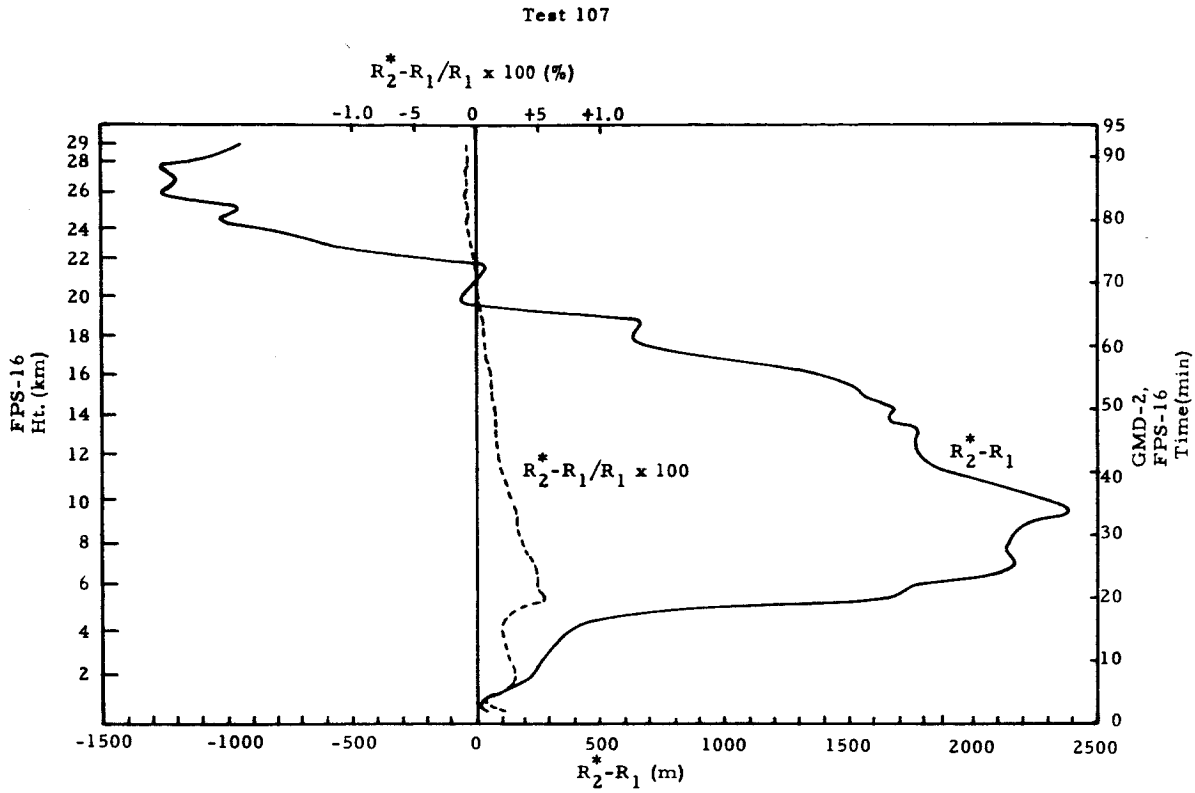

Figure 13M - Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

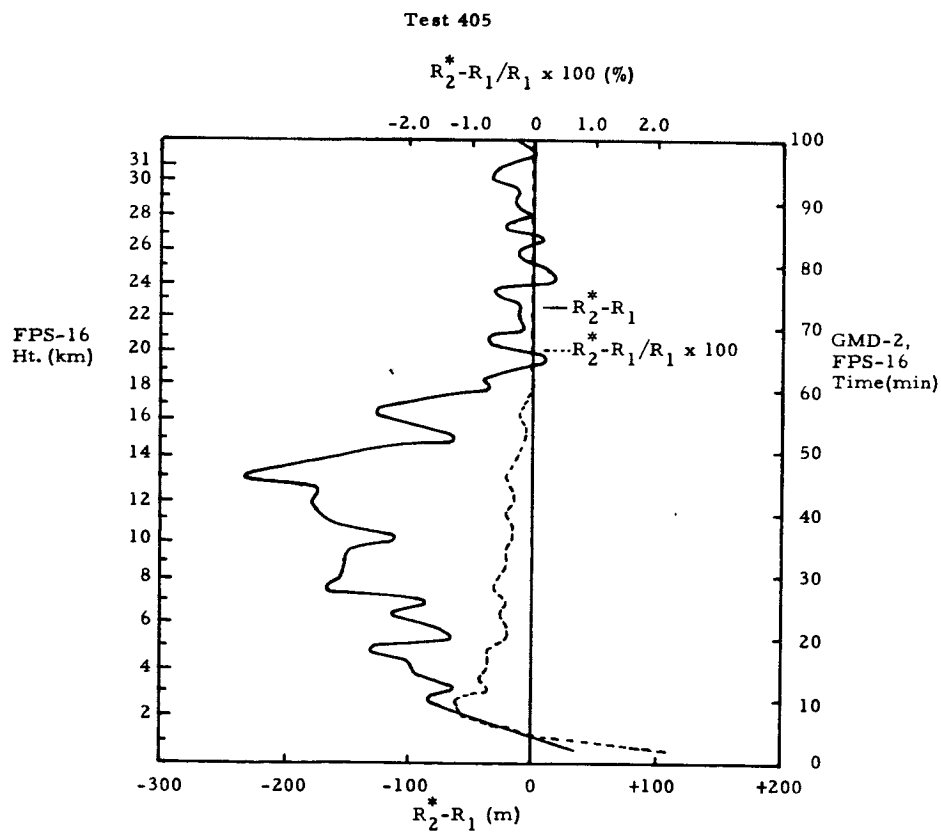

Figure 13N - Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized FPS-16 Time and FPS-16 Height (H_1)

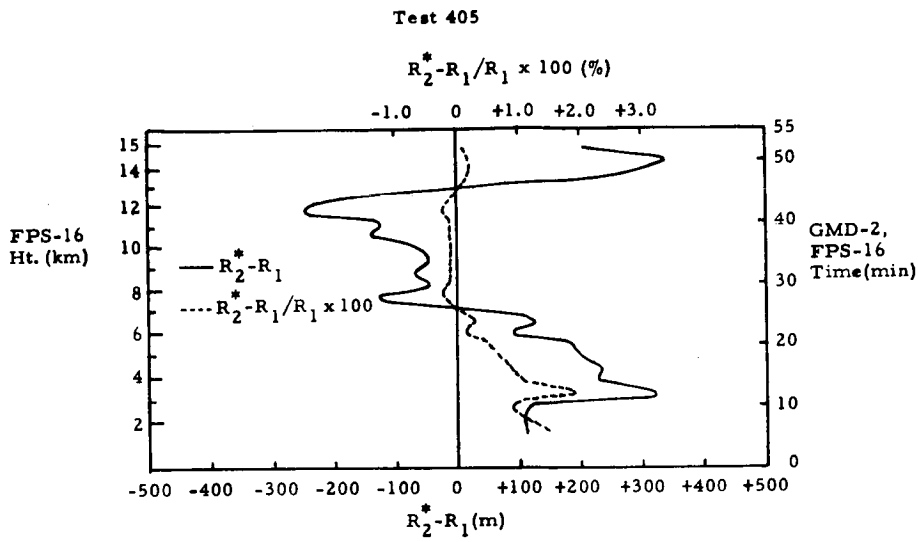

Figure 13O - Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

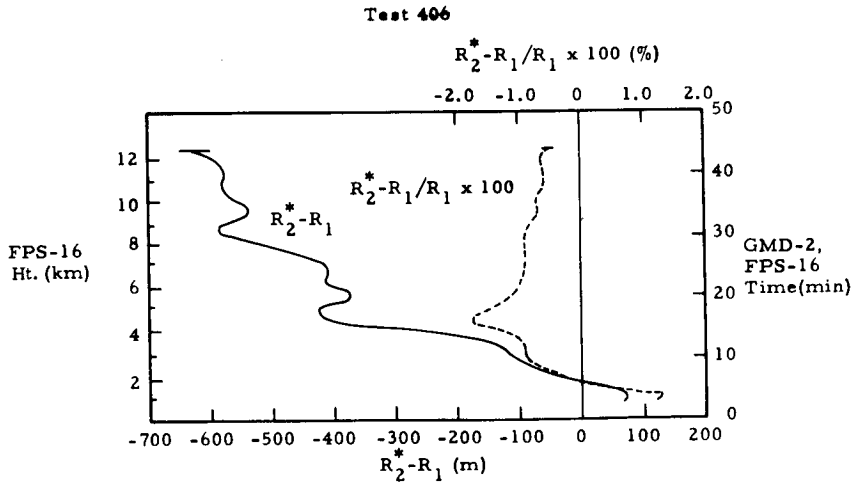

Figure 13P - Actual and Relative Differences Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

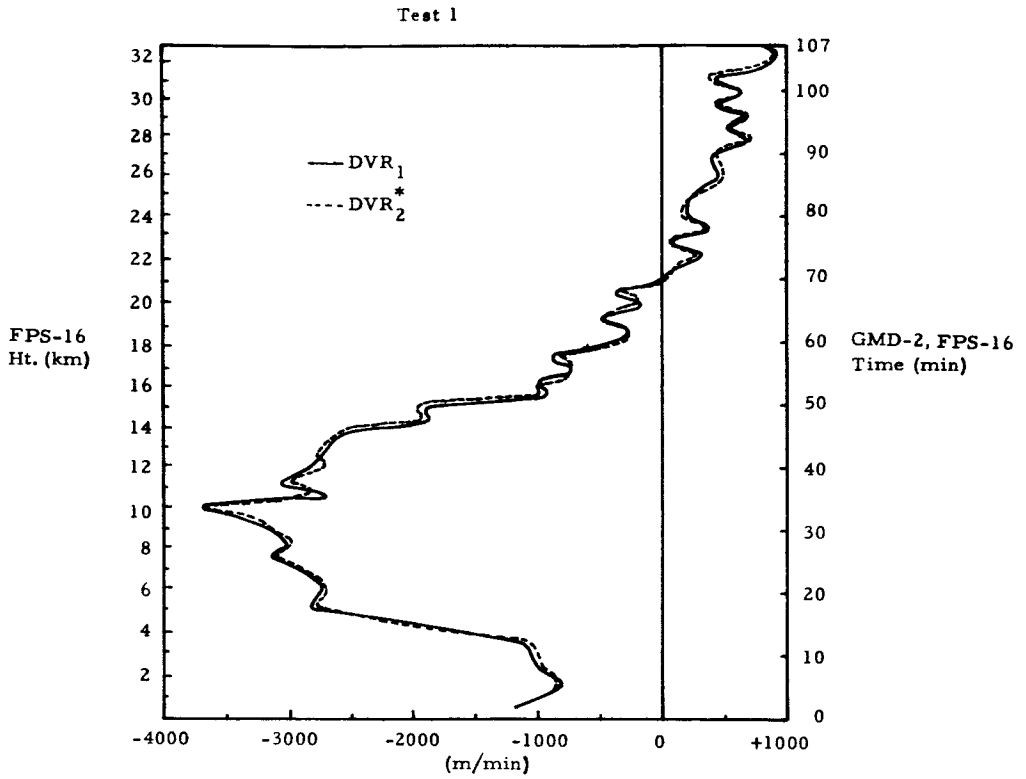

Figure 14A - Comparison of the Derivatives of FPS-16 Slant Range (DVR_1) and Transformed GMD-2 Slant Range (DVR_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

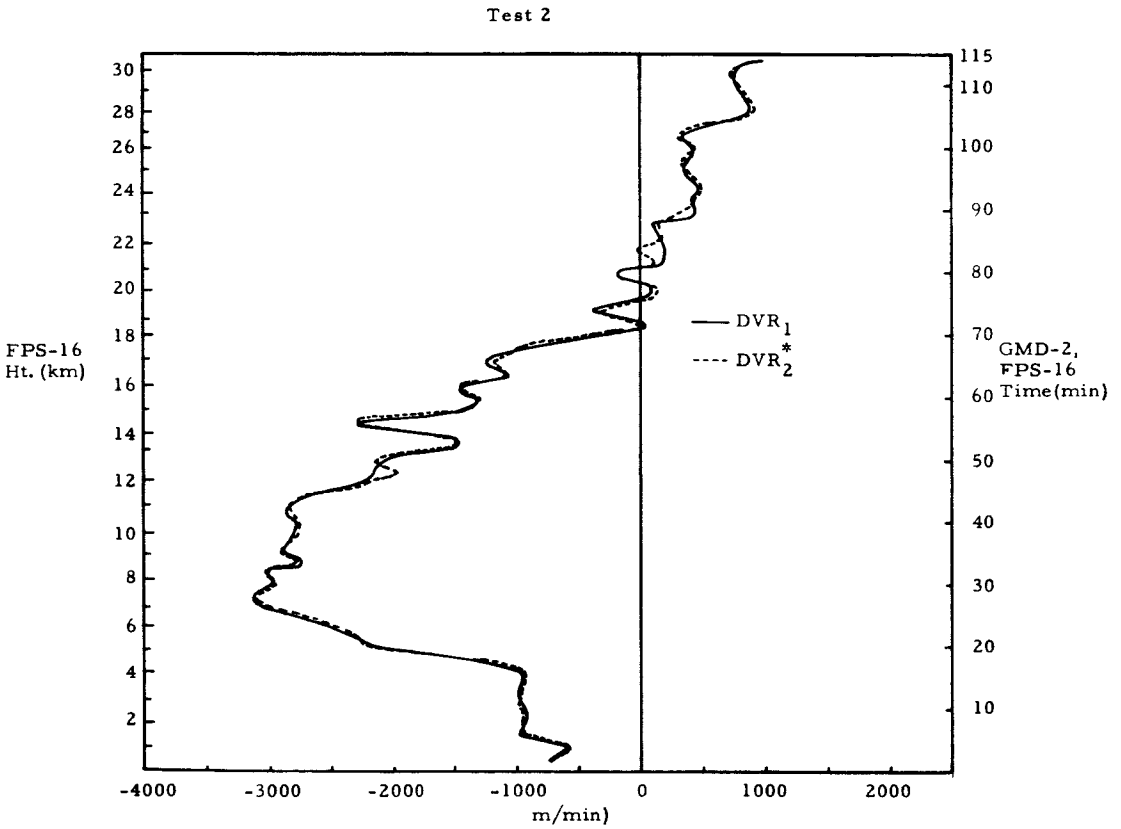

Figure 14B - Comparison of the Derivatives of FPS-16 Slant Range (DVR_1) and Transformed GMD-2 Slant Range (DVR_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

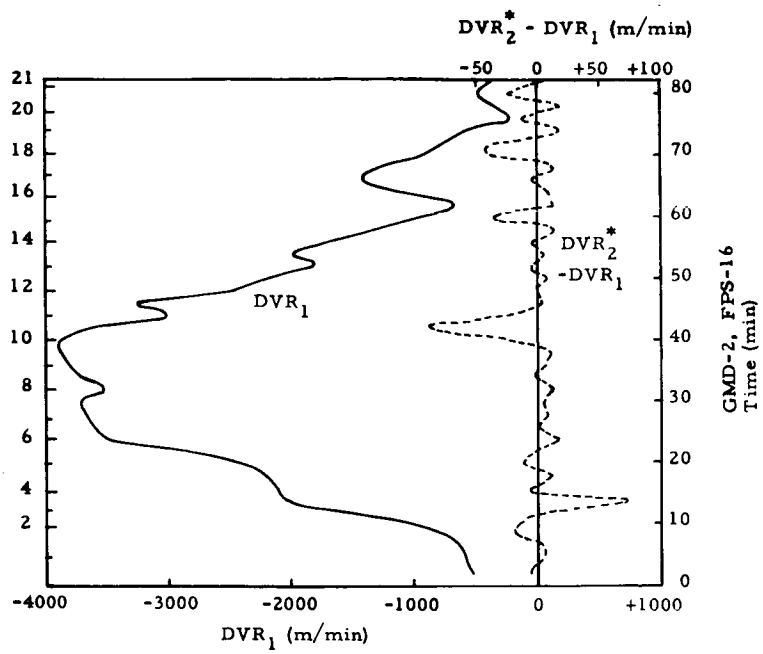

Figure 14D - Comparison of the Derivatives of FPS-16 Slant Range (DVR_1) and Transformed GMD-2 Slant Range (DVR_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

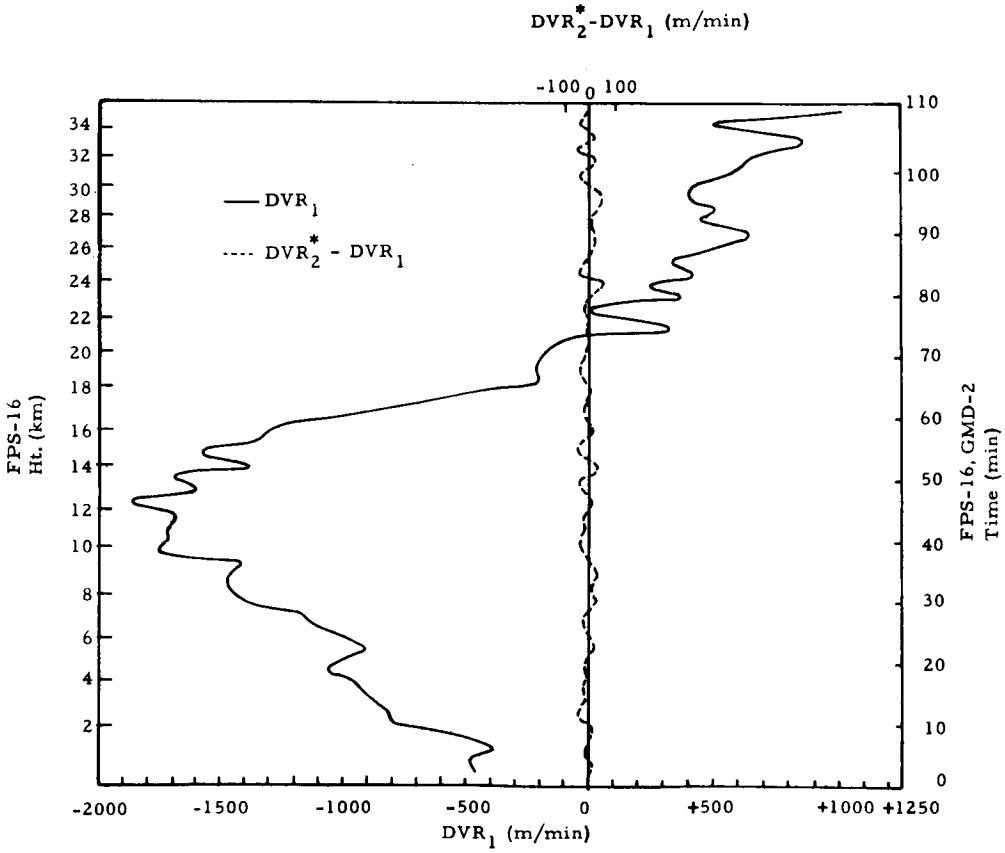

Figure 14C - Comparison of the Derivatives of FPS-16 Slant Range (DVR_1) and Transformed GMD-2 Slant Range (DVR_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 6

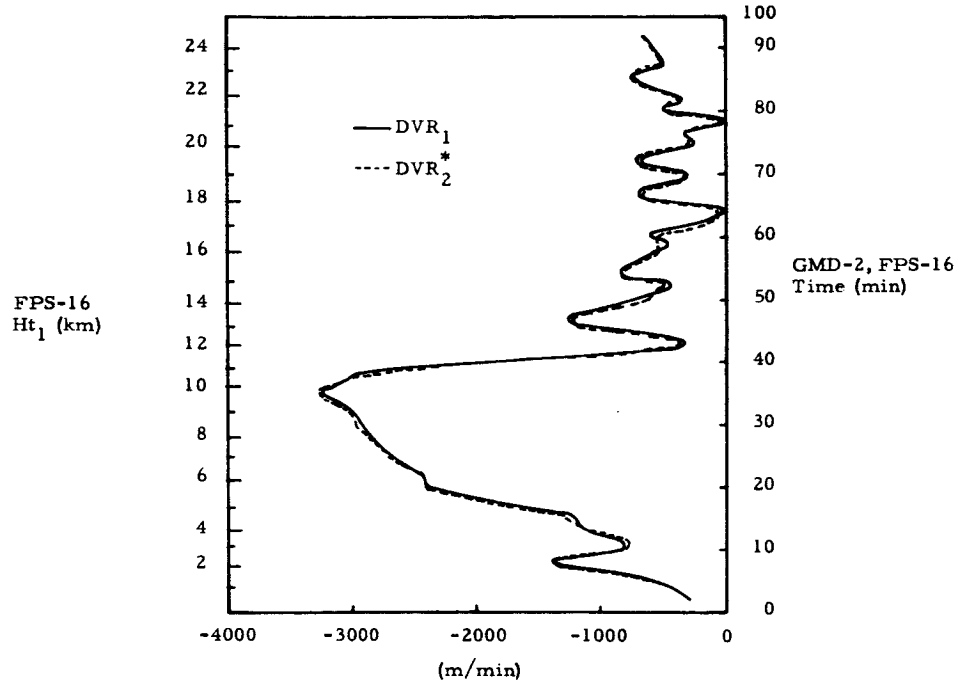

Figure 14E - Comparison of the Derivatives of FPS-16 Slant Range (DVR$_1$) and Transformed GMD-2 Slant Range (DVR$_2^*$) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H$_1$)

Test 9

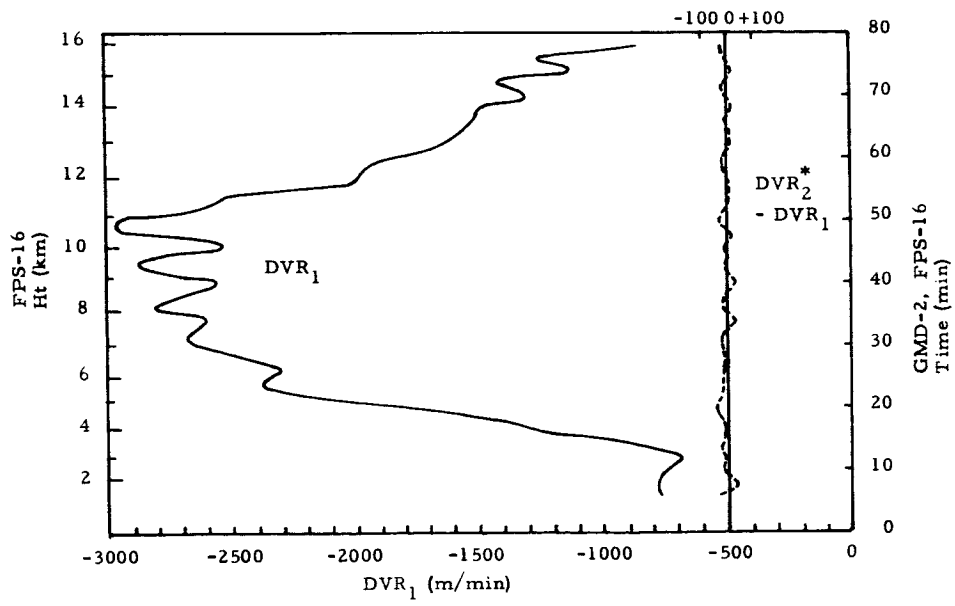

Figure 14F - Comparison of the Derivatives of FPS-16 Slant Range (DVR$_1$) and Transformed GMD-2 Slant Range (DVR$_2^*$) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H$_1$)

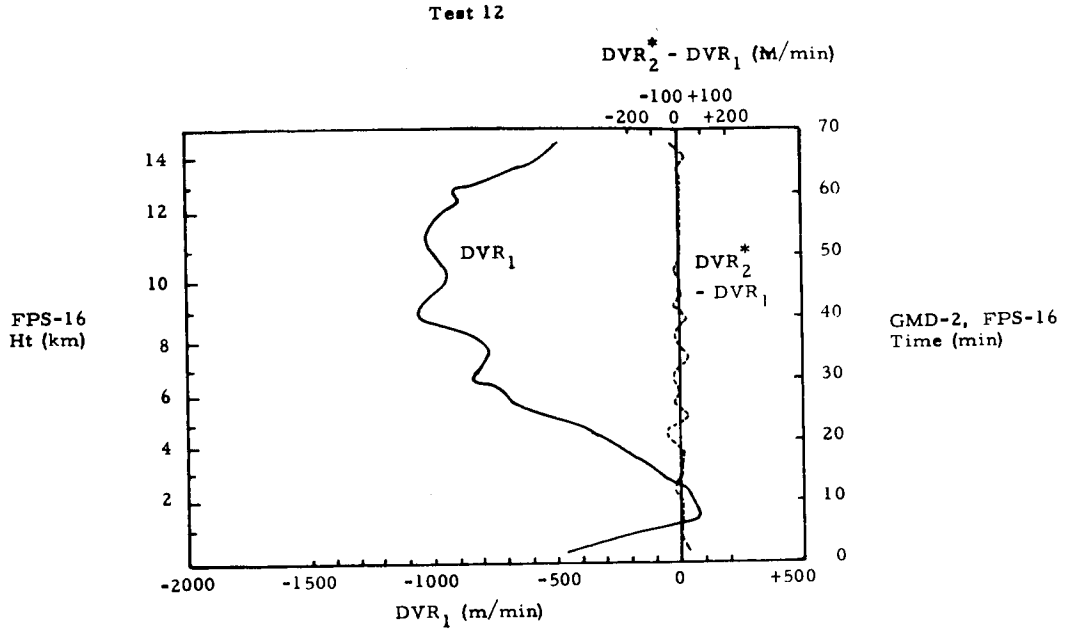

Figure 14G - Comparison of the Derivatives of FPS-16 Slant Range (DVR_1) and Transformed GMD-2 Slant Range (DVR_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

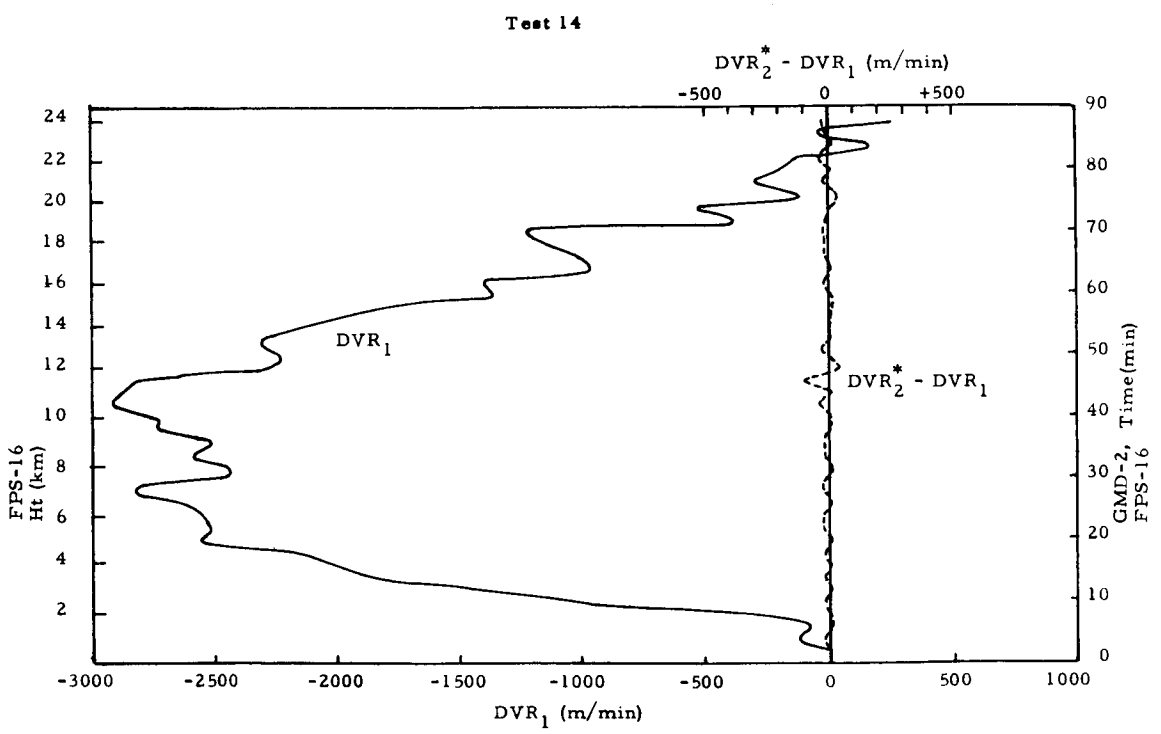

Figure 14H - Comparison of the Derivatives of FPS-16 Slant Range (DVR_1) and Transformed GMD-2 Slant Range (DVR_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 15

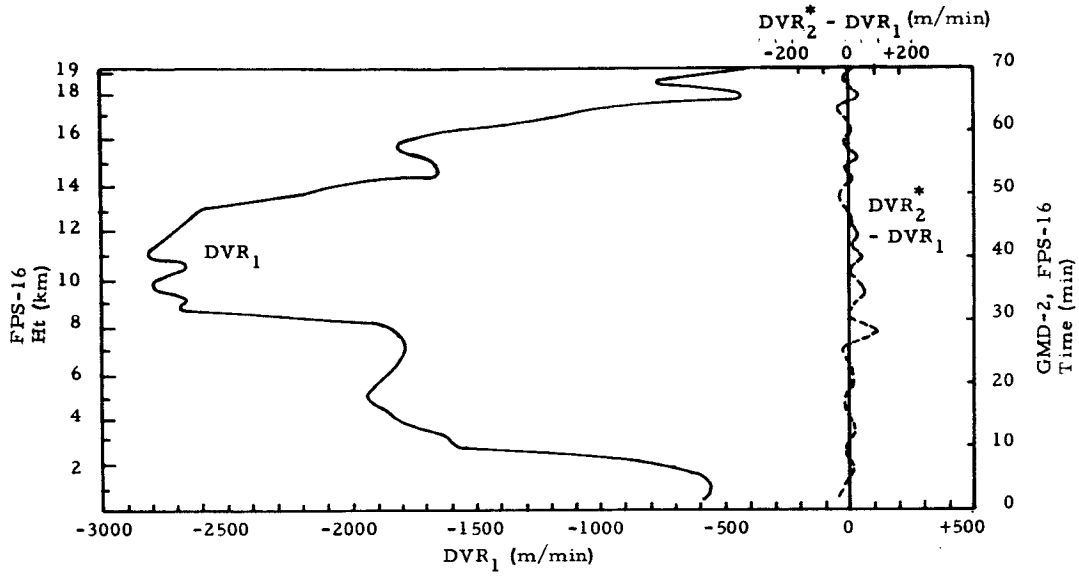

Figure 14I - Comparison of the Derivatives of FPS-16 Slant Range (DVR_1) and Transformed GMD-2 Slant Range (DVR_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 16

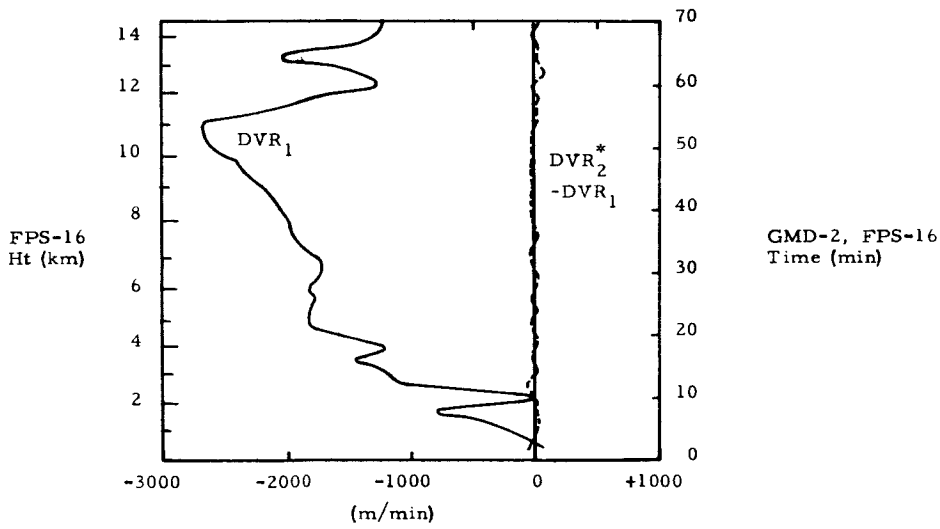

Figure 14J - Comparison of the Derivatives of FPS-16 Slant Range (DVR_1) and Transformed GMD-2 Slant Range (DVR_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 102

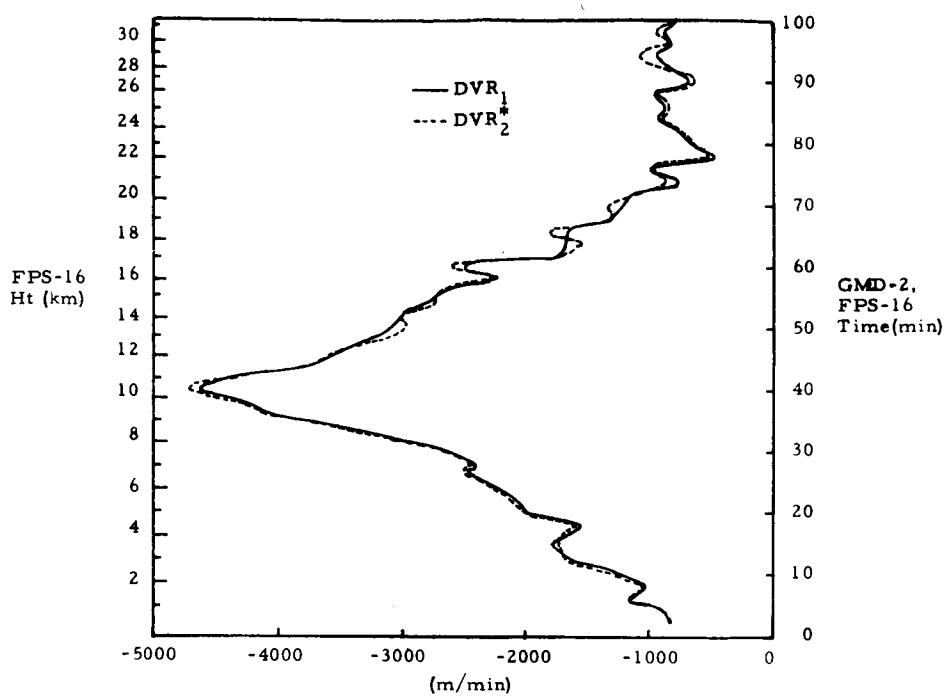

Figure 14K - Comparison of the Derivatives of FPS-16 Slant Range (DVR_1) and Transformed GMD-2 Slant Range (DVR_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 105

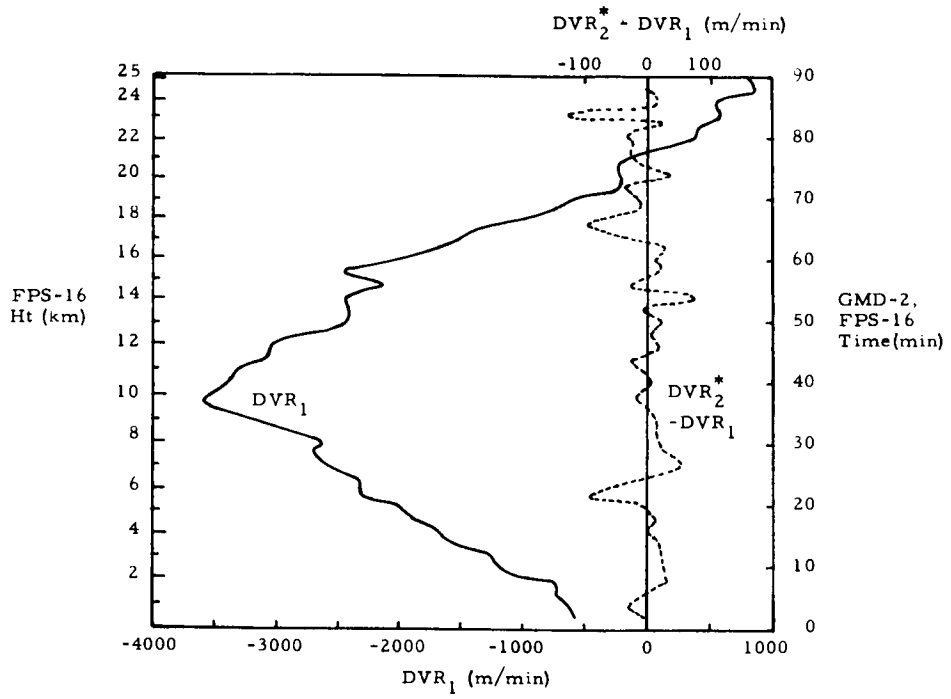

Figure 14L - Comparison of the Derivatives of FPS-16 Slant Range (DVR_1) and Transformed GMD-2 Slant Range (DVR_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

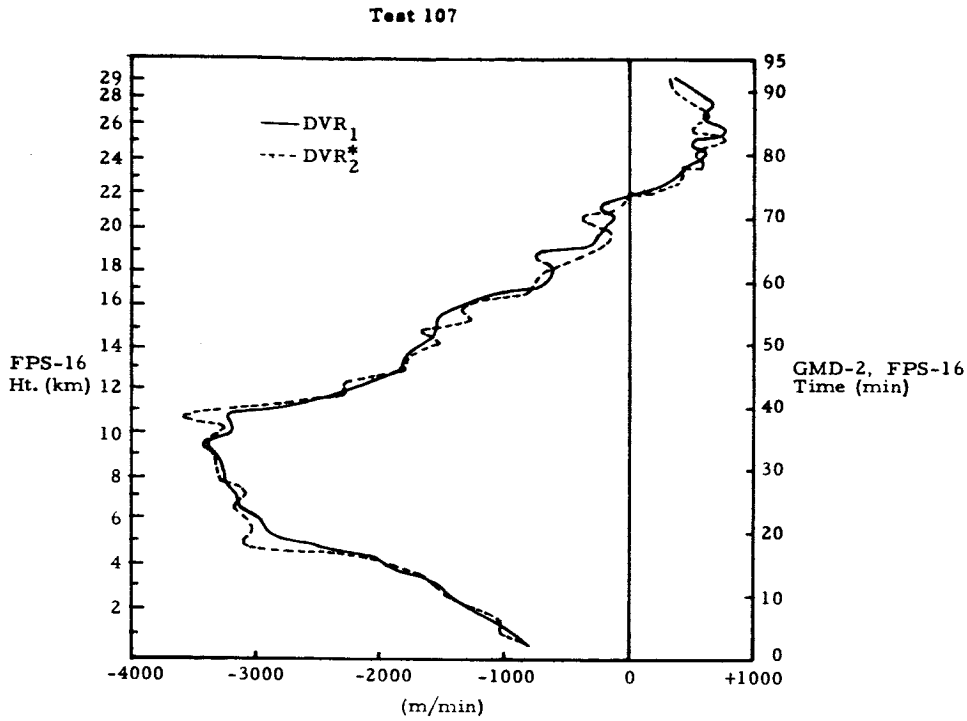

Figure 14M - Comparison of the Derivatives of FPS-16 Slant Range (DVR_1) and Transformed GMD-2 Slant Range (DVR_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

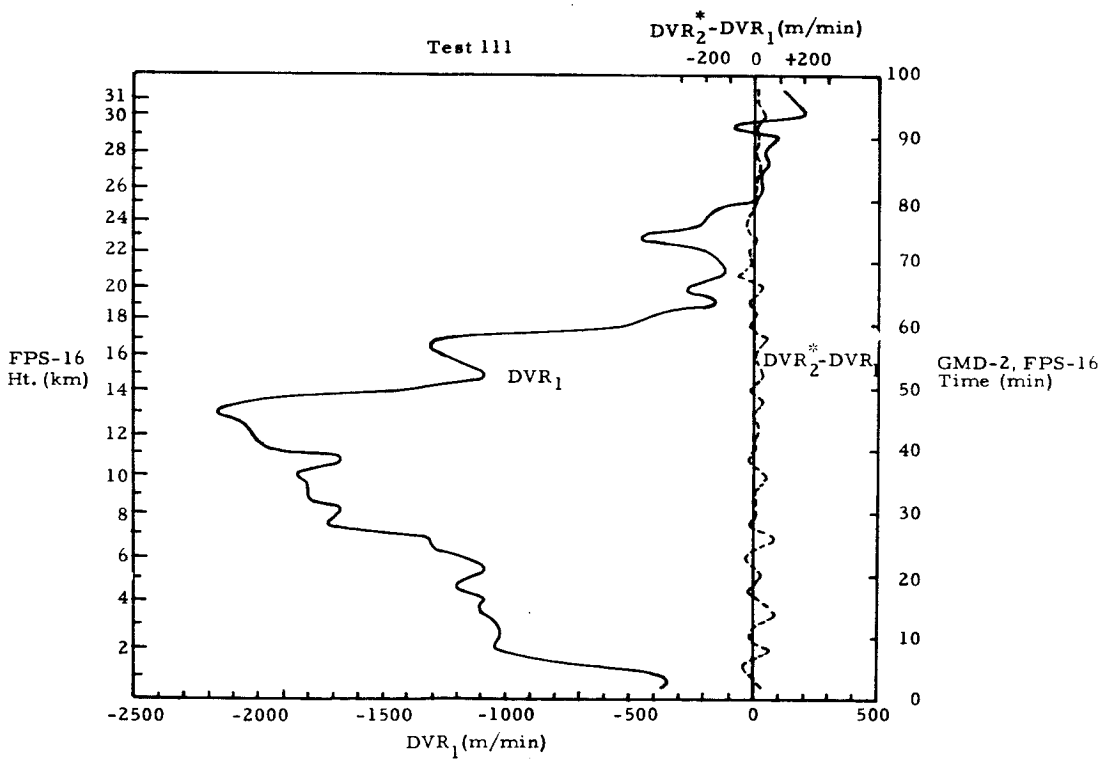

Figure 14N - Comparison of the Derivatives of FPS-16 Slant Range (DVR_1) and Transformed GMD-2 Slant Range (DVR_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 405

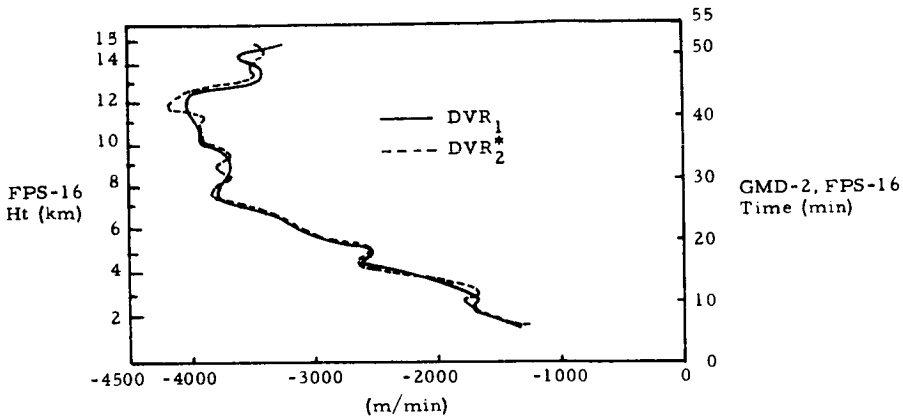

Figure 14O - Comparison of the Derivatives of FPS-16 Slant Range (DVR_1) and Transformed GMD-2 Slant Range (DVR_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 406

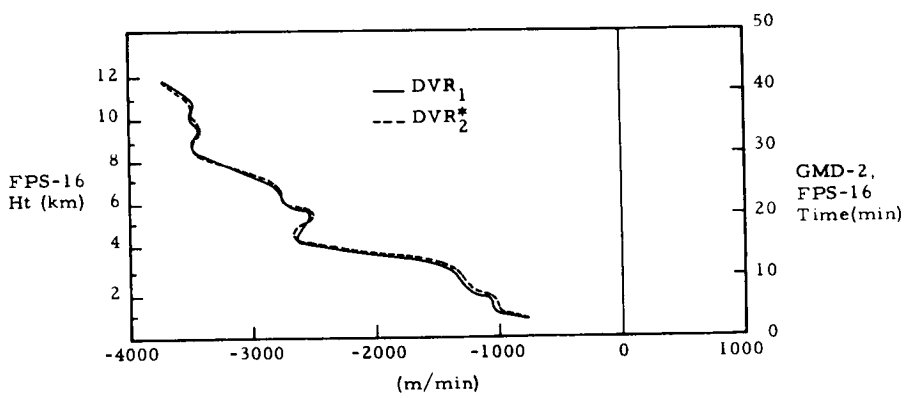

Figure 14P - Comparison of the Derivatives of FPS-16 Slant Range (DVR_1) and Transformed GMD-2 Slant Range (DVR_2^*) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

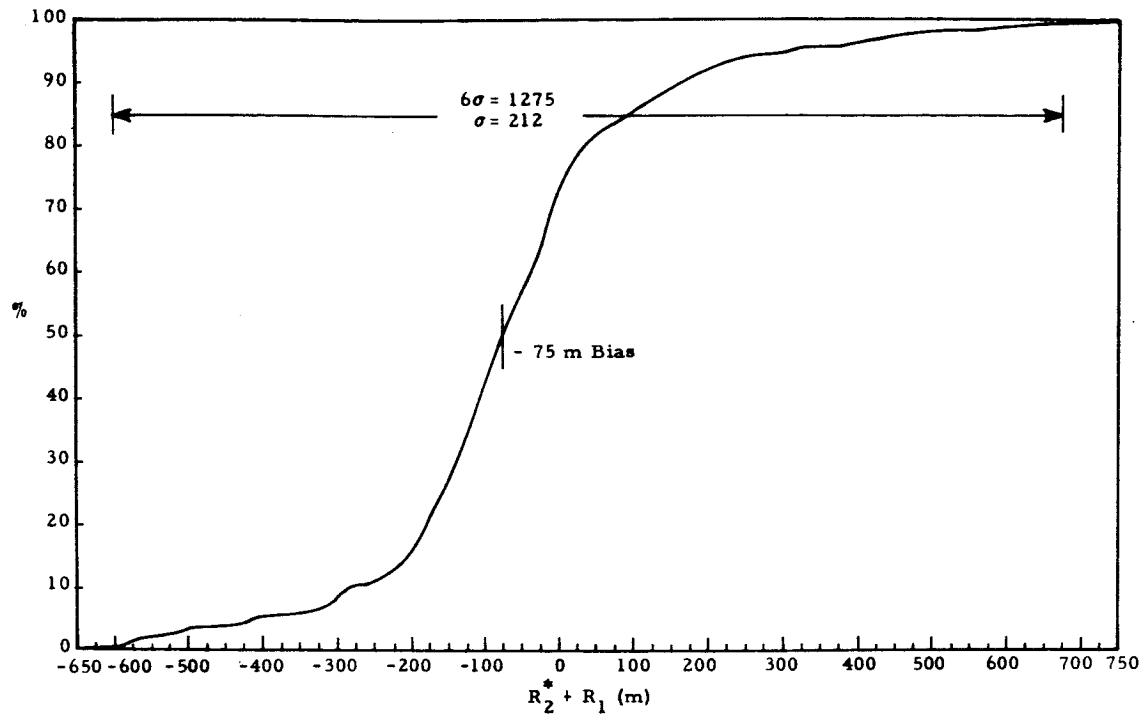

Figure 15 - Cumulative Frequency Distribution of the Difference Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) for 15 Tests

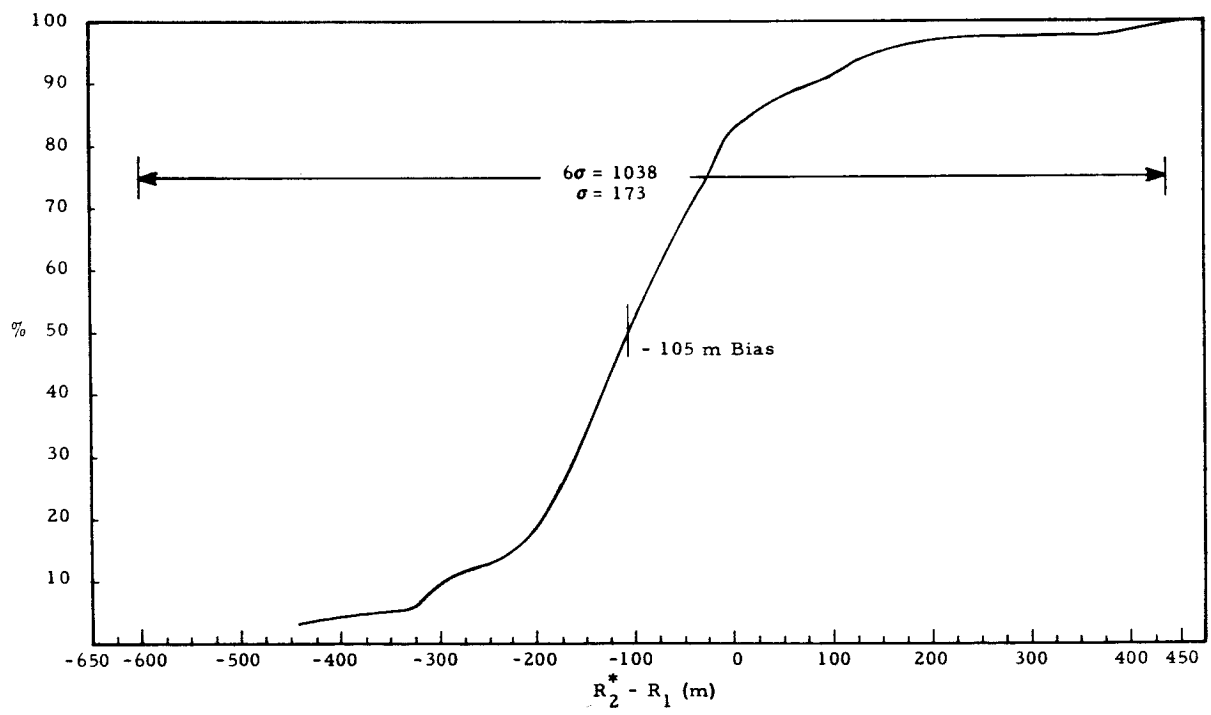

Figure 16 - Cumulative Frequency Distribution of the Difference Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) for all Point Mugu Tests

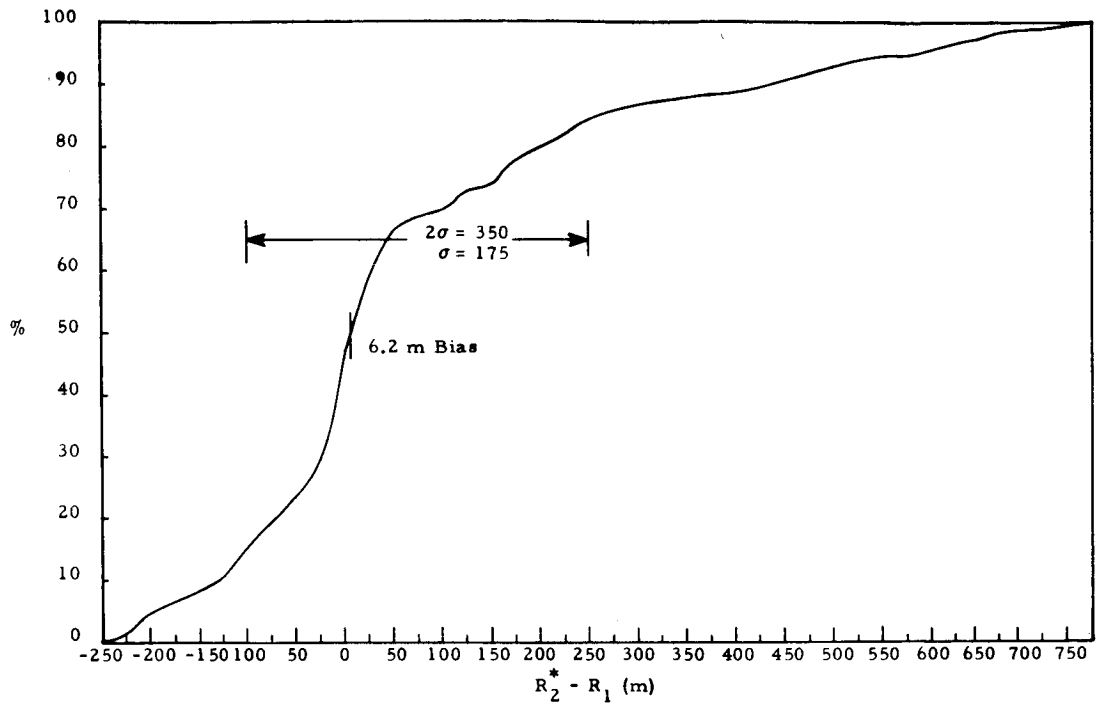

Figure 17 - Cumulative Frequency Distribution of the Difference Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) for 3 Wallops Island Tests

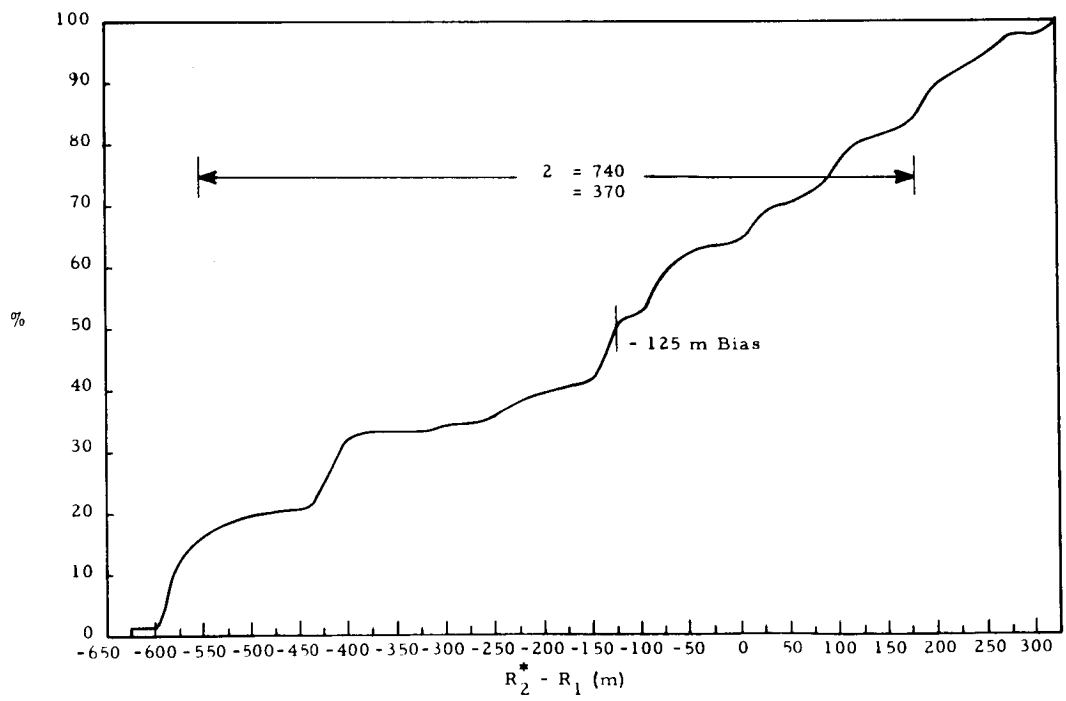

Figure 18 - Cumulative Frequency Distribution of the Difference Between Transformed GMD-2 Slant Range (R_2^*) and FPS-16 Slant Range (R_1) for all Eglin Tests

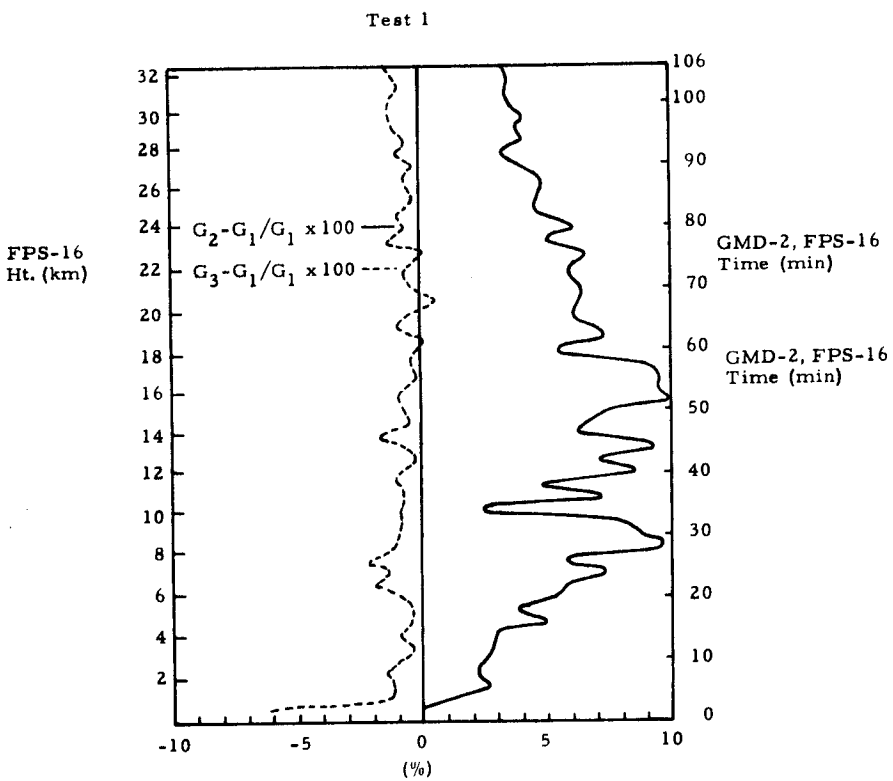

Figure 19A - Relative Differences Between GMD-1 ( ) Geopotential Heights (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

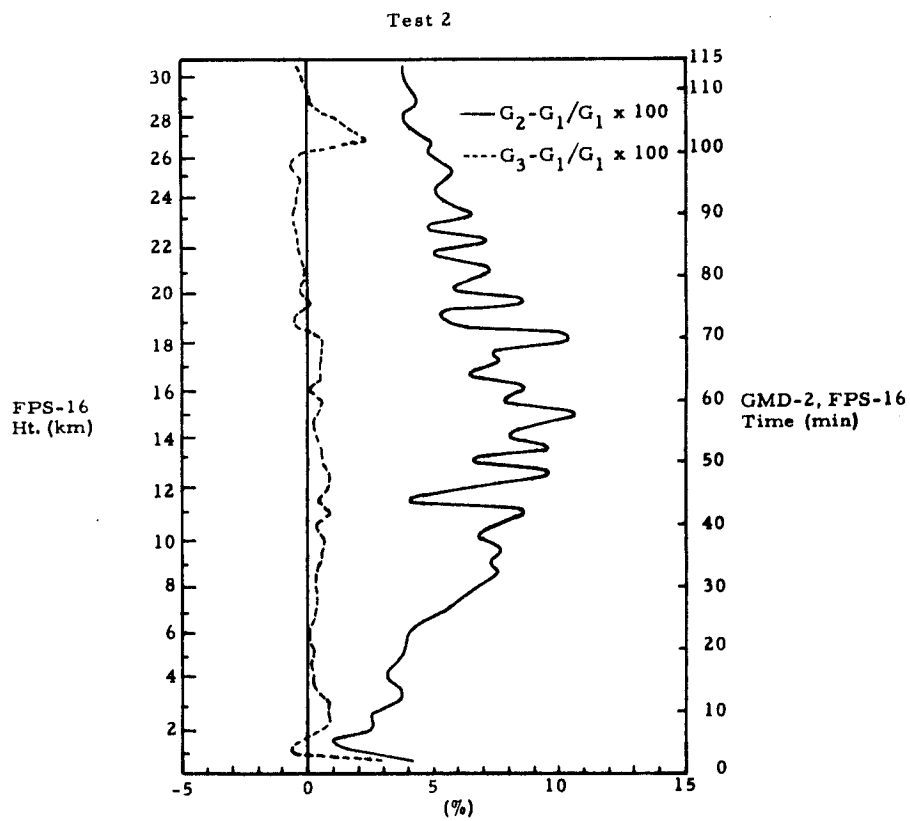

Figure 19B - Relative Differences Between GMD-1 ( ) Geopotential Heights (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

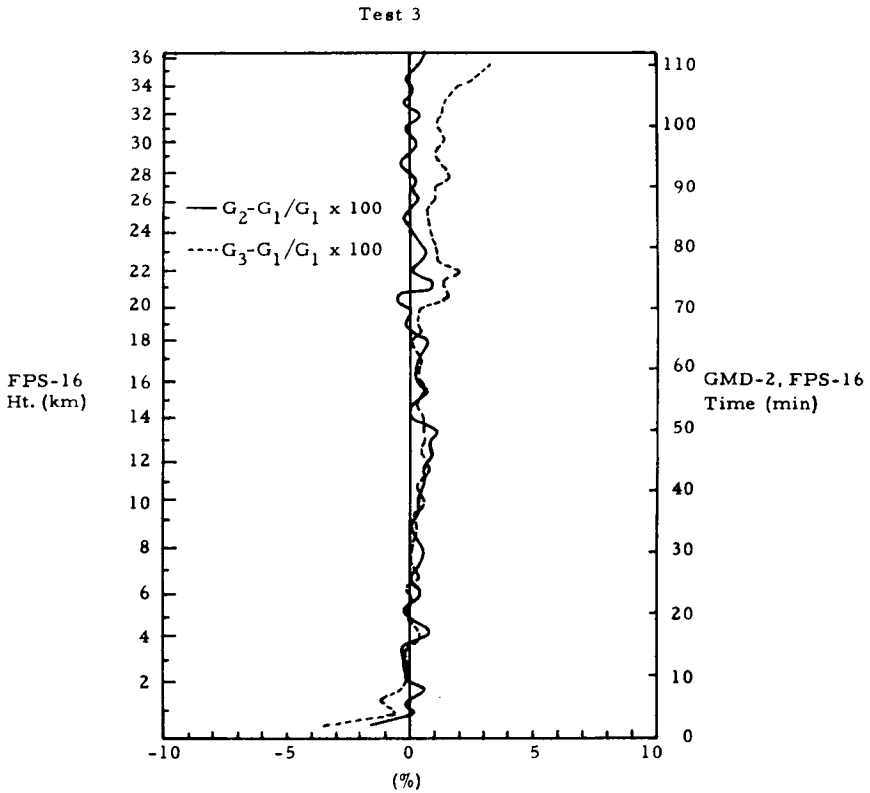

Figure 19C - Relative Differences Between GMD-1 ( ) Geopotential Heights (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

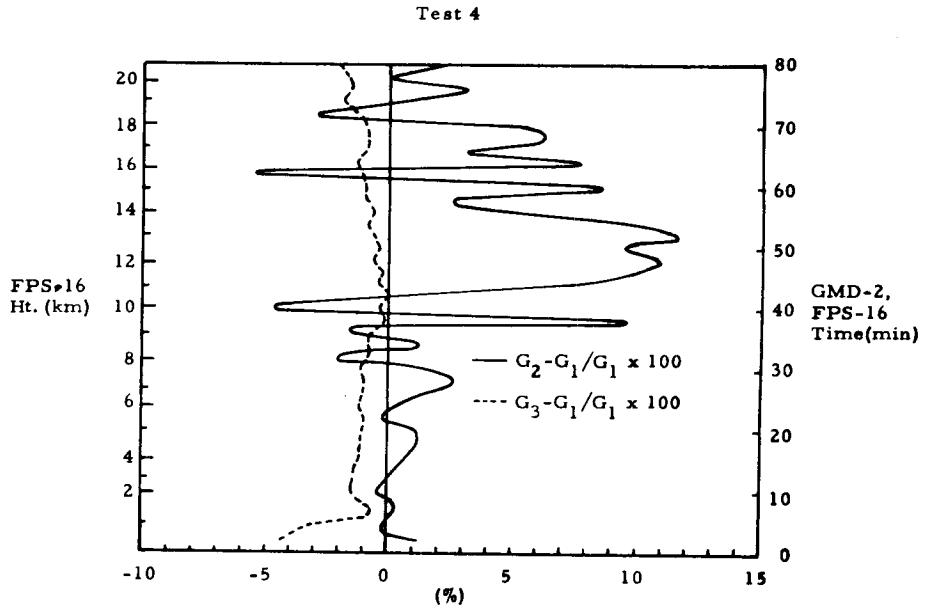

Figure 19D - Relative Differences Between GMD-1 ( ) Geopotential Heights (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

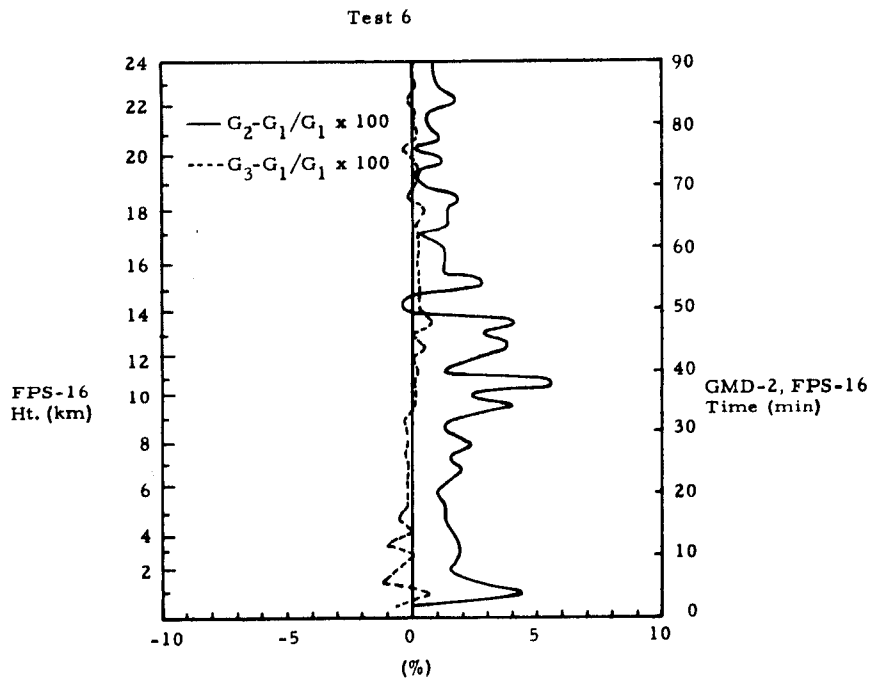

Figure 19E - Relative Differences Between GMD-1 ( ) Geopotential Heights (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

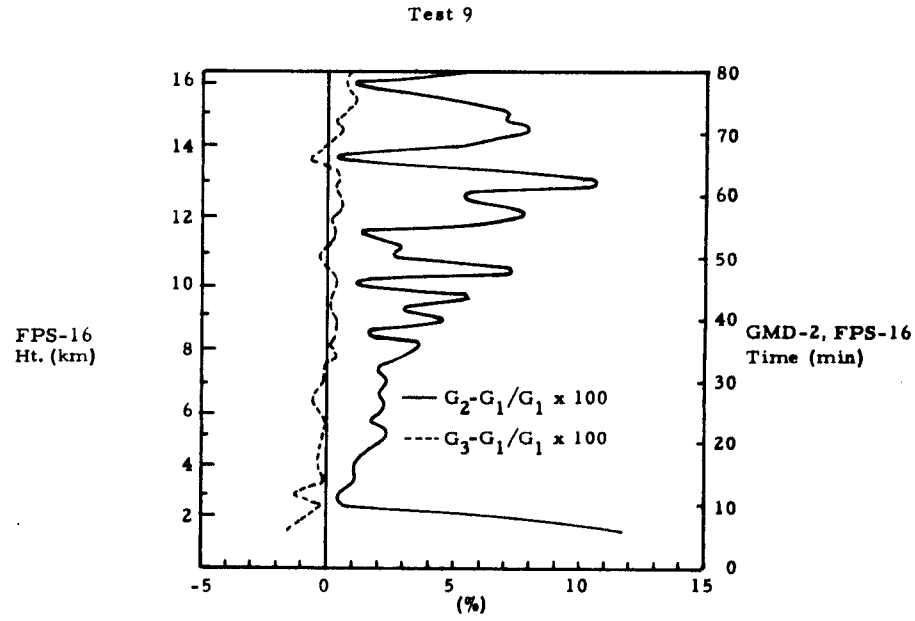

Figure 19F - Relative Differences Between GMD-1 ( ) Geopotential Heights (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

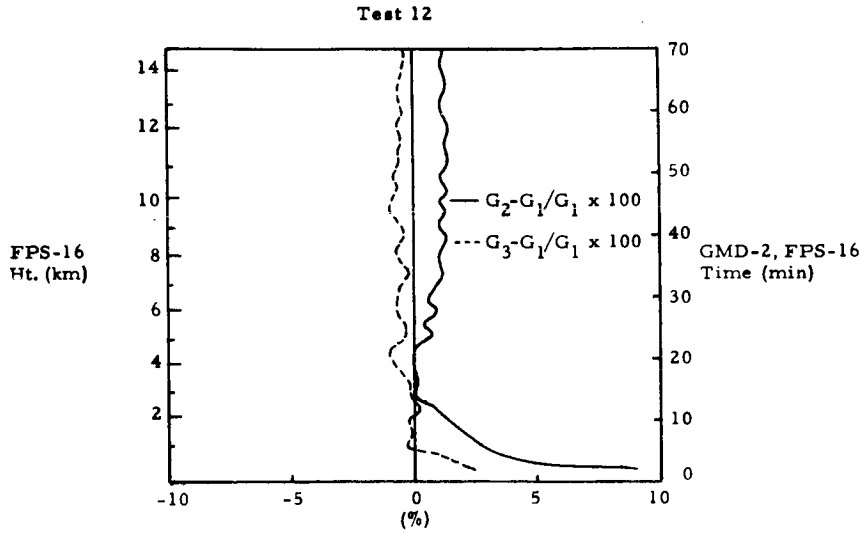

Figure 19G - Relative Differences Between GMD-1 ( ) Geopotential Heights (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

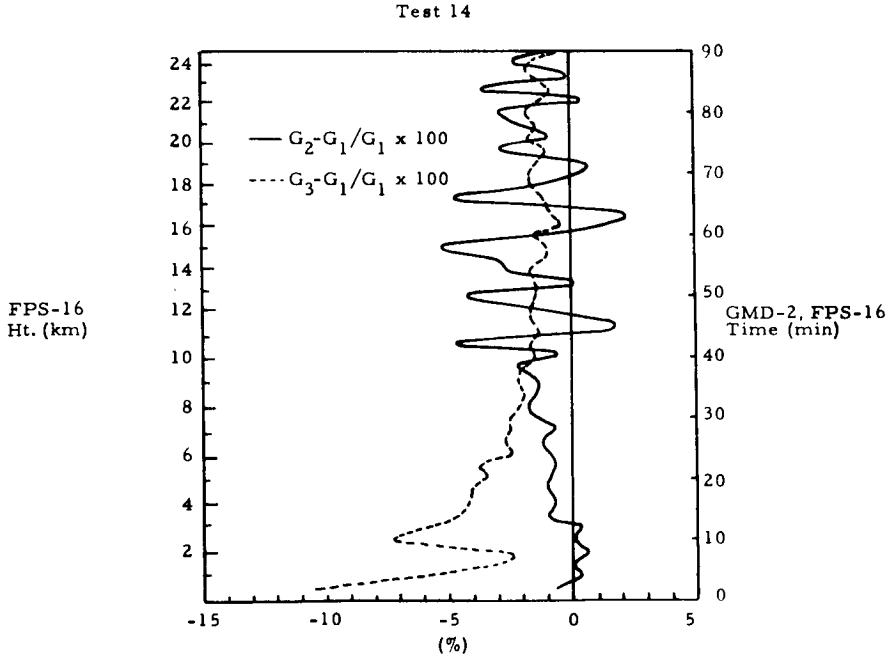

Figure 19H - Relative Differences Between GMD-1 ( ) Geopotential Heights (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

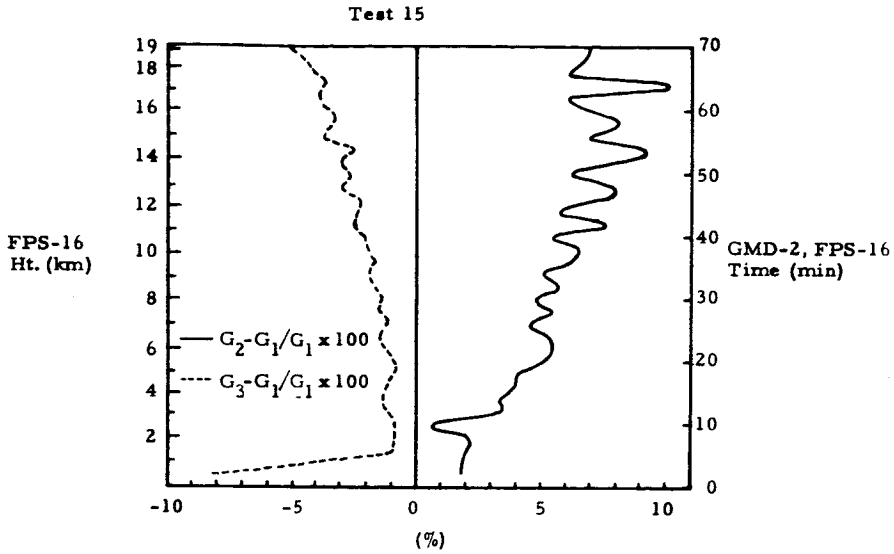

Figure 19I - Relative Differences Between GMD-1 ( ) Geopotential Heights (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

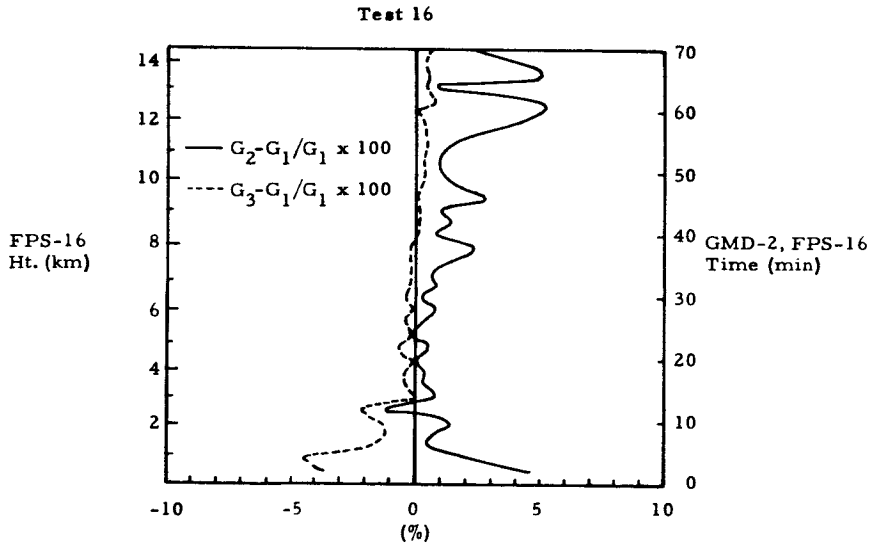

Figure 19J - Relative Differences Between GMD-1 ( ) Geopotential Heights (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

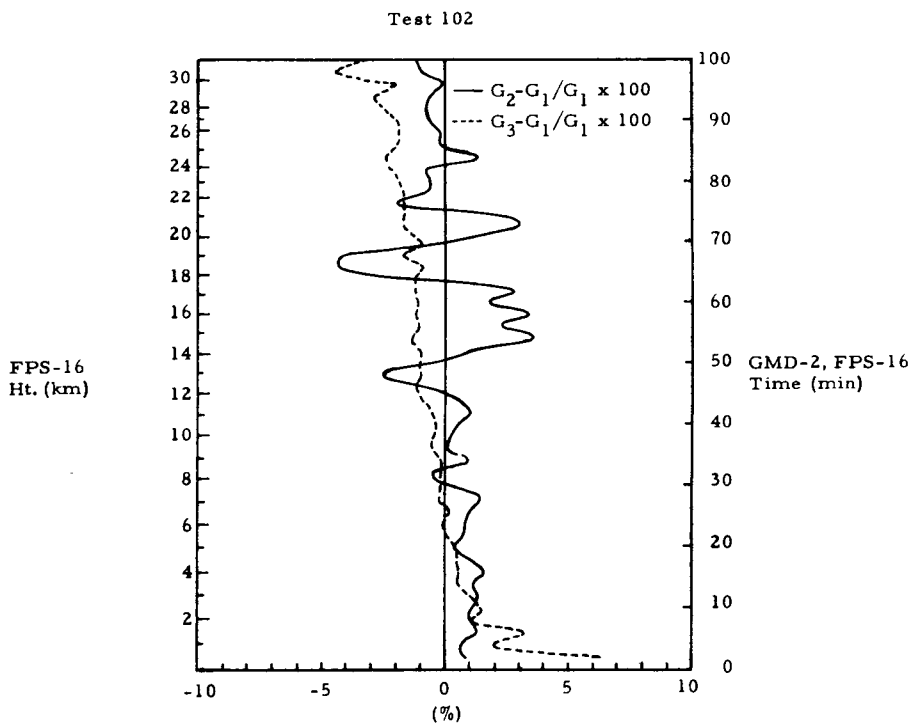

Figure 19K - Relative Differences Between GMD-1 ( ) Geopotential Heights (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

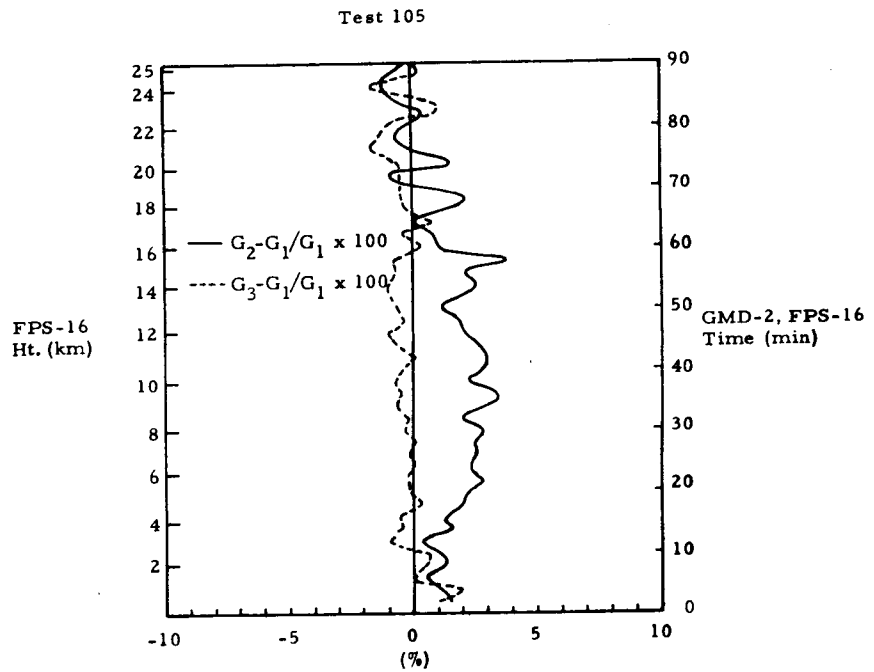

Figure 19L - Relative Differences Between GMD-1 ( ) Geopotential Heights (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

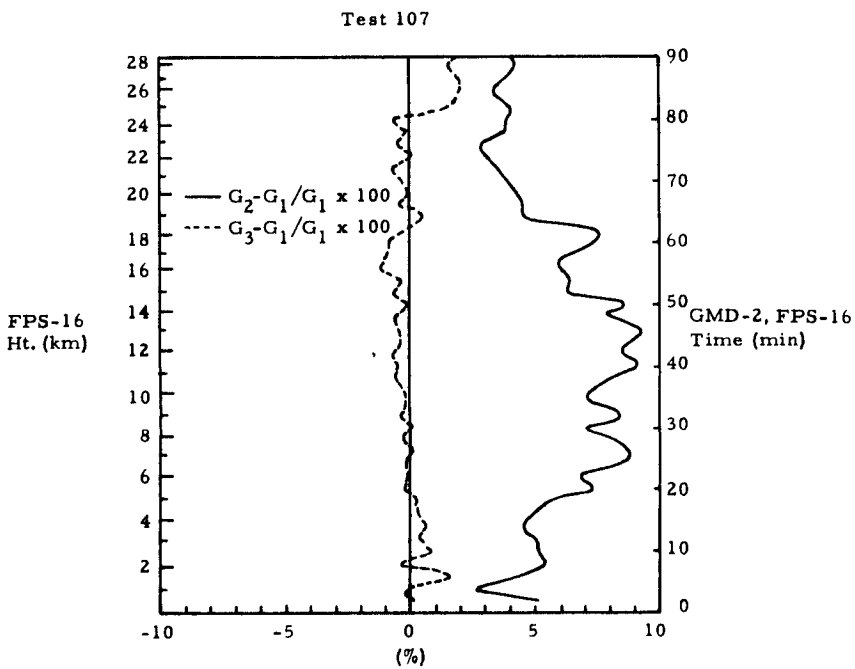

Figure 19M - Relative Differences Between GMD-1 ( ) Geopotential Heights (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

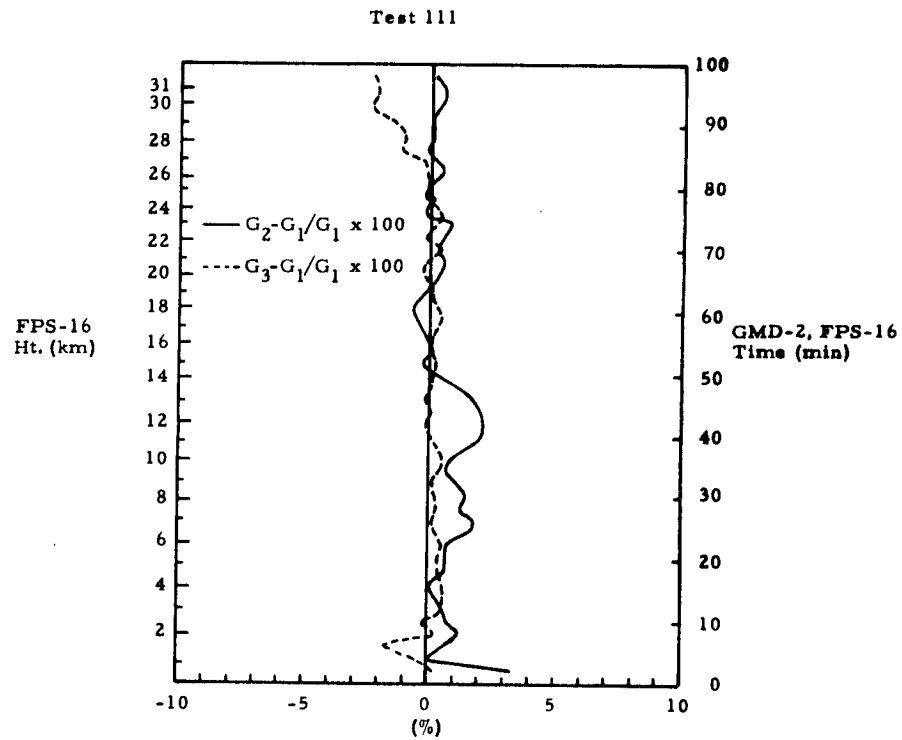

Figure 19N - Relative Differences Between GMD-1 ( ) Geopotential Heights (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

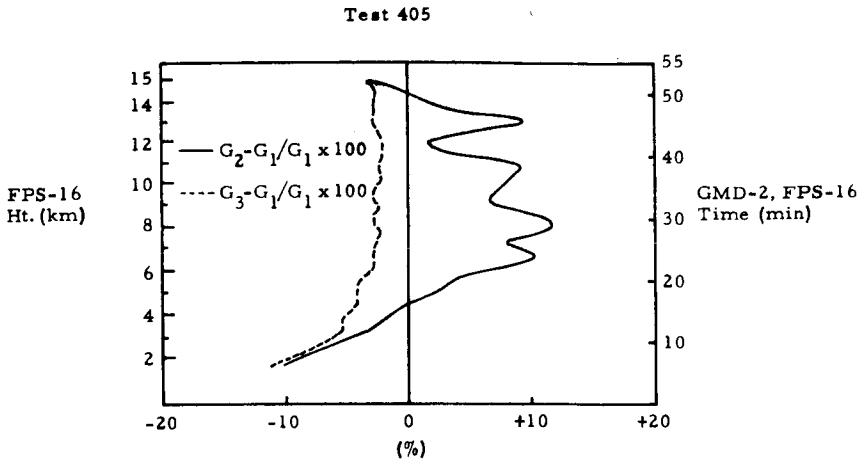

Figure 19O - Relative Differences Between GMD-1 ( ) Geopotential Height (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

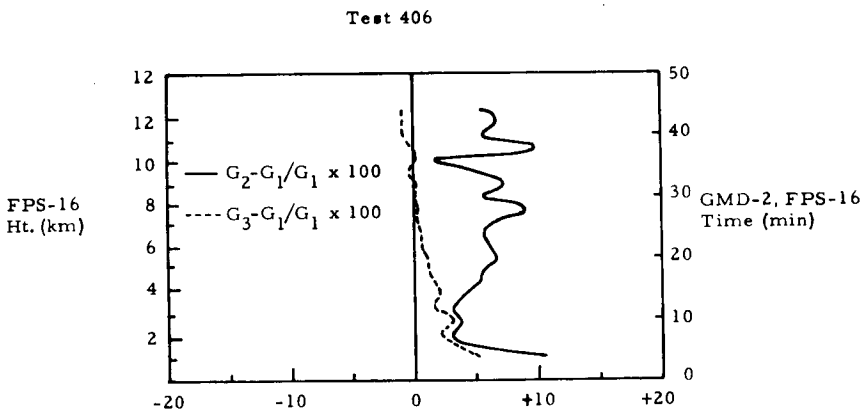

Figure 19P - Relative Differences Between GMD-1 ( ) Geopotential Height (G_3) and FPS-16 Geopotential Heights (G_1) and Relative Differences Between GMD-2 Geopotential Heights (G_2) and FPS-16 Geopotential Heights (G_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

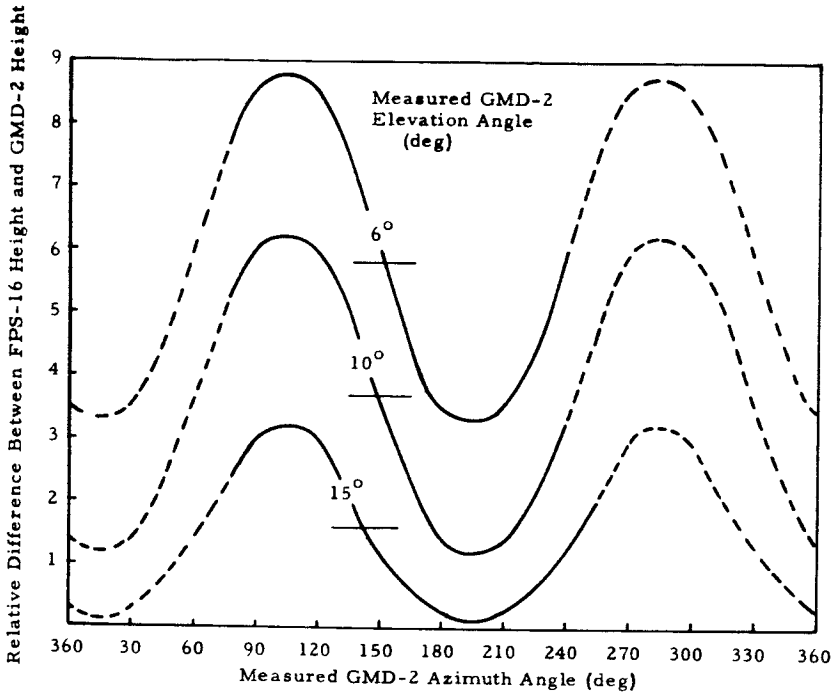

Figure 20 - Relationship of Relative Differences Between FPS-16 and GMD-2 Heights to Measured GMD-2 Elevation and Azimuth Angles at Point Mugu

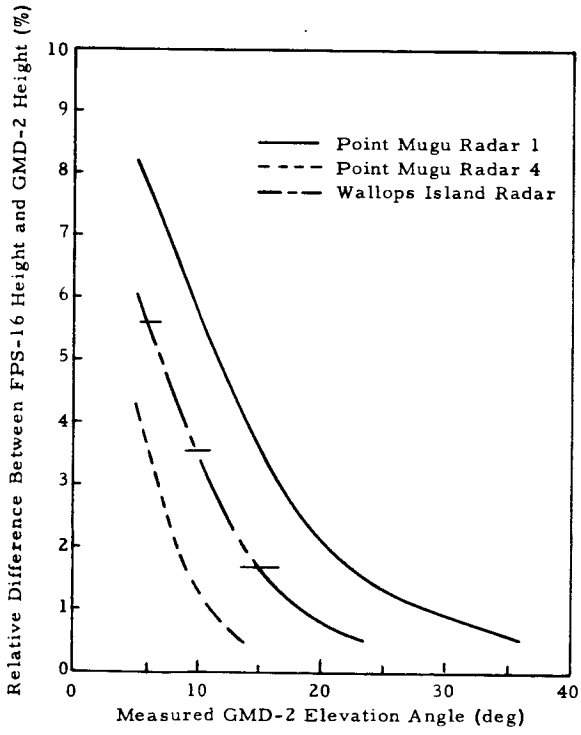

Figure 21 - Relative Differences Between FPS-16 Height and GMD-2 Height versus Measured GMD-2 Elevation Angle at Point Mugu and Wallops Island

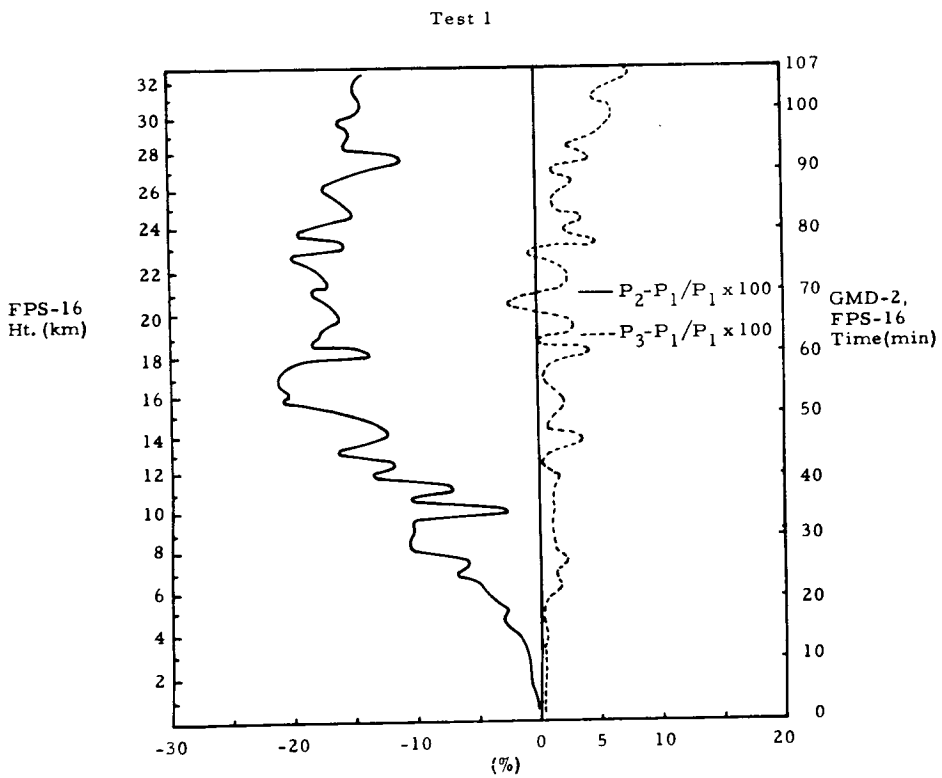

Figure 22A - Relative Differences Between GMD-1 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

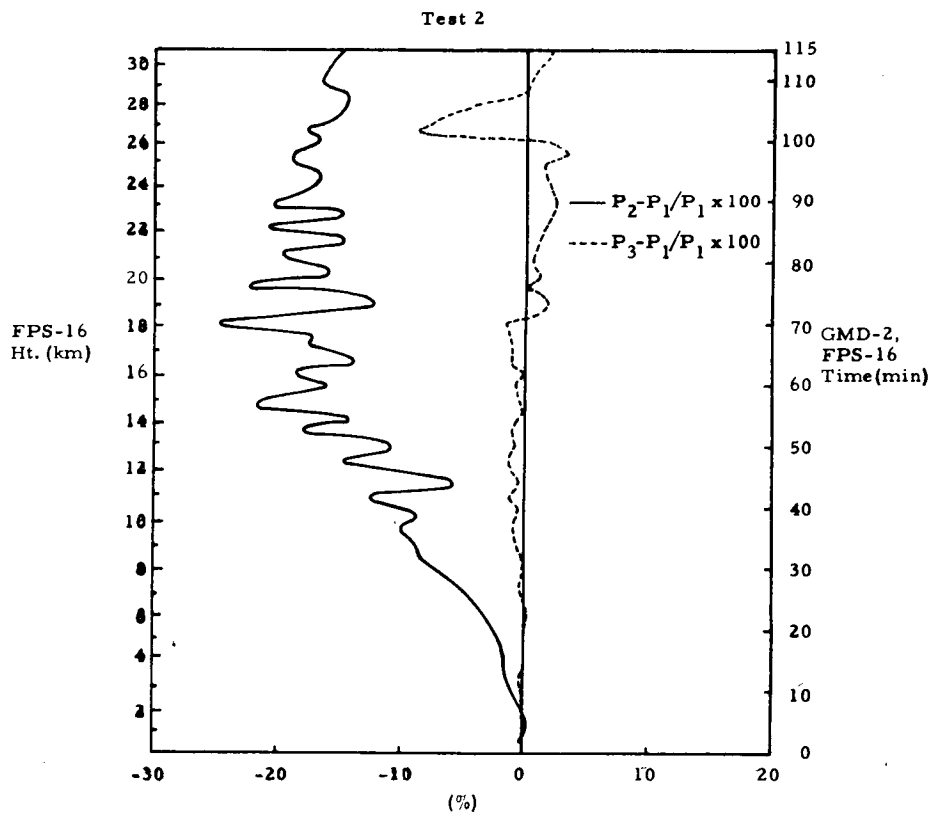

Figure 22B - Relative Differences Between GMD-2 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

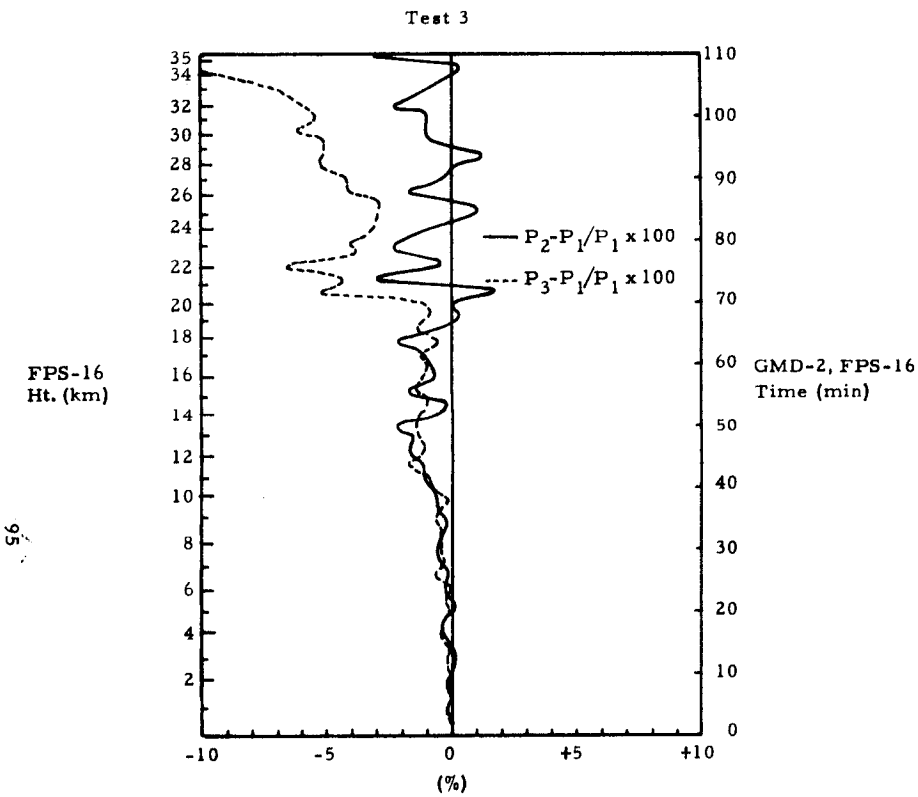

Figure 22C - Relative Differences Between GMD-2 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

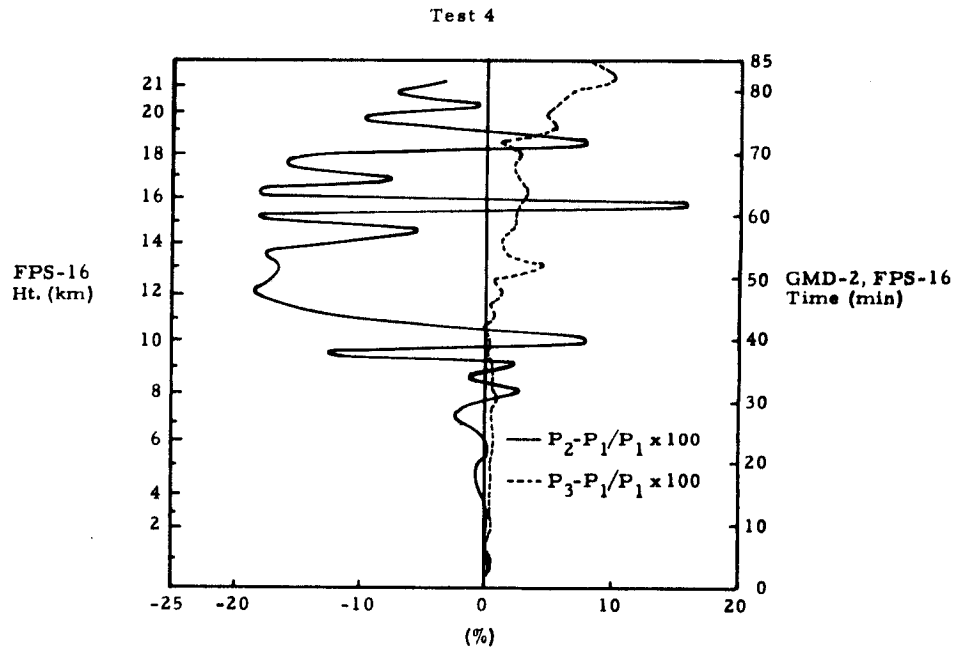

Figure 22D - Relative Differences Between GMD-2 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

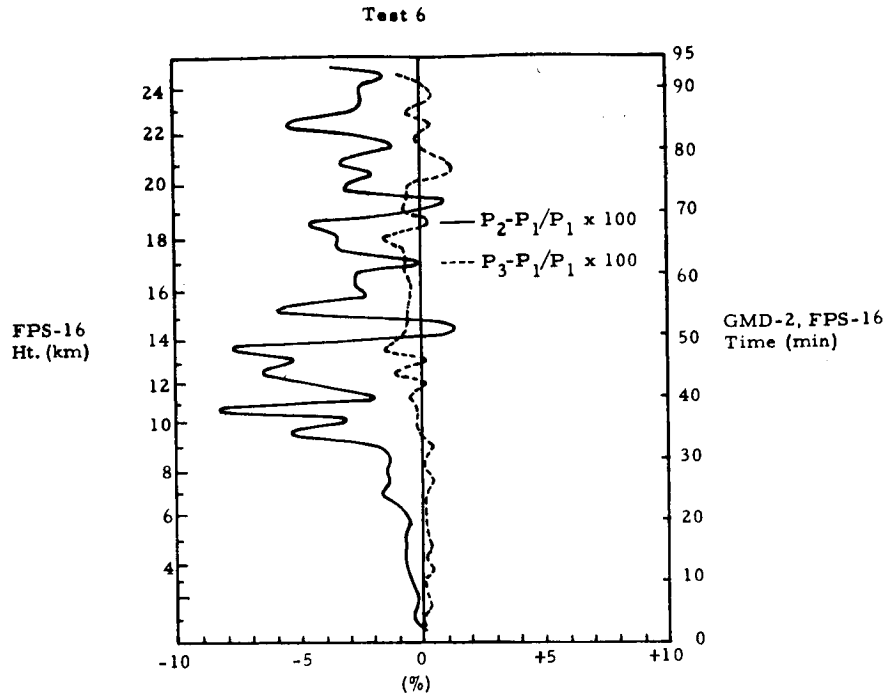

Figure 22E - Relative Differences Between GMD-2 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-15 Height (H_1)

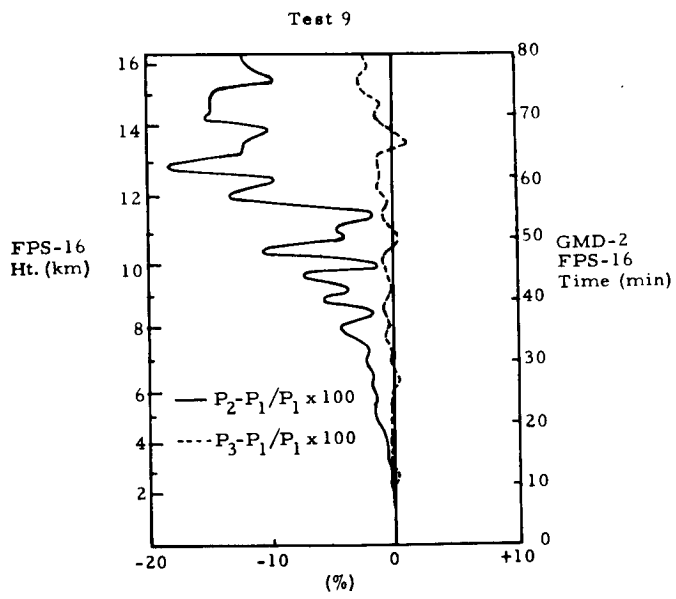

Figure 22F - Relative Differences Between GMD-2 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 12

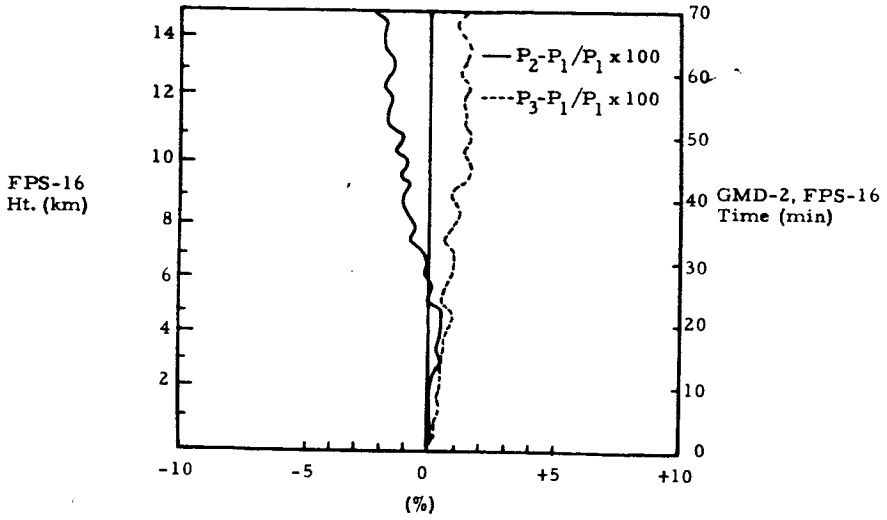

Figure 22G - Relative Differences Between GMD-2 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 14

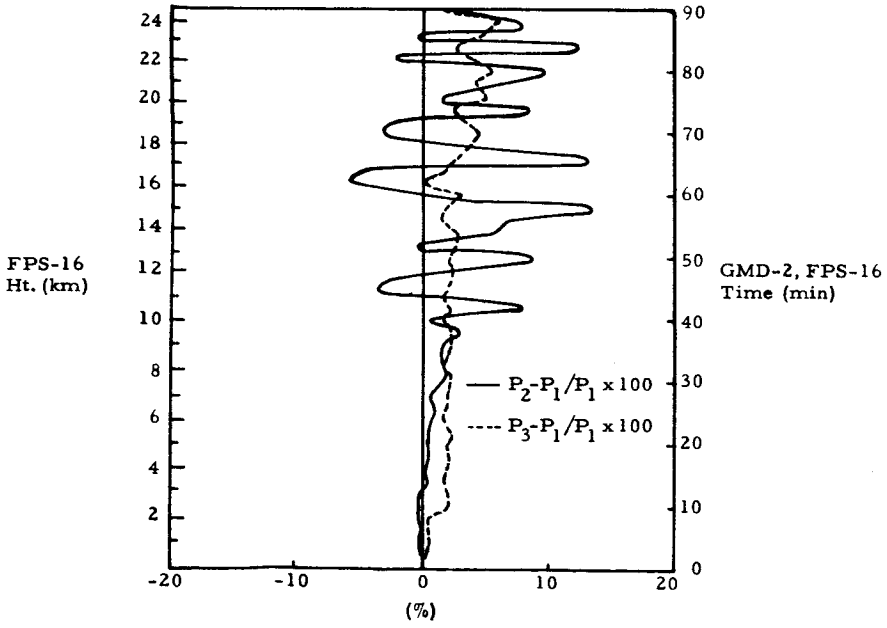

Figure 22H - Relative Differences Between GMD-2 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 15

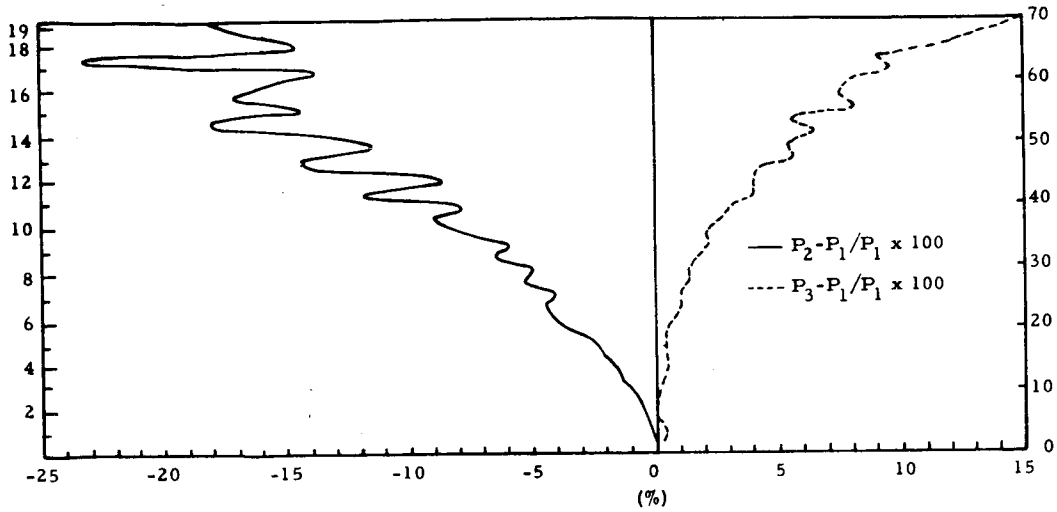

Figure 22I - Relative Differences Between GMD-2 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 16

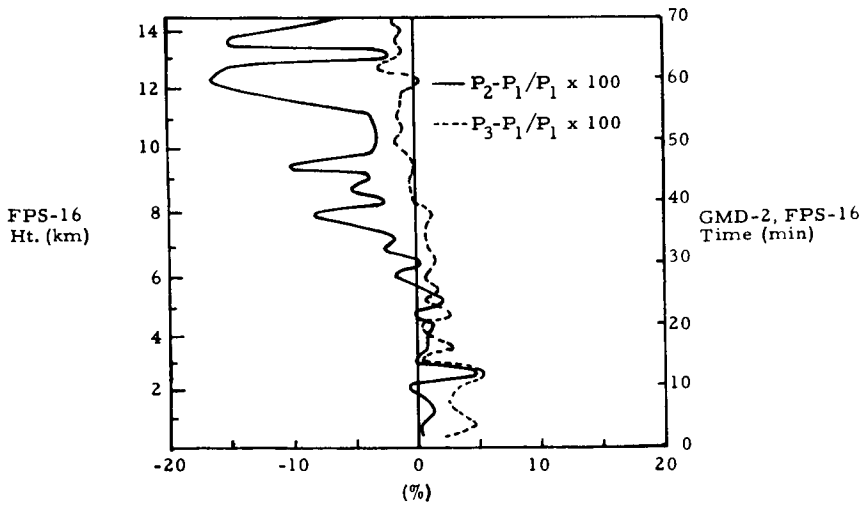

Figure 22J - Relative Differences Between GMD-2 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 102

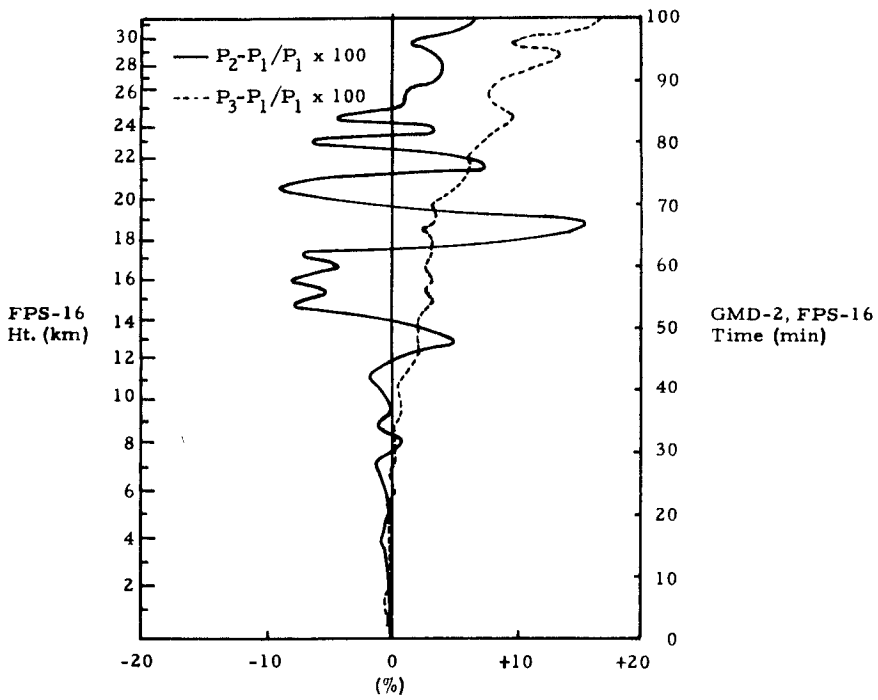

Figure 22K - Relative Differences Between GMD-2 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 105

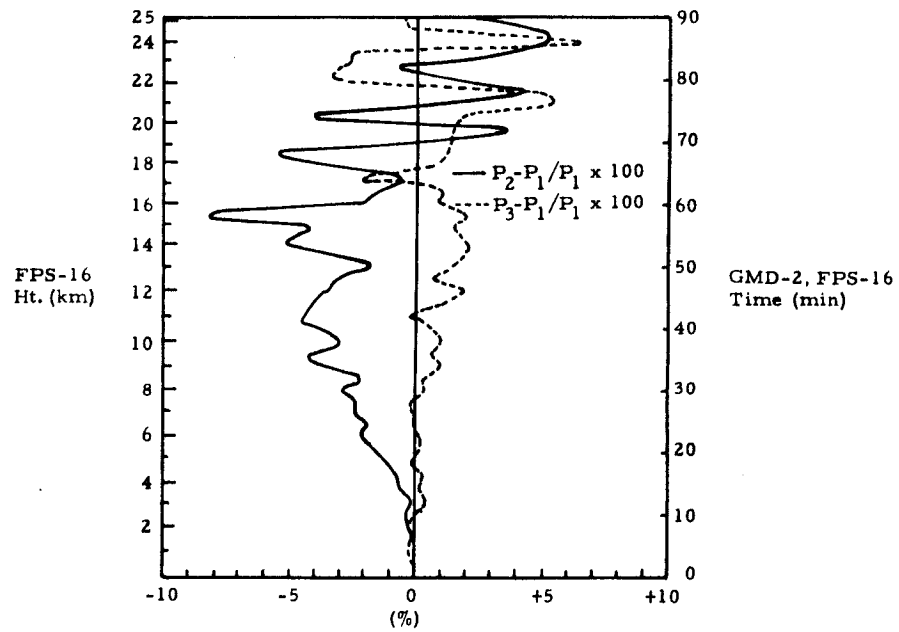

Figure 22L - Relative Differences Between GMD-2 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

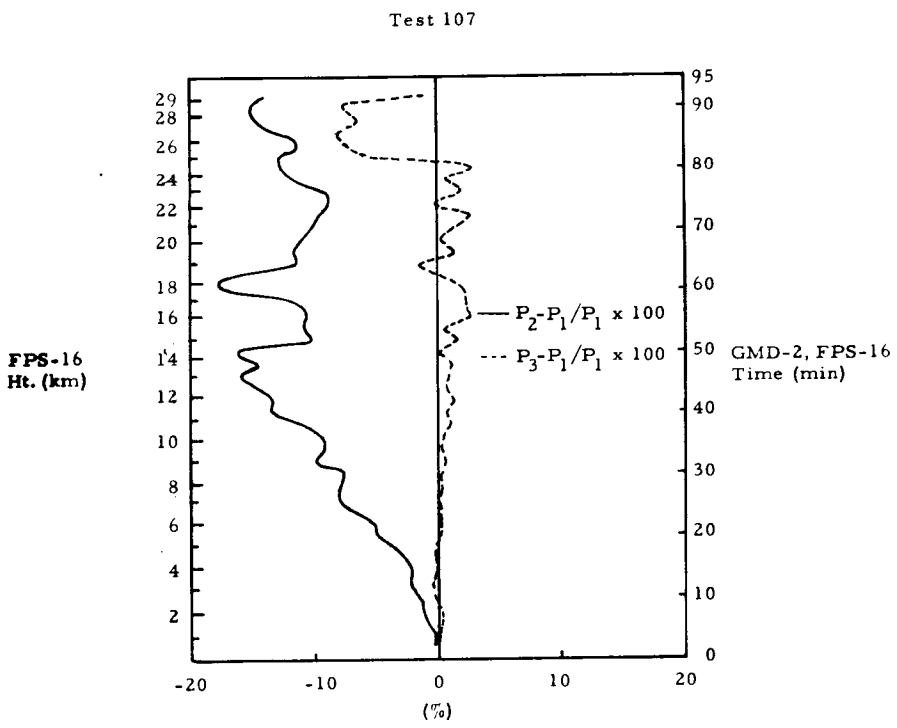

Figure 22M - Relative Differences Between GMD-2 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

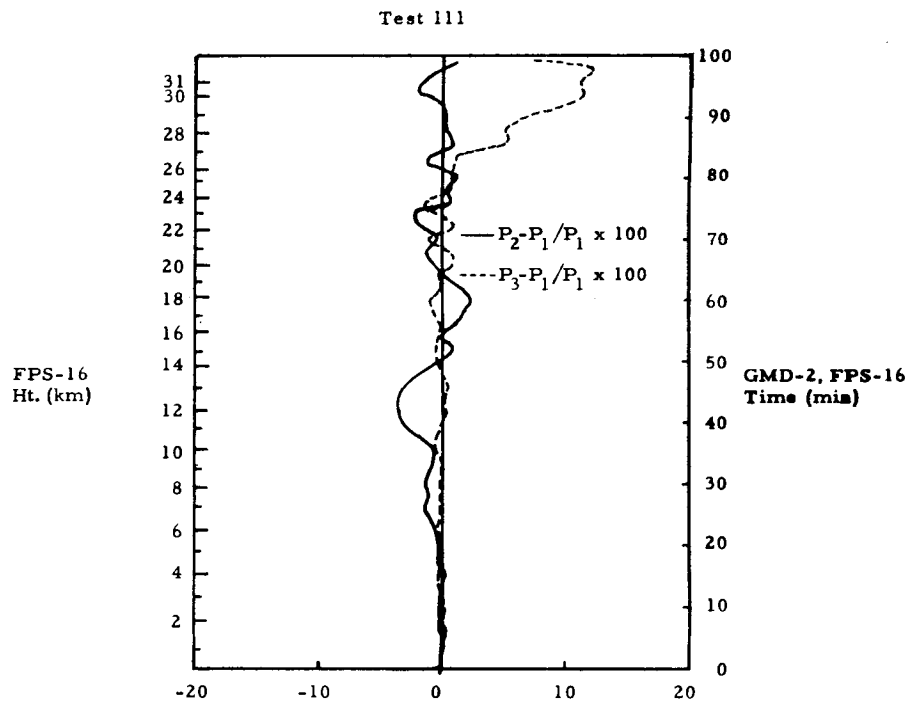

Figure 22N - Relative Differences Between GMD-2 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 405

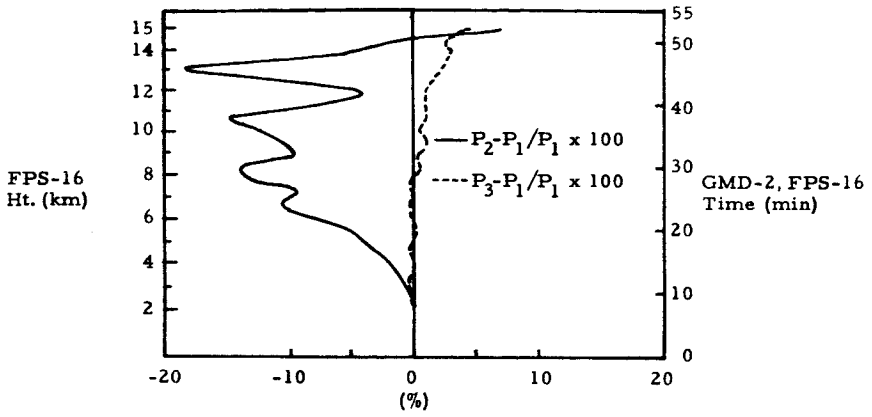

Figure 22O - Relative Differences Between GMD-2 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 406

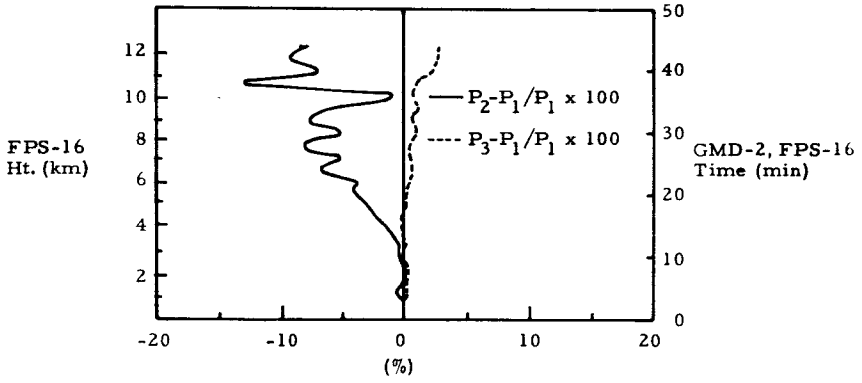

Figure 22P - Relative Differences Between GMD-2 ( ) Pressure (P_3) and FPS-16 Pressure (P_1) and Relative Differences Between GMD-2 Pressure (P_2) and FPS-16 Pressure (P_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

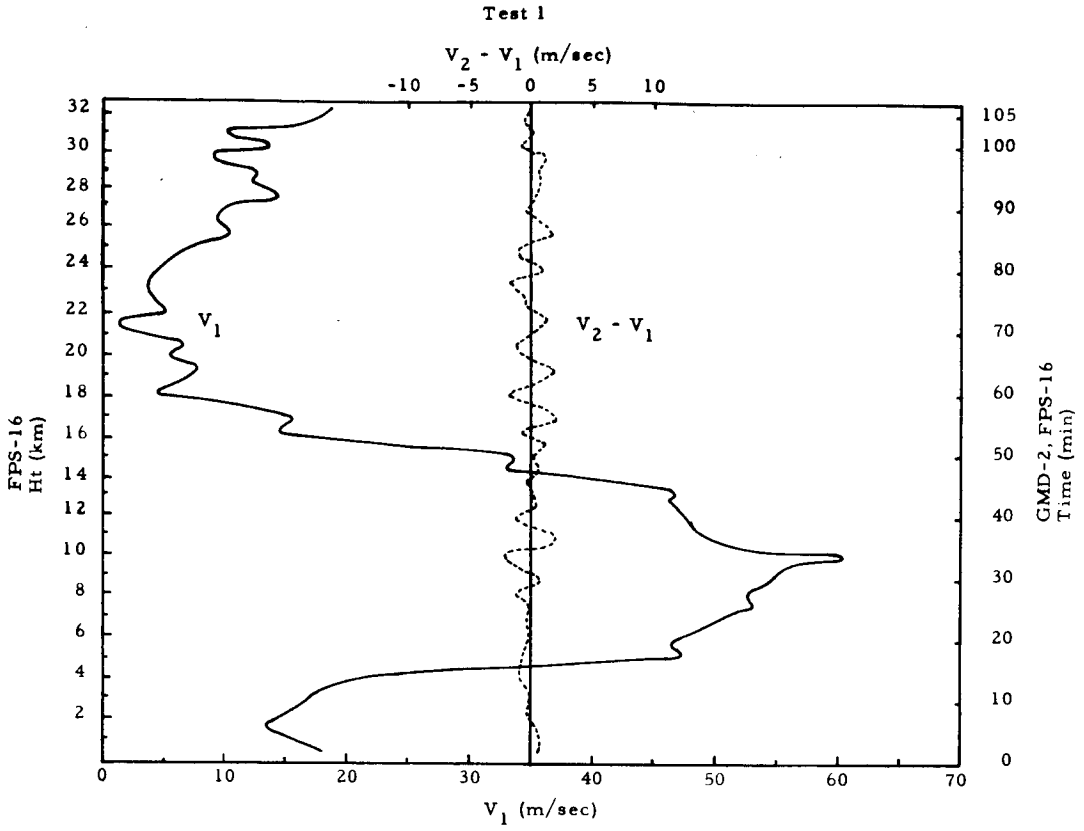

Figure 23A - Comparison of Wind Speeds Derived From GMD-2 Data (V_2) and Wind Speeds Derived From FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

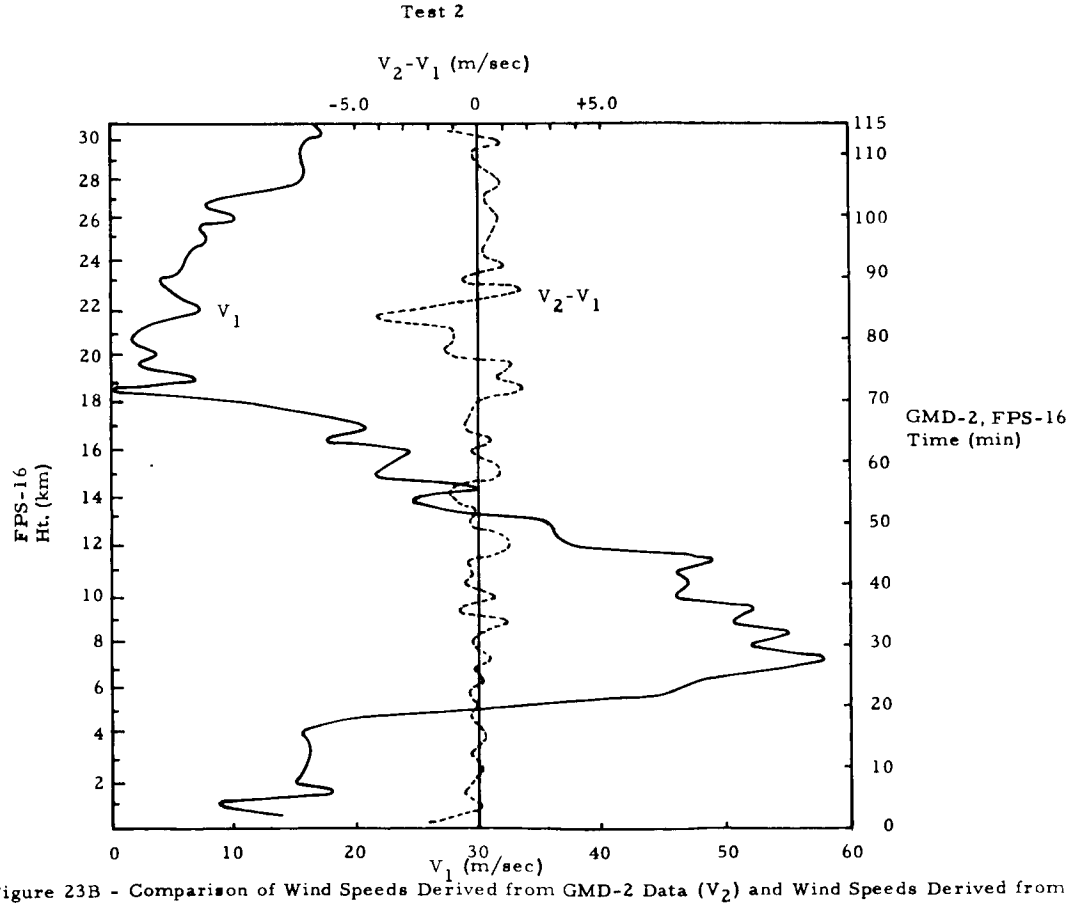

Figure 23B - Comparison of Wind Speeds Derived from GMD-2 Data (V_2) and Wind Speeds Derived from FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

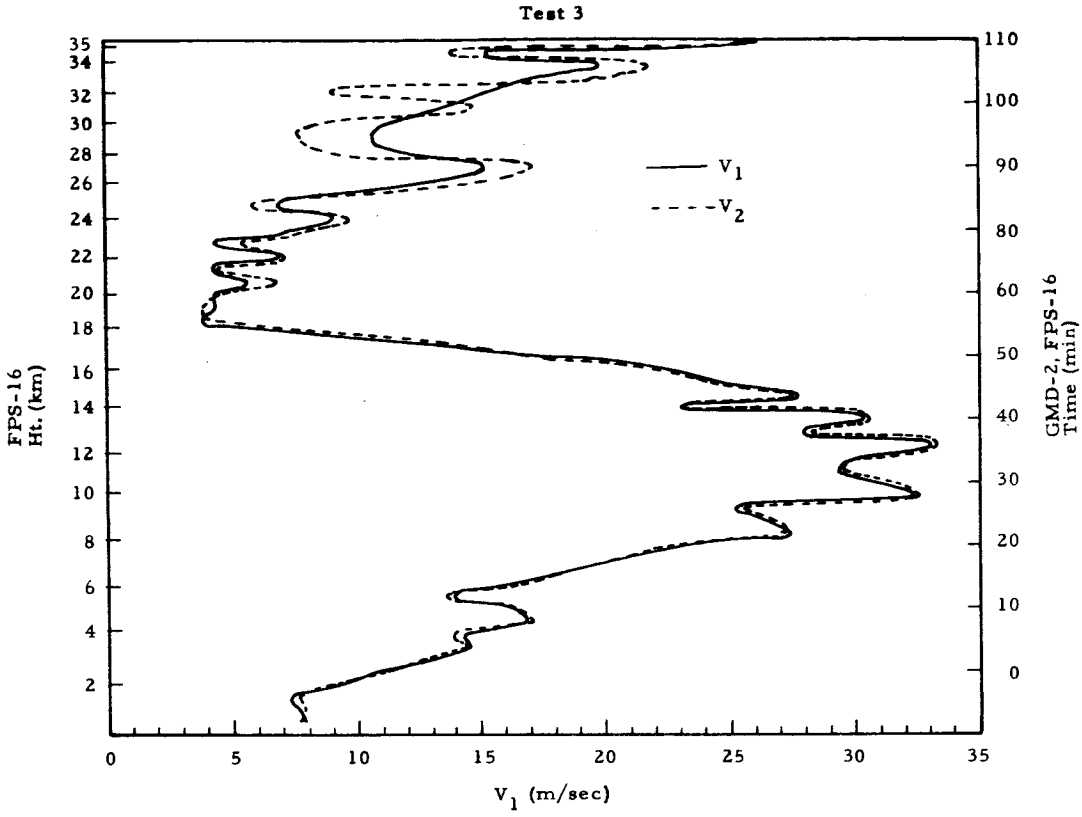

Figure 23C - Comparison of Wind Speeds Derived From GMD-2 Data (V_2) and Wind Speeds Derived From FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

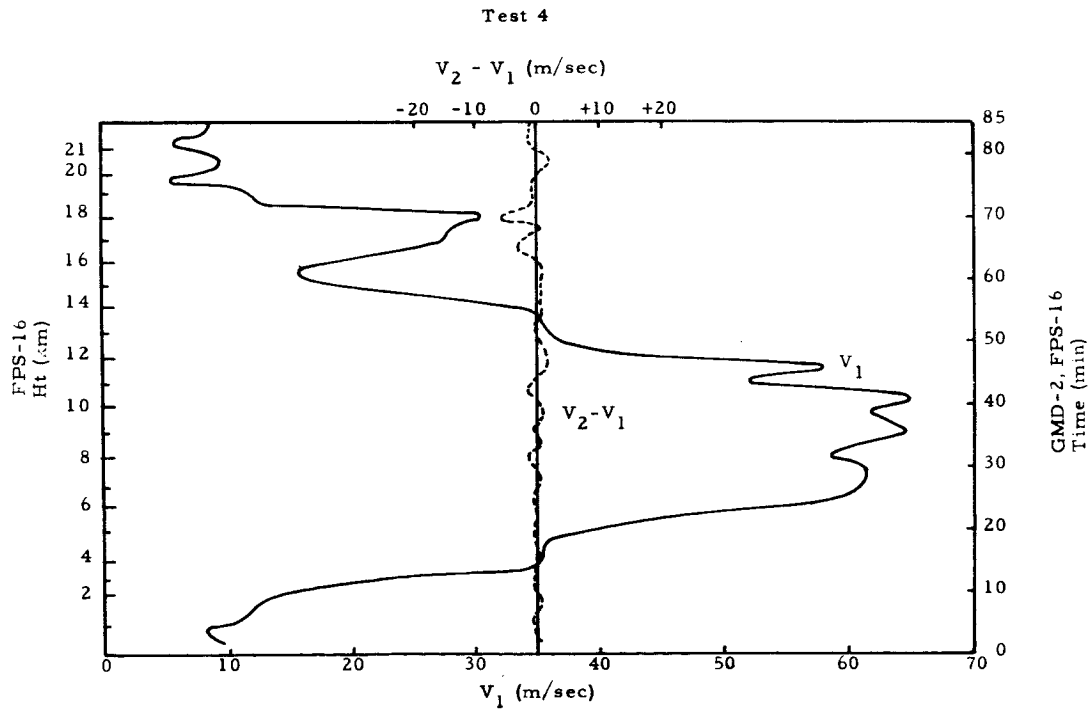

Figure 23D - Comparison of Wind Speeds Derived From GMD-2 Data (V_2) and Wind Speeds Derived From FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

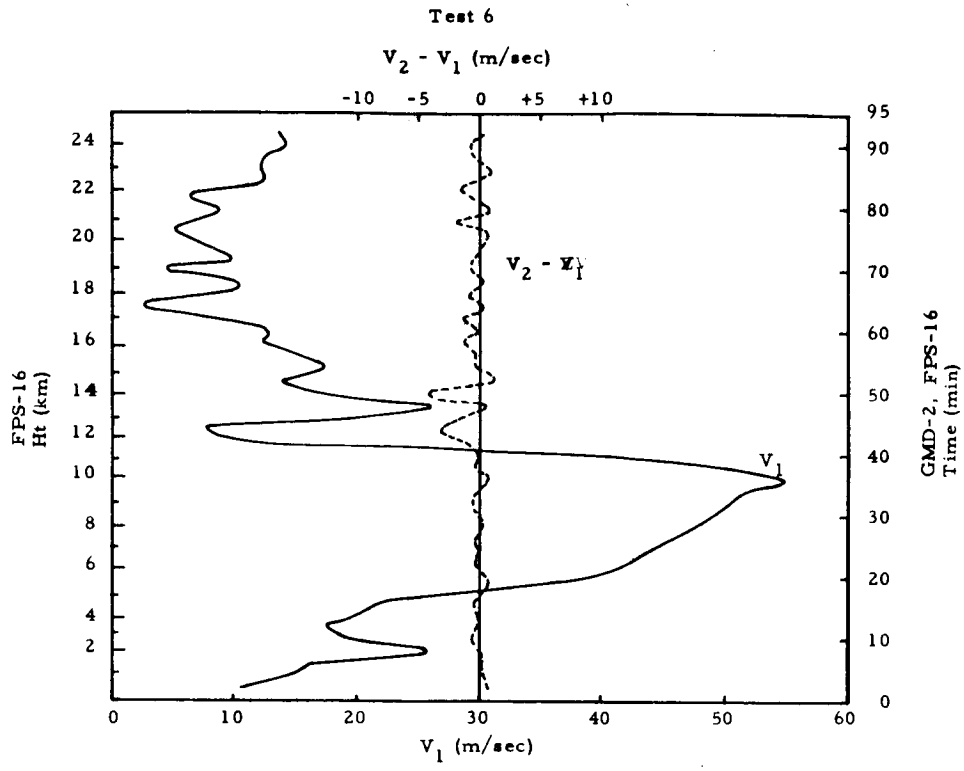

Figure 23E - Comparison of Wind Speeds Derived From GMD-2 Data (V_2) and Wind Speeds Derived From FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

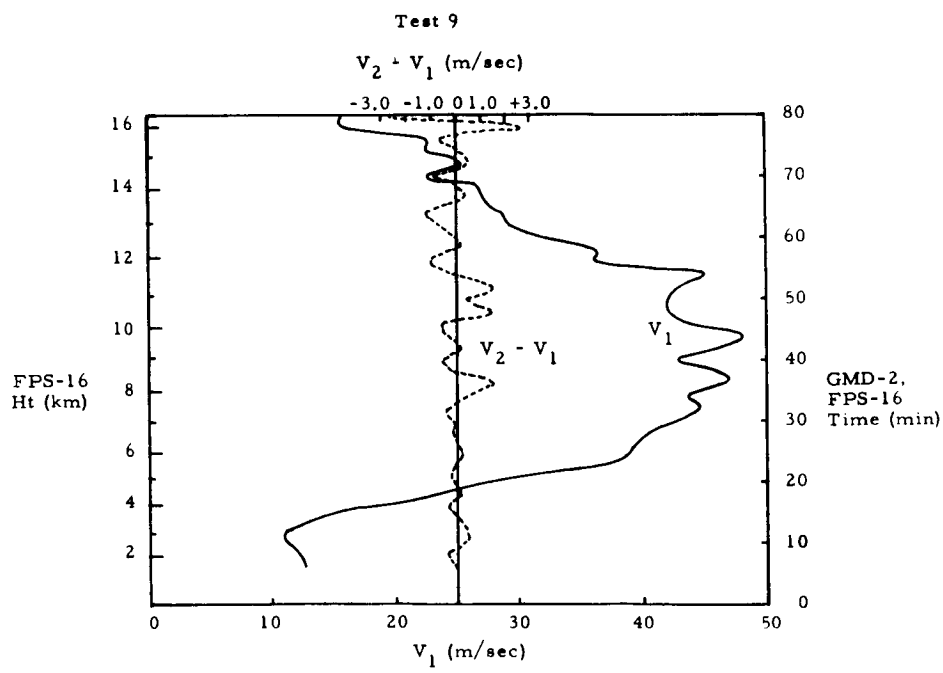

Figure 23F - Comparison of Wind Speeds Derived From GMD-2 Data (V_2) and Wind Speeds Derived From FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 12

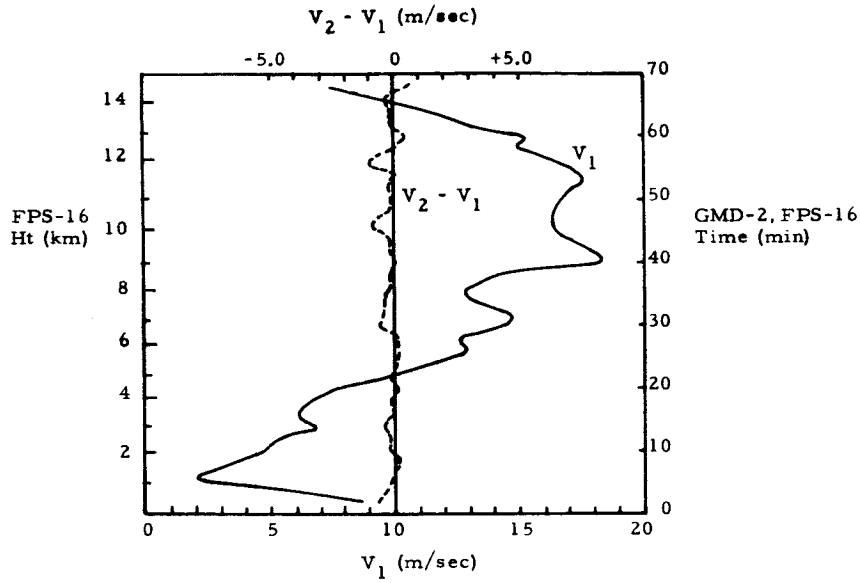

Figure 23G - Comparison of Wind Speeds Derived From GMD-2 Data (V_2) and Wind Speeds Derived From FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 14

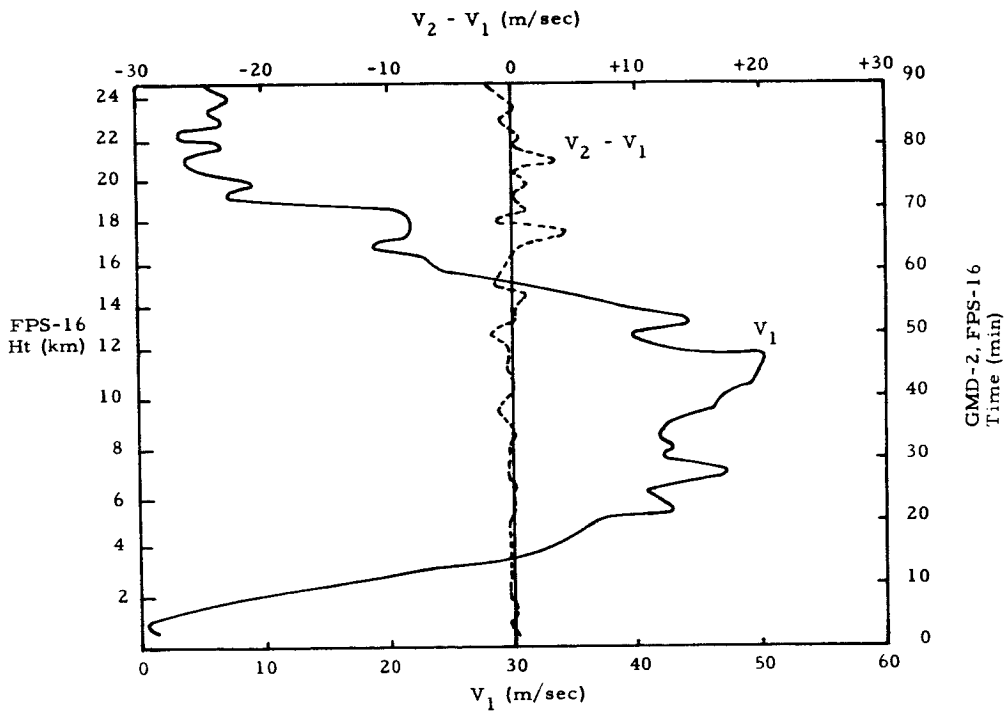

Figure 23H - Comparison of Wind Speeds Derived From GMD-2 Data (V_2) and Wind Speeds Derived From FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

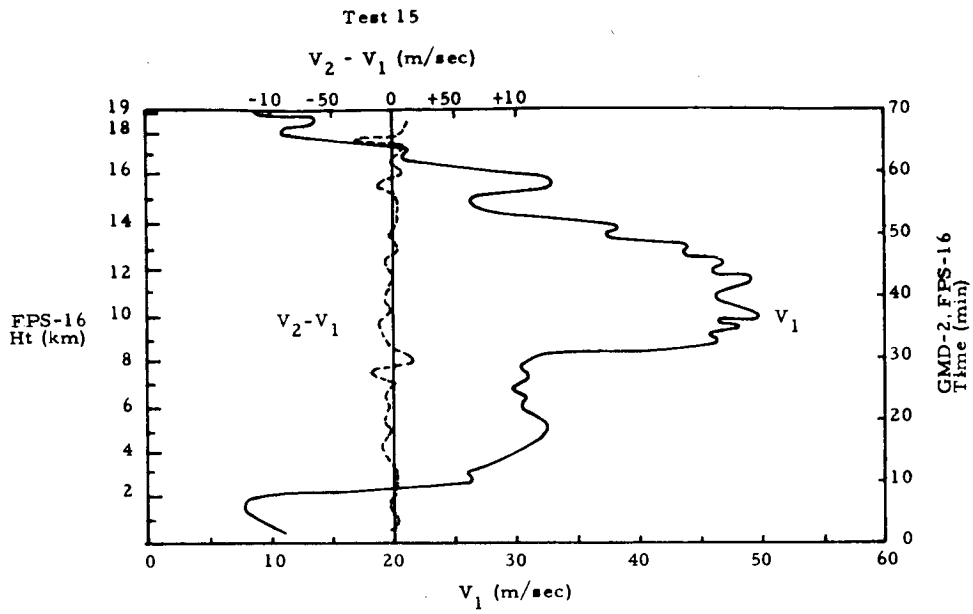

Figure 23I - Comparison of Wind Speeds Derived From GMD-2 Data (V_2) and Wind Speeds Derived From FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

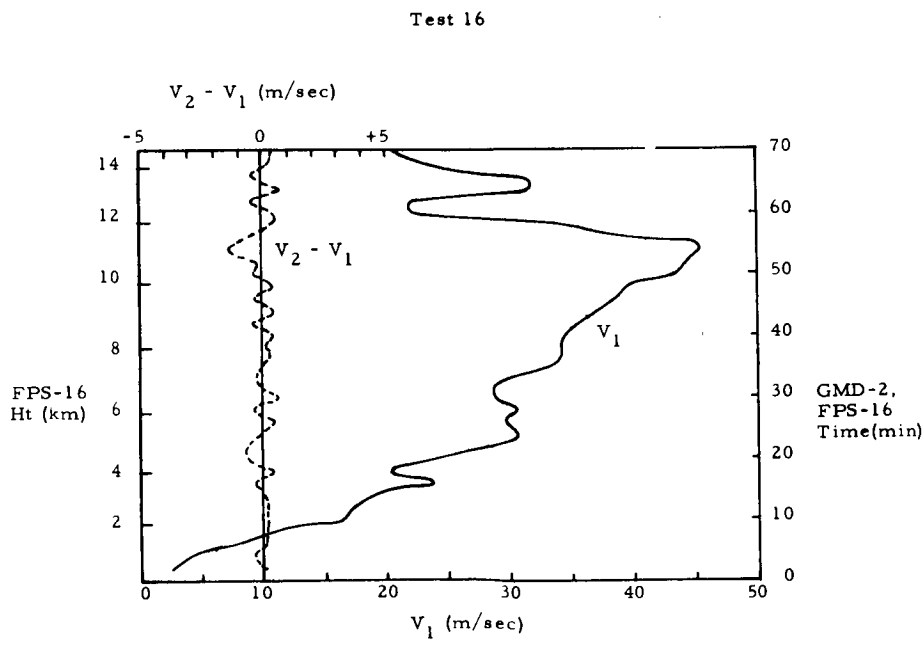

Figure 23J - Comparison of Wind Speeds Derived From GMD-2 Data (V_2) and Wind Speeds Derived From FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 102

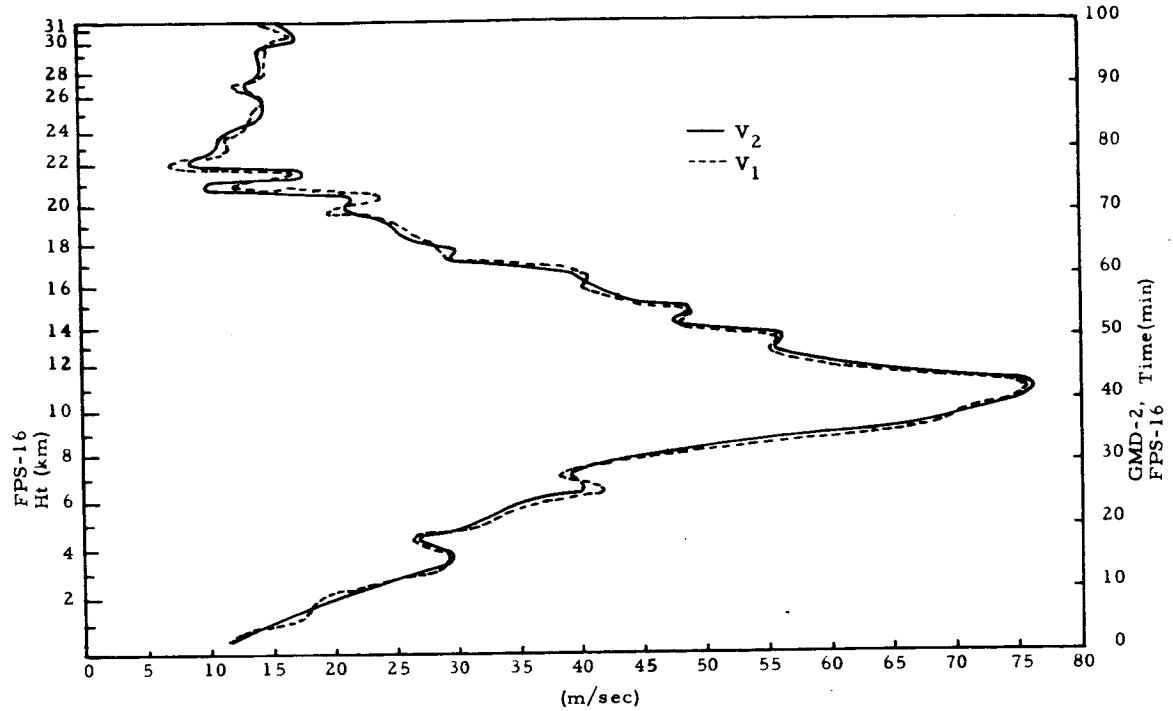

Figure 23K - Comparison of Wind Speeds Derived From GMD-2 Data (V_2) and Wind Speeds Derived From FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 105

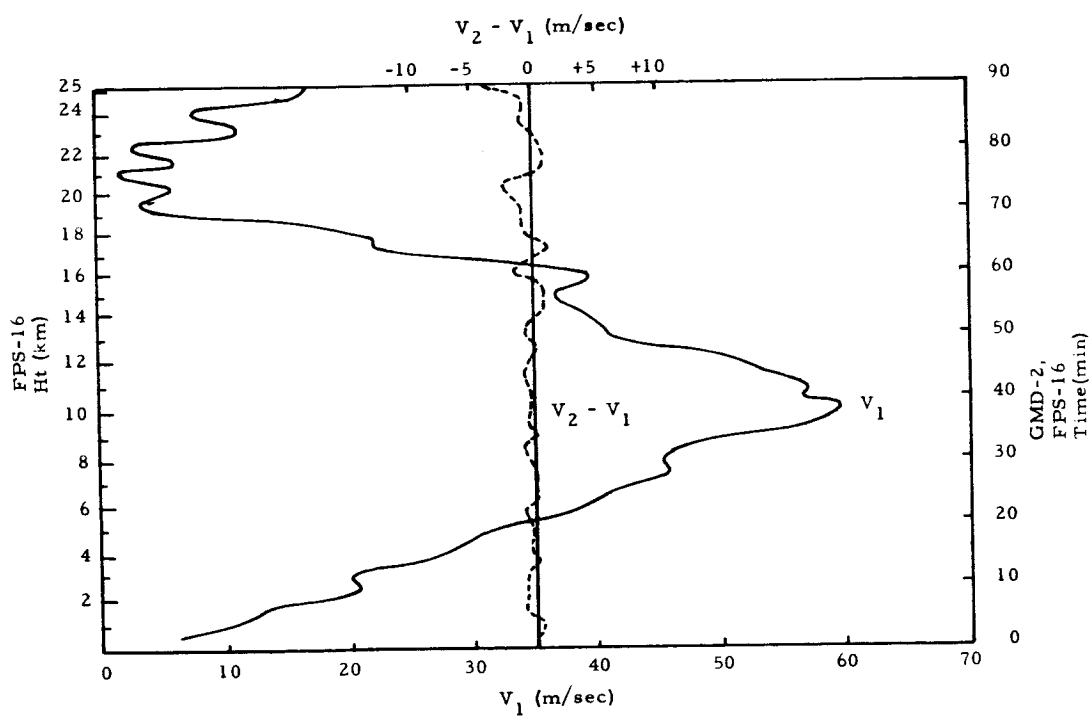

Figure 23L - Comparison of Wind Speeds Derived From GMD-2 Data (V_2) and Wind Speeds Derived From FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

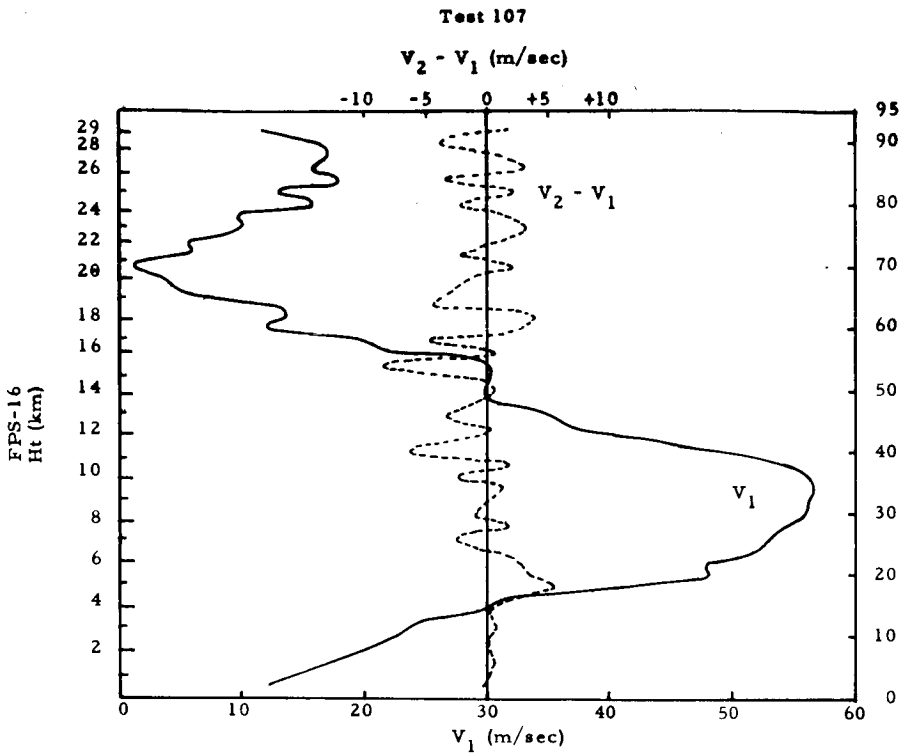

Figure 23M - Comparison of Wind Speeds Derived From GMD-2 Data (V_2) and Wind Speeds Derived From FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

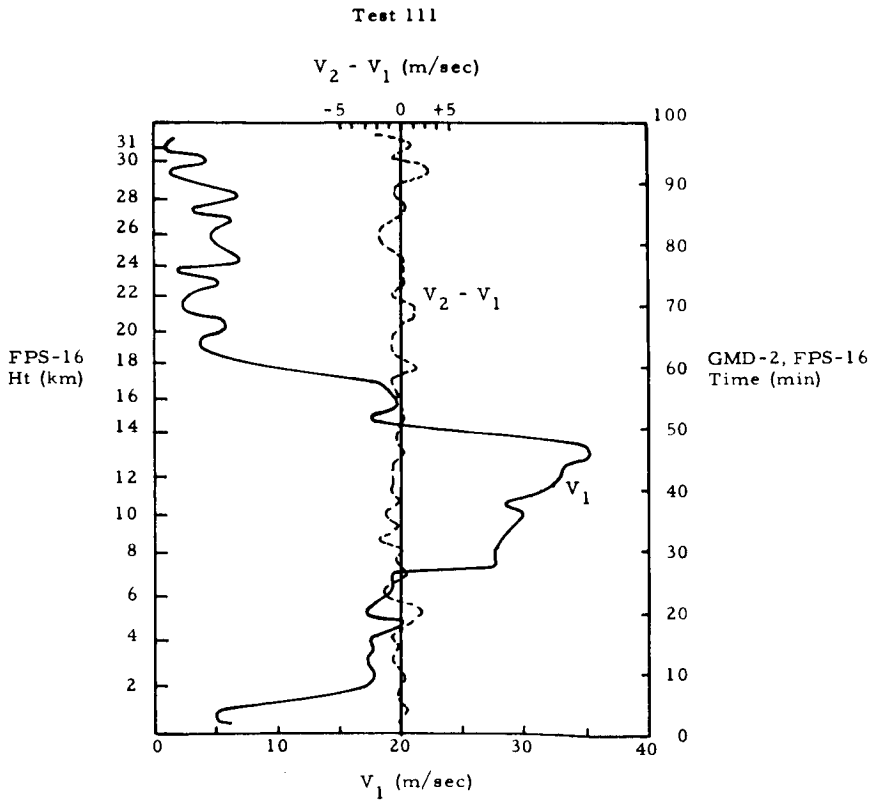

Figure 23N - Comparison of Wind Speeds Derived From GMD-2 Data (V_2) and Wind Speeds Derived From FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 405

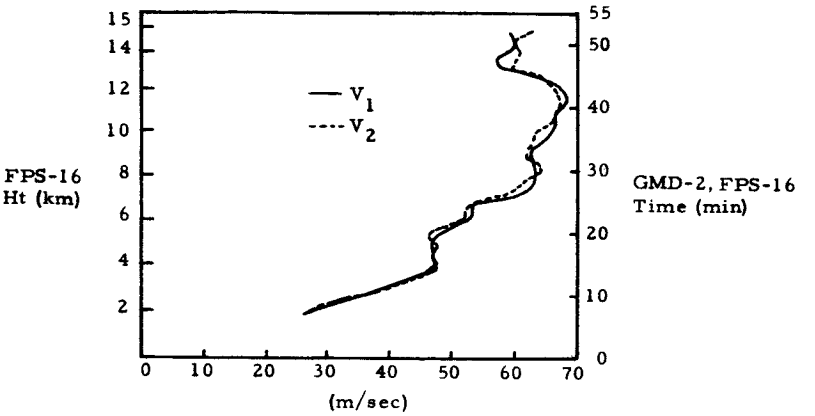

Figure 23O - Comparison of Wind Speeds Derived From GMD-2 Data (V_2) and Wind Speeds Derived From FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

Test 406

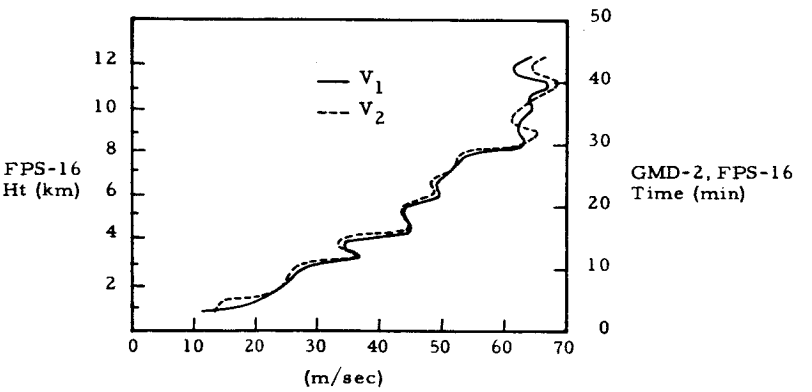

Figure 23P - Comparison of Wind Speeds Derived From GMD-2 Data (V_2) and Wind Speeds Derived From FPS-16 Data (V_1) vs Synchronized GMD-2, FPS-16 Time and FPS-16 Height (H_1)

APPENDIX A

This appendix is given to illustrate the data reduction and computational techniques used in the development of this study.

Phase 1: Reduction of FPS-16 Data

I. Input

A. FPS-16 radar computer tape.

- Time of day (seconds)
- Elevation angle (deg)
- Azimuth angle (deg)
- Slant range (yards)
- Radar number

II. Procedure

A. Time Conversion

- Convert time $(t)_1$ to seconds of Greenwich time of day (t_2), if not input as such.
- Reduce frequency of data points to one per second, if not input as such.

B. Convert Slant Range

$$R_1 = 0.9144\ (R_y)_1 \tag{1}$$

C. Extract radar number from computer tape.

III. Output

A. Print-out for each second the following parameters:

t_2 - (seconds), E_1 - (0.01 deg),

A_1 - (0.01 deg), R_1 - (meters)

B. Magnetic tape with data points at 1 per second of:

t_2 - (seconds), E_1 - (0.01 deg),

A_1 - (0.01 deg), R_1 - (meters)

Phase 2: Transformation of GMD-2 Data

I. Input

A. (GMD-2) - (Raob) Compute Punch Cards

- t - (min)
- E_2 - (deg)
- A_2 - (deg)
- $(R_y)_2$ -(yards)
- $(H_y)_2$ -(feet)
- P_3 - (mb)
- T_3 - (recorder divisions)
- U - (percent)
- T' - (deg C)

B. Input Constants

- B - (meters)
- - (deg)
- h_2 - (meters)
- h_1 - (meters)

II. Procedure

A. Height Conversion

$$H_4 = 0.3048\ (H_f)_4 \tag{2}$$

B. Slant range conversion

$$R_2 = 0.9144\ (R_y)_2 \tag{3}$$

C. GMD-2 Cartesian coordinates transformed to exact location of FPS-16 radar.

$$Z_2^* = R_2 \cos A_2 \cos E_2 + B \cos \beta \tag{4}$$

$$X_2^* = R_2 \sin A_2 \cos E_2 + B \sin \beta \tag{5}$$

$$UY_2^* = R_2 \sin E_2 + h_2 - h_1 \tag{6}$$

NOTE: The UY_2^* coordinate is not corrected for the distance TL. This correction will be performed in Phase 3.

D. GMD-2 slant range transformed to FPS-16 location.

$$UR_2^* = \left[(Z_2^*)^2 + (UY_2^*)^2 + (X_2^*)^2 \right]^{\frac{1}{2}} \tag{7}$$

E. GMD-2 elevation angle transformed to FPS-16 location.

$$UE_2^* = \sin^{-1} \frac{UY_2^*}{UR_2^*} \tag{8}$$

F. GMD-2 azimuth angle transformed to FPS-16 location.

- Compute parameter Q.

if Z_2^* and $X_2^* = 0$,

$$Q = 0 \tag{9}$$

if Z_2^* and/or $X_2^* \neq 0$

$$Q = \cos^{-1} \frac{Z_2^*}{\left[(Z_2^*)^2 + (X_2^*)^2 \right]^{\frac{1}{2}}} \tag{10}$$

- Compute transformed GMD-2 azimuth.

a. if $X_2^* > 0$, and $Z_2^* \geq 0$: $A_2^* = Q$ (11)

b. if $X_2^* \geq 0$, and $Z_2^* < 0$: $A_2^* = 180-Q$ (12)

c. if $X_2^* < 0$, and $Z_2^* \leq 0$: $A_2^* = 180+Q$ (13)

d. if $X_2^* \leq 0$, and $Z_2^* > 0$: $A_2^* = 360-Q$ (14)

e. if $X_2^* = 0$, and $Z_2^* = 0$: $A_2^* = Q$ (15)

III. Output

A. Print-out for each 1/10 minute:

t - (0.1 min), Z_2^* - (0.1 meters), X_2^* - (0.1 meters), UY_2^* - (0.1 meters), UR_2^* - (meters), UE_2^* - (0.01 deg), A_2^* - (0.01 deg)

B. Magnetic tape of:

t - (0.1 min), A_2 - (0.01 deg), R_2 - (meters), E_2-(0.01 deg) Z_2^* - (0.1 meters), UY_2^* - (0.1 meters), - X_2^* - (0.01 deg) P_3 - (0.1 mb), T_3 - (0.1 recorder divisions), A_2^* - (0.01 deg) T' - (0.1^{o}C), B - (0.01 meters), [illegible] - (0.01 deg), h_1 - (0.01 meters), h_2 - (0.01 meters), H_4 - (meters)

Phase 3: Visual Time Synchronization and Train Length Analysis

I. Procedure

A. Time synchronization-FPS-16 data will be time synchronized to GMD-2 data by visual comparisons of R_1, E_1, and A_1 plots to respective UR_2^*, UE_2^* and A_2^* plots. (S_1 and S_2 values will be obtained.)

B. Train length analysis - The distance between the FPS-16 radar target and the radiosonde instrument (TL) will be computed from the time synchronized A_1 versus UA_2^* and E_1 versus

UE_2^* plots.

Phase 4: Comparative Analysis Computations

I. Input

A. FPS-16 Data Tape

- This tape is a labeled B-5500 binary type with the first file being a standard label ("FPS" "NEW") and the second file containing an identification record and the data.

a. Identification Record

• First word • Second word	Location: Point Mugu, Wallops Island, Eglin AFB, or White Sands.
• Third word • Fourth word • Fifth word	date of test: example - 12 Mar 64
• Sixth word	zulu time
• Seventh word	test number
• Eighth word	radar number site
• Ninth word	B constant in meters
• Tenth word	β constant in degrees
• Eleventh word	h_1 constant in meters
• Twelfth	h_2 constant in meters

b. Data Records

• First word	dummy constant
• Second word	t_3 time in even sec
• Third word	R_1 range in meters
• Fourth word	E_1 elevation in deg
• Fifth word	A_1 azimuth in deg

NOTE: All data records are same length and have an end of file at end of data. Each tape contains only one test.

B. GMD-2 Data Tape

- This tape is a labeled B-5500 binary tape with the first file being a standard label ("GMD" "NEW") and the second file containing an identification record and the data.

  a. Identification Record

     This record same as FPS-16 tape

  b. Data Records

• First word	Time in .1 minute
• Second word	A_1 measured azimuth in degrees
• Third word	E_1 measured elevation in degrees
• Fourth word	R_1 measured range in meters
• Fifth word	Z_2^* meters
• Sixth word	X_2^* meters
• Seventh word	UY_2^* meters
• Eighth word	A_2^* degrees
• Ninth word	T_{ord} OR T_3
• Tenth word	T' deg centigrade
• Eleventh word	U percent
• Twelfth word	P_{baro} OR P_3
• Thirteenth word	H_4 meters

NOTE: $T_{ord} = T_3$, $P_{baro} = P_3$; T_3, P_3, T', U, are measured at even half minute interval only. All other data for these points are dummy to keep record length the same for all data records. Data is followed by an end-of-file. One test per tape.

C. Constants

- B In meters
- β In degrees

- h_1 in meters
- h_2 In meters
- h_1' gpm
- h_3' gpm
- r^* unitless
- r' unitless
- P_o millibars
- t_{cal} deg centigrade
- TL meters
- S_1 seconds
- S_2 minutes
- P_s millibars
- h_s' gpm

NOTE: Some of the constants listed occur in identification records.

II. Time Synchronization

A. FPS-16

- $t_3 = S_1$ For first usable record
- $t_3 = t_3 + 6$ For all records except first

B. GMD-2

- $t = S_2$ For first usable record
- $t = t + .1$ For all records except first

NOTE: t_3 = time in seconds for FPS-16 computational and output. t = time in minutes for GMD-2 computational and output. If more than six seconds missing on FPS-16 data tape, then job is to be terminated and results outputted.

III. Equations for Computation at .1 Minutes

A. Mean Values of FPS-16 Parameters at time t_3

$$(E_m)_{t_3} = \frac{1}{N} \sum_{t_3 - 2}^{t_3 + 2} E_1 \tag{16}$$

t_3 = time of output record

N = Number of (E_1) used in summation (not to exceed 5)

$$(A_m)_{t_3} = \frac{1}{N} \sum_{t_3 - 2}^{t_3 + 2} A_1 \tag{17}$$

$$(R_m)_{t_3} = \frac{1}{N} \sum_{t_3 - 2}^{t_3 + 2} R_1 \tag{18}$$

B. Corrections to GMD-2 Data

- $Y_2^* = UY_2^* + TL$ (19)
- $R_2^* = \left[(Z_2^*)^2 + (X_2^*)^2 + (Y_2^*)^2 \right]^{\frac{1}{2}}$ (20)
- $E_2^* = \sin^{-1} \left(\frac{Y_2^*}{R_2^*} \right)$ (21)

C. First Derivatives

- $(DVE_1)_n = \left[(E_1)_n - (E_1)_{n+.1} \right] 10$ (22)
- $(DVE_2^*)_n = \left[(E_2^*)_n - (E_2^*)_{n+.1} \right] 10$ (23)
- $(DVE_m)_n = \left[(E_m)_n - (E_m)_{n+.1} \right] 10$ (24)
- $(DVA_1)_n = \left[(A_1)_n - (A_1)_{n+.1} \right] 10$ (25)
- $(DVA_2^*)_n = \left[(A_2^*)_n - (A_2^*)_{n+.1} \right] 10$ (26)
- $(DVA_m)_n = \left[(A_m)_n - (A_m)_{n+.1} \right] 10$ (27)

- $(DVR_1)_n = [(R_1)_n - (R_1)_{n+.1}]\ 10$ (28)

- $(DVR_2^*)_n = [(R_2^*)_n - (R_2^*)_{n+.1}]\ 10$ (29)

- $(DVR_m)_n = [(R_m)_n - (R_m)_{n+.1}]\ 10$ (30)

where $n = S_2$ or time of output record.

NOTE: If $E_1, E_2^*, \ldots, R_m = 0$ then corresponding DV = 0 by definition.

D. Differences

- $DE = E_2^* - E_1$ (31)

- $DA = A_2^* - A_1$ (32)

- $DR = R_2^* - R_1$ (33)

NOTE: If E_2^*, E_1, A_2^*, A_1, R_2^*, or $R_1 = 0$ then the corresponding D = 0 by definition.

E. Relative Differences

- $RDE = (\frac{DE}{E_1})\ 100$ (34)

- $RDR = (\frac{DR}{R_1})100$ (35)

NOTE: If E_1 or $R_1 = 0$ then the corresponding RD = 0 by definition.

F. One minute change in differences

- $(1CDE)_n = (DE)_{n+1} - (DE)_n$ (36)

- $(1CDA)_n = (DA)_{n+1} - (DA)_n$ (37)

- $(1CDR)_n = (DR)_{n+1} - (DR)_n$ (38)

where $n = S_2$ or time of output record.

NOTE: If DE, DA, or DR = 0 then the corresponding difference = 0 by definition. Care must be taken in that these differences are from data one minute apart, but will occur at .1 minute interval.

G. Two minute change in differences

- $$(2CDE)_n = (DE)_{n+2} - (DE)_n \quad (39)$$

- $$(2CDA)_n = (DA)_{n+2} - (DA)_n \quad (40)$$

- $$(2CDR)_n = (DR)_{n+2} - (DR)_n \quad (41)$$

where $n = S_2$ or time of output record.

NOTE: If DE, DA, or DR = 0 then the corresponding difference = 0 by definition. Same as "F" set of equations except difference is two minutes.

H. Four Minute Change in Differences

- $$(4CDE)_n = (DE)_{n+4} - (DE)_n \quad (42)$$

- $$(4CDA)_n = (DA)_{n+4} - (DA)_n \quad (43)$$

- $$(4CDR)_n = (DR)_{n+4} - (DR)_n \quad (44)$$

NOTE: Same as "F" except difference is 4 minutes.

IV. <u>Equations for Computations at .5 Minute</u>

A. Thermodynamic Computations

- $$CT' = \left[\frac{t_r - 37.6}{K} \right]^F \left[\frac{t_{cal} + 20.525}{2.2625} + 73.0 \right] + t_{cal} \quad (45)$$

where:

If $(t_r - 37.6)$ is positive then

$K = 39.4$

$$F = 1.177 + .5 \left[\frac{t_r - 37.6}{K}\right]^2$$

If $(t_r - 37.6)$ is negative then

$K = 34.6$

$$F = 1.24 + \left[\frac{t_r - 37.6}{K}\right]^2 \quad (1.06383)$$

and,

$$\left[\frac{t_r - 37.6}{K}\right]^F \text{ is replaced with } \left|\left[\frac{t_r - 37.6}{K}\right]^F\right|$$

- $$e = \left(\frac{U}{100}\right) \quad (6.11) \quad 10^{\left[\frac{7.5(CT')}{(CT') + 237.3}\right]} \tag{46}$$

- $$T = (CT') + 273.2 \tag{47}$$

- $$VT = \frac{T}{1 - .378\left(\frac{e}{P_3}\right)} \tag{48}$$

- $$(MVT_3)_n = \frac{VT_n + VT_{n-.5}}{2} \tag{49}$$

where:

$n = S_2$ or time of output record.

$MVT_3 = 0$ for first computation as

$VT_{n-.5}$ will not be available.

B. Height and Altitude above MSL

n-.5 = Previous record

- $$(P_2)_n = (P_2)_{n-.5} \exp \left\{ \frac{-.03416322 \left[(G_2)_n - (G_2)_{n-.5} \right]}{(MVT_3)_n} \right\} \quad (57)$$

where:

$(P_2)_n = P_s$ for n = start time

$\exp(-x) = e^{-x}$ = natural log

n = Current record or output time

n-.5 = Previous record

D. Mean Virtual Temperature

- $$(MVT_1)_n = \frac{(G_1)_n - (G_1)_{n-.5}}{(29.29085) \ln \left[\frac{(P_3)_{n-.5}}{(P_3)_n} \right]} \quad (58)$$

where:

$(MVT_1)_n = 0$ for n = start time

n = Current or output time

n-.5 = Previous time

E. HD Equations

- $$HD_1 = \frac{(6371230) R_1 \cos E_1}{(6371230) + R_1 \sin E_1} \quad (59)$$

- $$HD_2 = \frac{(6371230) R_2 \cos E_2}{(6371230) + R_2 \sin E_2} \quad (60)$$

- $$HD_3 = \left[(R_2)^2 - (H_2 - h_2)^2 \right]^{\frac{1}{2}} \quad (61)$$

- $$HD_4 = \left[(R_2)^2 - (H_3 - h_3)^2 \right]^{\frac{1}{2}} \quad (62)$$

- $$HD_5 = (6371230) \left[\cos^{-1} \left(\frac{(6371230) \cos E_2}{(6371230 + H_3 - h_3} \right) \right] + (111198.9886)\, E_2 \tag{63}$$

F. VX Equations

- $$VX_1 = \frac{1}{60} \left[(HD_1 \sin A_1)_{n+.5} - (HD_1 \sin A_1)_{n-.5} \right] \tag{64}$$

- $$VX_2 = \frac{1}{60} \left[(HD_2 \sin A_2)_{n+.5} - (HD_2 \sin A_2)_{n-.5} \right] \tag{65}$$

- $$VX_3 = \frac{1}{60} \left[(HD_3 \sin A_2)_{n+.5} - (HD_3 \sin A_2)_{n-.5} \right] \tag{66}$$

- $$VX_4 = \frac{1}{60} \left[(HD_4 \sin A_2)_{n+.5} - (HD_4 \sin A_2)_{n-.5} \right] \tag{67}$$

- $$VX_5 = \frac{1}{60} \left[(HD_5 \sin A_2)_{n+.5} - (HD_5 \sin A_2)_{n-.5} \right] \tag{68}$$

where:

VX = 0 for n = start time

n = Current or output time

n-.5 = Previous time

n+.5 = Next output time

G. VZ Equations

- $$VZ_1 = \frac{1}{60} \left[(HD_1 \cos A_1)_{n+.5} - (HD_1 \cos A_1)_{n-.5} \right] \tag{69}$$

- $$VZ_2 = \frac{1}{60} \left[(HD_2 \cos A_2)_{n+.5} - (HD_2 \cos A_2)_{n-.5} \right] \tag{70}$$

- $$VZ_3 = \frac{1}{60} \left[(HD_3 \cos A_2)_{n+.5} - (HD_3 \cos A_2)_{n-.5} \right] \tag{71}$$

- $$VZ_4 = \frac{1}{60} \left[(HD_4 \cos A_2)_{n+.5} - (HD_4 \cos A_2)_{n-.5} \right] \tag{72}$$

- $$VZ_5 = \frac{1}{60} \quad (HD_5 \cos A_2)_{n+.5} - (HD_5 \cos A_2)_{n-.5} \qquad (73)$$

where:

VZ = 0 for n = start time

n = Current or output time

H. Q Equations

- $$Q_1 = \tan^{-1}\left(\frac{VX_1}{VZ_1}\right) \qquad (74)$$

- $$Q_2 = \tan^{-1}\left(\frac{VX_2}{VZ_2}\right) \qquad (75)$$

- $$Q_3 = \tan^{-1}\left(\frac{VX_3}{VZ_3}\right) \qquad (76)$$

- $$Q_4 = \tan^{-1}\left(\frac{VX_4}{VZ_4}\right) \qquad (77)$$

- $$Q_5 = \tan^{-1}\left(\frac{VX_5}{VZ_5}\right) \qquad (78)$$

where:

Q = 0 if VX or VZ = 0

I. WD Equations

- $$WD_1 = \begin{cases} 180 + Q_1, & \text{if } VX_1 > 0 \text{ and } VZ_1 > 0 \\ 360 - Q_1, & \text{if } VX_1 > 0 \text{ and } VZ_1 < 0 \\ Q_1, & \text{if } VX_1 < 0 \text{ and } VZ_1 < 0 \\ 180 - Q_1, & \text{if } VX_1 < 0 \text{ and } VZ_1 > 0 \\ 270, & \text{if } VX_1 > 0 \text{ and } VZ_1 = 0 \\ 90, & \text{if } VX_1 < 0 \text{ and } VZ_1 = 0 \\ 180, & \text{if } VX_1 = 0 \text{ and } VZ_1 > 0 \end{cases} \qquad (79)$$

$$360 \quad , \text{ if } VX_1 = 0 \text{ and } VZ_1 < 0$$

$$0 \quad , \text{ if } VX_1 = 0 \text{ and } VZ_1 = 0$$

- $$WD_2 = \begin{cases} 180 + Q_2, & \text{if } VX_2 > 0 \text{ and } VZ_2 > 0 \\ 360 - Q_2, & \text{if } VX_2 > 0 \text{ and } VZ_2 < 0 \\ Q_2, & \text{if } VX_2 < 0 \text{ and } VZ_2 < 0 \\ 180 - Q_2, & \text{if } VX_2 < 0 \text{ and } VZ_2 > 0 \\ 270, & \text{if } VX_2 > 0 \text{ and } VZ_2 = 0 \\ 90, & \text{if } VX_2 < 0 \text{ and } VZ_2 = 0 \\ 180, & \text{if } VX_2 = 0 \text{ and } VZ_2 > 0 \\ 360, & \text{if } VX_2 = 0 \text{ and } VZ_2 < 0 \\ 0, & \text{if } VX_2 = 0 \text{ and } VZ_2 = 0 \end{cases} \tag{80}$$

- $$WD_3 = \begin{cases} 180 + Q_3, & \text{if } VX_3 > 0 \text{ and } VZ_3 > 0 \\ 360 - Q_3, & \text{if } VX_3 > 0 \text{ and } VZ_3 < 0 \\ Q_3, & \text{if } VX_3 < 0 \text{ and } VZ_3 < 0 \\ 180 - Q_3, & \text{if } VX_3 < 0 \text{ and } VZ_3 > 0 \\ 270, & \text{if } VX_3 > 0 \text{ and } VZ_3 = 0 \\ 90, & \text{if } VX_3 < 0 \text{ and } VZ_3 = 0 \\ 180, & \text{if } VX_3 = 0 \text{ and } VZ_3 > 0 \\ 360, & \text{if } VX_3 = 0 \text{ and } VZ_3 < 0 \\ 0, & \text{if } VX_3 = 0 \text{ and } VZ_3 = 0 \end{cases} \tag{81}$$

- $$WD_4 = \begin{cases} 180 + Q_4, & \text{if } VX_4 > 0 \text{ and } VZ_4 > 0 \\ 360 - Q_4, & \text{if } VX_4 > 0 \text{ and } VZ_4 < 0 \\ Q_4, & \text{if } VX_4 < 0 \text{ and } VZ_4 < 0 \\ 180 - Q_4, & \text{if } VX_4 < 0 \text{ and } VZ_4 > 0 \\ 270, & \text{if } VX_4 > 0 \text{ and } VZ_4 = 0 \end{cases} \tag{82}$$

$$
\begin{aligned}
&90 &&, \text{ if } VX_4 < 0 \text{ and } VZ_4 = 0 \\
&180 &&, \text{ if } VX_4 = 0 \text{ and } VZ_4 > 0 \\
&360 &&, \text{ if } VX_4 = 0 \text{ and } VZ_4 < 0 \\
&0 &&, \text{ if } VX_4 = 0 \text{ and } VZ_4 = 0
\end{aligned}
$$

- $$
WD_5 = \begin{aligned}
&180 + Q_5, \text{ if } VX_5 > 0 \text{ and } VZ_5 > 0 \\
&360 - Q_5, \text{ if } VX_5 > 0 \text{ and } VZ_5 < 0 \\
&Q_5, \text{ if } VX_5 < 0 \text{ and } VZ_5 < 0 \\
&180 - Q_5, \text{ if } VX_5 < 0 \text{ and } VZ_5 > 0 \\
&270 &&, \text{ if } VX_5 > 0 \text{ and } VZ_5 = 0 \\
&90 &&, \text{ if } VX_5 < 0 \text{ and } VZ_5 = 0 \\
&180 &&, \text{ if } VX_5 = 0 \text{ and } VZ_5 > 0 \\
&360 &&, \text{ if } VX_5 = 0 \text{ and } VZ_5 < 0 \\
&0 &&, \text{ if } VX_5 = 0 \text{ and } VZ_5 = 0
\end{aligned}
\tag{83}
$$

J. V Equations

- $$V_1 = \left[(VX_1)^2 + (VZ_1)^2 \right]^{\frac{1}{2}} \tag{84}$$
- $$V_2 = \left[(VX_2)^2 + (VZ_2)^2 \right]^{\frac{1}{2}} \tag{85}$$
- $$V_3 = \left[(VX_3)^2 + (VZ_3)^2 \right]^{\frac{1}{2}} \tag{86}$$
- $$V_4 = \left[(VX_4)^2 + (VZ_4)^2 \right]^{\frac{1}{2}} \tag{87}$$
- $$V_5 = \left[(VX_5)^2 + (VZ_5)^2 \right]^{\frac{1}{2}} \tag{88}$$

K. Differences

- $$DH = \left[H_4 + h_2 \right] - H_2 \tag{89}$$
- $$IDG = G_2 - G_1 \tag{90}$$
- $$2DG = G_3 - G_1 \tag{91}$$

- $IDP = P_2 - P_1$ (92)
- $2DP = P_3 - P_1$ (93)
- $DMVT = MVT_3 - MVT_1$ (94)
- $DIQ = Q_2 - Q_1$ (95)
- $D2Q = Q_3 - Q_1$ (96)
- $D3Q = Q_4 - Q_1$ (97)
- $D4Q = Q_5 - Q_1$ (98)
- $D1VX = VX_2 - VX_1$ (99)
- $D2VX = VX_3 - VX_1$ (100)
- $D3VX = VX_4 - VX_1$ (101)
- $D4VX = VX_5 - VX_1$ (102)
- $D1VZ = VZ_2 - VZ_1$ (103)
- $D2VZ = VZ_3 - VZ_1$ (104)
- $D3VZ = VZ_4 - VZ_1$ (105)
- $D4VZ = VZ_5 - VZ_1$ (106)

NOTE: If H_4, H_2, G_2, G_1, ..., VZ_4, VZ_1, $VZ_5 = 0$, then corresponding difference equals zero by definition.

L. AS Equations

- $AS = (G_1)_{n+.5} - (G_1)_{n-.5}$ (107)

where:

n = Current or output time

n-.5 = Previous output time

n+.5 = Next output time

AS = 0 for n = start time

M. Relative Difference

- $$R1DP = \left(\frac{1DP}{P_1} \right) 100 \tag{108}$$

- $$R2DP = \left(\frac{2DP}{P_1} \right) 100 \tag{109}$$

- $$RDMVT = \left(\frac{DMVT}{MVT_1} \right) 100 \tag{110}$$

V. <u>Analysis Equations</u>

A. For each of the following ranges of E_m

- All values of E_m
- $E_m < 8^o$
- $E_m \geqq 8^o < 12^o$
- $E_m \geqq 12^o$

Compute the following parameters:

- $$SD(E_1) = \left\{ \frac{1}{K} \sum_{i=o}^{K} \left[(E_1)_i - (E_m)_i \right]^2 \right\}^{\frac{1}{2}} \tag{111}$$

- $$SD(E_2^*) = \left\{ \frac{1}{K} \sum_{i=o}^{K} \left[(E_2^*)_i - (E_m)_i \right]^2 \right\}^{\frac{1}{2}} \tag{112}$$

- $$SD(A_1) = \left\{ \frac{1}{K} \sum_{i=o}^{K} \left[(A_1)_i - (A_m)_i \right]^2 \right\}^{\frac{1}{2}} \tag{113}$$

- $$SD(A_2^*) = \left\{ \frac{1}{K} \sum_{i=o}^{K} \left[(A_2^*)_i - (A_m)_i \right]^2 \right\}^{\frac{1}{2}} \tag{114}$$

where:

K = Number of A_2^* values contained in the particular range of E_m.

B. For each of the following ranges of R_m

- All values of R_m
- $R_m \leq 91000$ meters
- $R_m > 91000 \leq 183000$ meters
- $R_m > 183000$ meters

compute the following parameters.

- $$SD(R_1) = \left\{ \frac{1}{K} \sum_{i=o}^{K} \left[(R_1)_i - (R_m)_i \right]^2 \right\}^{\frac{1}{2}} \quad (115)$$

where: K = Number of R_1 values contained in the particular range of R_m.

- $$SD(R_2^*) = \left\{ \frac{1}{K} \sum_{i=o}^{K} \left[(R_2^*)_i - (R_m)_i \right]^2 \right\}^{\frac{1}{2}} \quad (116)$$

where:

K = Number of R_2^* values contained in the particular range of R_m.

C. For each of the following ranges of E_1

- All values of E_1
- $E_1 < 8^o$
- $E_1 \geq 8^o < 12^o$
- $E_1 \geq 12^o$

compute the following parameters.

- $$RMSDE = \left[\frac{1}{K} \sum_{i=o}^{K} (DE_i - \overline{DE})^2 \right]^{\frac{1}{2}} \quad (117)$$

where:

K = Number of DE values for which E_1 is contained in the particular range.

$$\overline{DE} = \frac{1}{K} \sum_{i=o}^{K} (DE)_i$$

- $$RMS1CDE = \left[\frac{1}{K} \sum_{i=o}^{K} (1CDE_i - \overline{1CDE})^2 \right]^{\frac{1}{2}} \qquad (118)$$

where:

K = Number of 1CDE values for which E_1 is contained in the particular range.

$$\overline{1CDE} = \frac{1}{K} \sum_{i=o}^{K} (1CDE)_i$$

- $$RMS2CDE = \left[\frac{1}{K} \sum_{i=o}^{K} (2CDE_i - \overline{2CDE})^2 \right]^{\frac{1}{2}} \qquad (119)$$

where:

K = Number of 2CDE values for which E_1 is contained in the particular range.

$$\overline{2CDE} = \frac{1}{K} \sum_{i=o}^{K} (2CDE)_i$$

- $$RMS4CDE = \left[\frac{1}{K} \sum_{i=o}^{K} (4CDE_i - \overline{4CDE})^2 \right]^{\frac{1}{2}} \qquad (120)$$

where:

K = Number of 4CDE values for which E_1 is contained in the particular range.

$$\overline{4CDE} = \frac{1}{K} \sum_{i=o}^{K} (4CDE)_i$$

- $$RMSDA = \left[\frac{1}{K} \sum_{i=o}^{K} (DA_i - \overline{DA})^2 \right]^{\frac{1}{2}} \qquad (121)$$

where:

K = Number of DA values for which E_1 is contained in the particular range.

$$\overline{DA} = \frac{1}{K} \sum_{i=o}^{K} (DA)_i$$

- $$RMS1CDA = \left[\frac{1}{K} \sum_{i=o}^{K} (1CDA_i - \overline{1CDA})^2 \right]^{\frac{1}{2}} \qquad (122)$$

where:

K = Number of 1CDA values for which E_1 is contained in the particular range.

$$\overline{1CDA} = \frac{1}{K} \sum_{i=o}^{K} (1CDA)_i$$

- $$RMS2CDA = \left[\frac{1}{K} \sum_{i=o}^{K} (2CDA_i - \overline{2CDA})^2 \right]^{\frac{1}{2}} \qquad (123)$$

where:

K = Number of 2CDA values for which E_1 is contained in the particular range.

$$\overline{2CDA} = \frac{1}{K} \sum_{i=o}^{K} (2CDA)_i$$

- $$\text{RMS4CDA} = \left[\frac{1}{K} \sum_{i=o}^{K} (4CDA_i - \overline{4CDA})^2 \right]^{\frac{1}{2}} \qquad (124)$$

where:

K = Number of 4CDA values for which E_1 is contained in the particular range.

$$\overline{4CDA} = \frac{1}{K} \sum_{i=o}^{K} (4CDA)_i$$

- $$\text{RMSD1Q} = \left[\frac{1}{K} \sum_{i=o}^{K} (D1Q_i - \overline{D1Q})^2 \right]^{\frac{1}{2}} \qquad (125)$$

where:

K = Number of D1Q values for which E_1 is contained in a particular range.

$$\overline{D1Q} = \frac{1}{K} \sum_{i=o}^{K} (D1Q)_i$$

- $$\text{RMSD2Q} = \left[\frac{1}{K} \sum_{i=o}^{K} (D2Q_i - \overline{D2Q})^2 \right]^{\frac{1}{2}} \qquad (126)$$

where:

K = Number of D2Q values for which E_1 is contained in a particular range.

$$\overline{D2Q} = \frac{1}{K} \sum_{i=o}^{K} (D2Q)_i$$

- $$\text{RMSD3Q} = \left[\frac{1}{K} \sum_{i=o}^{K} (D3Q_i - \overline{D3Q})^2 \right]^{\frac{1}{2}} \qquad (127)$$

where:

K = Number of D3Q values for which E_1 is contained in a particular range.

$$\overline{D3Q} = \frac{1}{K} \sum_{i=o}^{K} (D3Q)_i$$

- $$\text{RMSD4Q} = \left[\frac{1}{K} \sum_{i=o}^{K} (D4Q_i - \overline{D4Q})^2 \right]^{\frac{1}{2}} \qquad (128)$$

where:

K = Number of D4Q values for which E_1 is contained in a particular range.

$$\overline{D4Q} = \frac{1}{K} \sum_{i=o}^{K} (D4Q)_i$$

- $$\text{RMSD1VX} = \left[\frac{1}{K} \sum_{i=o}^{K} (D1VX_i - \overline{D1VX})^2 \right]^{\frac{1}{2}} \qquad (129)$$

where:

K = Number of D1VX values for which E_1 is contained in a particular range.

$$\overline{D1VX} = \frac{1}{K} \sum_{i=o}^{K} (D1VX)_i$$

- $$\text{RMSD2VX} = \left[\frac{1}{K} \sum_{i=o}^{K} (\text{D2VX}_i - \overline{\text{D2VX}})^2 \right]^{\frac{1}{2}} \qquad (130)$$

where:

K = Number of D2VX values for which E_1 is contained in the particular range.

$$\overline{\text{D2VX}} = \frac{1}{K} \sum_{i=o}^{K} (\text{D2VX})_i$$

- $$\text{RMSD3VX} = \left[\frac{1}{K} \sum_{i=o}^{K} (\text{D3VX}_i - \overline{\text{D3VX}})^2 \right]^{\frac{1}{2}} \qquad (131)$$

where:

K = Number of D3VX values for which E_1 is contained in the particular range.

$$\overline{\text{D3VX}} = \frac{1}{K} \sum_{i=o}^{K} (\text{D3VX})_i$$

- $$\text{RMSD4VX} = \left[\frac{1}{K} \sum_{i=o}^{K} (\text{D4VX}_i - \overline{\text{D4VX}})^2 \right]^{\frac{1}{2}} \qquad (132)$$

where:

K = Number of D4VX values for which E_1 is contained in the particular range.

$$\overline{\text{D4VX}} = \frac{1}{K} \sum_{i=o}^{K} (\text{D4VX})_i$$

- $$RMSD1VZ = \left[\frac{1}{K} \sum_{i=o}^{K} (D1VZ_i - \overline{D1VZ})^2 \right]^{\frac{1}{2}} \quad (133)$$

where:

K = Number of D1VZ values for which E_1 is contained in the particular range.

$$\overline{D1VZ} = \frac{1}{K} \sum_{i=o}^{K} (D1VZ)_i$$

- $$RMSD2VZ = \left[\frac{1}{K} \sum_{i=o}^{K} (D2VZ_i - \overline{D2VZ})^2 \right]^{\frac{1}{2}} \quad (134)$$

where:

K = Number of D2VZ values for which E_1 is contained in the particular range.

$$\overline{D2VZ} = \frac{1}{K} \sum_{i=o}^{K} (D2VZ)_i$$

- $$RMSD3VZ = \left[\frac{1}{K} \sum_{i=o}^{K} (D3VZ_i - \overline{D3VZ})^2 \right]^{\frac{1}{2}} \quad (135)$$

where:

K = Number of D3VZ values for which E_1 is contained in the particular range.

$$\overline{D3VZ} = \frac{1}{K} \sum_{i=o}^{K} (D3VZ)_i$$

- $$RMSD4VZ = \left[\frac{1}{K} \sum_{i=o}^{K} (D4VZ_i - \overline{D4VZ})^2 \right]^{\frac{1}{2}} \quad (136)$$

where:

K = Number of D4VZ values for which E_1 is contained in the particular range.

$$\overline{D4VZ} = \frac{1}{K} \sum_{i=o}^{K} (D4VZ)_i$$

D. For each of the following ranges of R_1

- All values of R_1
- $R_1 \leq 91000$ meters
- $R_1 > 91000 \leq 183000$ meters
- $R_1 > 183000$ meters

compute the following parameters:

- $$RMSDR = \left[\frac{1}{K} \sum_{i=o}^{K} (DR_i - \overline{DR})^2 \right]^{\frac{1}{2}} \quad (137)$$

where:

K = Number of DR values for which R_1 is contained in the particular range.

$$\overline{DR} = \frac{1}{K} \sum_{i=o}^{K} (DR)_i$$

- $$\text{RMS1CDR} = \left[\frac{1}{K} \sum_{i=o}^{K} (1CDR_i - \overline{1CDR})^2 \right]^{\frac{1}{2}} \qquad (138)$$

where:

K = Number of 1 CDR values for which R_1 is contained in the particular range.

$$\overline{1CDR} = \frac{1}{K} \sum_{i=o}^{K} (1CDR)_i$$

- $$\text{RMS2CDR} = \left[\frac{1}{K} \sum_{i=o}^{K} (2CDR_i - \overline{2CDR})^2 \right]^{\frac{1}{2}} \qquad (139)$$

where:

K = Number of 2CDR values for which R_1 is contained in the particular range.

$$\overline{2CDR} = \frac{1}{K} \sum_{i=o}^{K} (2CDR)_i$$

- $$\text{RMS4CDR} = \left[\frac{1}{K} \sum_{i=o}^{K} (4CDR_i - \overline{4CDR})^2 \right]^{\frac{1}{2}} \qquad (140)$$

where:

K = Number of 4CDR values for which R_1 is contained in the particular range.

$$\overline{4CDR} = \frac{1}{K} \sum_{i=o}^{K} (4CDR)_i$$

E. For each of the following ranges of P_1

- $P_1 < 10$ millibars
- $P_1 \geq 10 < 100$ millibars
- $P_1 \geq 100 < 400$ millibars
- $P_1 \geq 400$ millibars

compute the following parameters.

- $$RMS1DP = \left[\frac{1}{K} \sum_{i=o}^{K} (1DP_i - \overline{1DP})^2 \right]^{\frac{1}{2}} \qquad (141)$$

where:

K = Number of 1DP values for which P_1 is contained in the particular range.

$$\overline{1DP} = \frac{1}{K} \sum_{i=o}^{K} (1DP)_i$$

- $$RMS2DP = \left[\frac{1}{K} \sum_{i=o}^{K} (2DP_i - \overline{2DP})^2 \right]^{\frac{1}{2}} \qquad (142)$$

where:

K = Number of 2DP values for which P_1 is contained in the particular range.

$$\overline{2DP} = \frac{1}{K} \sum_{i=o}^{K} (2DP)_i$$

VI. Constant Level Interpolation

A. For each kilometer from 1 to 30 kilometer altitude interpolate the following parameters. (Use H_1 for altitude)

- $$(P_1)_a = (P_1)_i - \frac{[(P_1)_i - (P_1)_j][(H_1)_a - (H_1)_i]}{[(H_1)_j - (H_1)_i]} \quad (143)$$

where the subscript:

"a" denotes the particular altitude H_1

a = 1, 2, ... 30.

"i" denotes the data point immediately preceding the altitude "a".

"j" denotes the data point immediately following "i".

NOTE: $(P_1)_a$ should be between $(P_1)_i$ and $(P_1)_j$. As pressure decreases with altitude then $(P_1)_i$ is larger than $(P_1)_a$. H_1 is used to determine altitude level.

- $$(P_2)_a = (P_2)_i - \frac{[(P_2)_i - (P_2)_j][(H_1)_a - (H_1)_i]}{[(H_1)_j - (H_1)_i]} \quad (144)$$

- $$(P_3)_a = (P_3)_i - \frac{[(P_3)_i - (P_3)_j][(H_1)_a - (H_1)_i]}{[(H_1)_j - (H_1)_i]} \quad (145)$$

- $$(1DP)_a = (P_2)_a - (P_1)_a \quad (146)$$

- $$(2DP)_a = (P_3)_a - (P_1)_a \quad (147)$$

B. For the constant pressure levels of 850, 700, 500, 400, 300, 250, 200, 150, 100, 50, 30, and 10 millibars, interpolate the following parameters. (Use P_3 for pressure).

Let the subscript:

"p" denote the particular pressure level of (P_3) desired

"i" denote the data point immediately preceding the pressure level at "p"

"j" denote the data point immediately following "i".

- $$(G_1)_p = (G_1)_i + \frac{[(P_3)_i - (P_3)_p][(G_1)_j - (G_1)_i]}{[(P_3)_i - (P_3)_j]} \quad (148)$$

- $$(G_2)_p = (G_2)_i + \frac{[(P_3)_i - (P_3)_p][(G_2)_j - (G_2)_i]}{[(P_3)_i - (P_3)_j]} \quad (149)$$

- $$(G_3)_p = (G_3)_i + \frac{[(P_3)_i - (P_3)_p][(G_3)_j - (G_3)_i]}{[(P_3)_i - (P_3)_j]} \quad (150)$$

- $$(1DG)_p = (G_2)_p - (G_1)_p \quad (151)$$

- $$(2DG)_p = (G_3)_p - (G_1)_p \quad (152)$$

- $$(VX_1)_p = (VX_1)_i + \frac{[(P_3)_i - (P_3)_p][(VX_1)_j - (VX_1)_i]}{[(P_3)_i - (P_3)_j]} \quad (153)$$

- $$(VX_2)_p = (VX_2)_i + \frac{[(P_3)_i - (P_3)_p][(VX_2)_j - (VX_2)_i]}{[(P_3)_i - (P_3)_j]} \quad (154)$$

- $$(VX_3)_p = (VX_3)_i + \frac{[(P_3)_i - (P_3)_p][(VX_3)_j - (VX_3)_i]}{[(P_3)_i - (P_3)_j]} \quad (155)$$

- $$(VX_4)_p = (VX_4)_i + \frac{[(P_3)_i - (P_3)_p][(VX_4)_j - (VX_4)_i]}{[(P_3)_i - (P_3)_j]} \quad (156)$$

- $$(VX_5)_p = (VX_5)_i + \frac{[(P_3)_i - (P_3)_p][(VX_5)_j - (VX_5)_i]}{[(P_3)_i - (P_3)_j]} \quad (157)$$

- $$(VZ_1)_p = (VZ_1)_i + \frac{[(P_3)_i - (P_3)_p][(VZ_1)_j - (VZ_1)_i]}{[(P_3)_i - (P_3)_j]} \quad (158)$$

- $$(VZ_2)_p = (VZ_2)_i + \frac{[(P_3)_i - (P_3)_p][(VZ_2)_j - (VZ_2)_i]}{[(P_3)_i - (P_3)_j]} \quad (159)$$

- $$(VZ_3)_p = (VZ_3)_i + \frac{[(P_3)_i - (P_3)_j][(VZ_3)_j - (VZ_3)_i]}{[(P_3)_i - (P_3)_j]} \quad (160)$$

- $$(VZ_4)_p = (VZ_4)_i + \frac{[(P_3)_i - (P_3)_j][(VZ_4)_j - (VZ_4)_i]}{[(P_3)_i - (P_3)_j]} \quad (161)$$

- $$(VZ_5)_p = (VZ_5)_i + \frac{[(P_3)_i - (P_3)_j][(VZ_5)_j - (VZ_5)_i]}{[(P_3)_i - (P_3)_j]} \quad (162)$$

NOTE: All output from constant level interpolation must be output in such a manner that it can be input into another program. This would include the levels of interpolation.

VII. Output

A. Print-out at 0.1 minute frequency:

t, E_1, E_2^*, E_m, A_1, A_2^*, A_m, R_1, R_2^*, R_m, DVE_1, DVE_2^*, DVE_m, DVA_1, DVA_2^*, DVA_m, DVR_1, DVR_2^*, DVR_m, DE, 1CDE, 2CDE, 4CDE, DA, 1CDA, 2CDA, 4CDA, DR, 1CDR 2CDR, 4CDR, RDE, RDA, RDR.

B. Print-out at 0.5 minute frequency:

t, T', CT', e, u, T, VT, G_1, G_2, G_3, H_1, H_2, H_3, H_4, DH, 1DG, 2DG, P_1, P_2, P_3, 1DP, 2DP, R1DP, R2DP, MVT_1, MVT_3, DMVT, RDMVT, AS, HD_1, HD_2, HD_3, HD_4, HD_5, VX_1, VX_2, VX_3, VX_4, VX_5, D1VX, D2VX, D3VX, D4VX, VZ_1, VZ_2, VZ_3, VZ_4, VZ_5, D1VZ, D2VZ, D3VZ, D4VZ, Q_1, Q_2, Q_3, Q_4, Q_5, D1Q, D2Q, D3Q, D4Q, WD_1, WD_2, WD_3, WD_4, WD_5, V_1, V_2, V_3, V_4, V_5.

C. Print-out one value for each range of the particular control parameter:

$SD(E_1)$, $SD(E_2^*)$, $SD(A_1)$, $SD(A_2^*)$, $SD(R_1)$, $SD(R_2^*)$, RMSDE, RMS1CDE, RMS2CDE, RMS4CDE, RMSDA, RMS1CDA, RMS2CDA, RMS4CDA, RMSD1Q, RMSD2Q, RMSD3Q, RMSD4Q, RMSD1VX, RMSD2VX, RMSD3VX, RMSD4VX, RMSD1VZ, RMSD2VZ, RMSD3VZ, RMSD4VZ, RMSDR,

RMS1CDR, RMS2CDR, RMS4CDR, RMS1DP, RMS2DP.

D. Print-out one value for each km from 1 to 30 km altitude:

P_1, P_2, P_3, 1DP, 2DP.

E. Print-out one value for each standard pressure level:

G_1, G_2, G_3, 1DG, 2DG, VX_1, VX_2, VX_3, VX_4, VX_5,

VZ_1, VZ_2, VZ_3, VZ_4, VZ_5.

APPENDIX

This appendix is given to illustrate the arrangement of rawinsonde comparison computer printouts.

RAWINSONDE COMPARISON PROJECT

AERO. TEST NO. 3

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

THIS FILM CONTAINS ONE OF A SERIES OF OBSERVATIONS USED IN A RAWINSONDE COMPARISON STUDY PERFORMED BY LOCKHEED MISSILES AND SPACE COMPANY, HUNTSVILLE RESEARCH AND ENGINEERING CENTER AS A PART OF NSL-P05-09287, CONTRACT NAS8-20082, SCHEDULE ORDER NO.4, APPENDIX A-1. THE NASA CONTRACT MONITOR WAS MR. O. E. SMITH OF THE AERODYNAMICS LABORATORY, NASA, GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA. THE PRINCIPAL INVESTIGATORS WERE MR. DON K. WEIDNER AND MR. JOHN L. CHAMBERS OF LMSC/HREC. ALL FINAL COMPUTATIONS WERE PERFORMED BY THE GEORGE C. MARSHALL SPACE FLIGHT CENTER,DATA REDUCTION BRANCH, UNDER THE TECHNICAL SUPERVISION OF MR. FRANK BAKER.

COMPUTATIONAL PROCEDURES ARE DISCUSSED IN DETAIL IN LMSC/HREC TECHNICAL MEMORANDUM A711522.

Table B-1

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNCHRONIZED		ELEVATION ANGLE				AZIMUTH ANGLE				SLANT RANGE			
FPS-16 TIME SEC	GMD-2 TIME MIN	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS METERS	FPS-16 MEAN METERS	GMD-2 MEAS METERS	GMD-2 TRANS METERS
61216	1.0	3.54	3.520	9.27	3.51	126.50	126.518	174.17	126.40	3989	3990.0	1367	4003
61222	1.1	3.79	3.775	10.00	3.76	126.50	126.499	172.81	126.25	4036	4034.9	1385	4039
61228	1.2	4.07	4.033	10.59	4.01	126.38	126.397	171.58	126.29	4076	4076.0	1422	4084
61234	1.3	4.30	4.305	11.34	4.27	126.33	126.341	170.36	126.05	4115	4116.4	1431	4111
61240	1.4	4.55	4.571	11.90	4.52	126.25	126.253	168.92	126.05	4163	4161.5	1472	4164
61246	1.5	4.84	4.852	12.51	4.74	126.20	126.194	167.68	125.83	4196	4198.3	1486	4194
61252	1.6	5.10	5.113	13.26	5.08	126.12	126.132	166.78	125.95	4251	4251.2	1532	4242
61258	1.7	5.34	5.364	13.81	5.34	126.14	126.115	165.04	125.79	4302	4301.8	1573	4301
61264	1.8	5.63	5.628	14.35	5.53	126.09	126.082	164.25	125.62	4345	4346.6	1582	4320
61270	1.9	5.86	5.881	14.91	5.85	126.08	126.082	162.97	125.69	4401	4399.9	1641	4386
61276	2.0	6.13	6.142	15.25	6.05	126.13	126.121	161.84	125.68	4448	4447.8	1687	4440
61282	2.1	6.36	6.373	15.94	6.40	126.02	126.048	161.22	125.76	4498	4499.0	1728	4482
61288	2.2	6.61	6.618	16.24	6.58	126.07	126.064	159.94	125.63	4552	4550.8	1769	4535
61294	2.3	6.88	6.891	16.62	6.81	126.06	126.062	159.06	125.64	4598	4597.3	1815	4586
61300	2.4	7.14	7.157	17.20	7.10	126.05	126.076	158.27	125.59	4640	4641.4	1852	4627
61306	2.5	7.43	7.427	17.65	7.35	126.15	126.144	157.49	125.54	4695	4693.3	1888	4669
61312	2.6	7.67	7.652	17.96	7.62	126.27	126.252	156.96	125.76	4744	4741.5	1957	4734
61318	2.7	7.88	7.852	18.38	7.88	126.24	126.271	156.35	125.77	4778	4778.9	1998	4777
61324	2.8	8.13	8.098	18.77	8.07	126.49	126.471	155.62	125.62	4824	4821.8	2021	4807
61330	2.9	8.36	8.336	18.96	8.30	126.62	126.622	155.89	126.04	4860	4861.1	2080	4853
61336	3.0	8.57	8.538	19.30	8.55	126.74	126.751	155.41	126.12	4911	4910.4	2131	4902
61342	3.1	8.76	8.743	19.58	8.77	127.05	127.041	154.96	126.21	4952	4950.9	2181	4952
61348	3.2	8.99	8.982	19.62	8.91	127.24	127.242	155.13	126.51	4978	4979.0	2227	4988
61354	3.3	9.20	9.203	19.96	9.13	127.41	127.420	155.15	126.66	5017	5016.7	2259	5014
61360	3.4	9.40	9.429	20.29	9.40	127.64	127.630	155.19	126.91	5056	5056.1	2309	5055
61366	3.5	9.64	9.629	20.67	9.66	127.79	127.799	155.01	127.02	5098	5099.6	2350	5092
61372	3.6	9.82	9.802	20.85	9.85	127.96	127.970	154.84	127.18	5149	5148.8	2400	5138
61378	3.7	9.98	9.991	20.85	9.98	128.21	128.195	154.64	127.39	5193	5192.7	2460	5194
61384	3.8	10.19	10.175	20.98	10.15	128.28	128.283	154.12	127.63	5236	5237.1	2505	5232
61390	3.9	10.36	10.330	21.25	10.36	128.50	128.492	154.14	127.59	5289	5288.5	2551	5281
61396	4.0	10.49	10.510	21.30	10.53	128.63	128.634	154.32	127.95	5336	5335.4	2615	5334
61402	4.1	10.65	10.643	21.48	10.70	128.85	128.847	153.85	127.94	5376	5377.4	2661	5382
61408	4.2	10.77	10.774	21.66	10.90	128.98	128.986	153.95	128.19	5428	5427.6	2711	5424
61414	4.3	10.92	10.933	21.72	10.96	129.15	129.151	152.63	127.80	5466	5466.8	2752	5485
61420	4.4	11.04	11.053	21.75	11.11	129.33	129.325	153.56	128.39	5521	5520.3	2798	5508
61426	4.5	11.23	11.201	21.82	11.29	129.45	129.439	153.55	128.66	5564	5564.7	2867	5569
61432	4.6	11.33	11.317	21.84	11.39	129.55	129.563	153.19	128.70	5620	5618.8	2917	5621
61438	4.7	11.45	11.458	21.90	11.56	129.70	129.691	153.01	128.91	5663	5662.4	2990	5690
61444	4.8	11.60	11.591	21.87	11.60	129.87	129.864	153.10	129.06	5708	5708.5	3018	5714
61450	4.9	11.70	11.687	21.99	11.74	130.01	130.017	152.81	129.09	5766	5764.9	3063	5760
61456	5.0	11.81	11.806	21.96	11.80	130.16	130.152	152.67	129.20	5812	5812.4	3109	5804
61462	5.1	11.91	11.905	21.99	11.93	130.32	130.309	152.79	129.47	5862	5862.4	3168	5856
61468	5.2	12.01	12.001	22.05	12.06	130.39	130.398	152.41	129.50	5910	5909.0	3228	5917
61474	5.3	12.12	12.120	22.08	12.16	130.62	130.612	152.23	129.59	5959	5958.9	3278	5966
61480	5.4	12.20	12.213	22.08	12.26	130.70	130.700	152.49	129.89	6016	6016.8	3328	6007
61486	5.5	12.30	12.310	22.09	12.35	130.77	130.776	152.29	129.98	6069	6068.4	3383	6061
61492	5.6	12.42	12.415	22.10	12.43	130.93	130.925	152.00	129.99	6124	6123.0	3429	6109
61498	5.7	12.51	12.524	22.11	12.50	131.05	131.054	151.80	130.04	6170	6171.5	3475	6155
61504	5.8	12.61	12.611	22.12	12.61	131.12	131.137	151.70	130.20	6227	6226.0	3539	6216
61510	5.9	12.70	12.707	22.13	12.71	131.30	131.281	151.55	130.33	6277	6276.1	3603	6278
61516	6.0	12.83	12.824	22.18	12.83	131.39	131.393	151.61	130.51	6314	6315.3	3653	6323
61522	6.1	12.91	12.923	22.24	12.91	131.57	131.568	151.31	130.48	6362	6359.8	3694	6367
61528	6.2	13.06	13.062	22.25	13.00	131.75	131.743	151.60	130.76	6397	6397.1	3740	6403
61534	6.3	13.17	13.171	22.46	13.18	131.86	131.877	151.55	130.85	6434	6435.0	3781	6441
61540	6.4	13.29	13.284	22.49	13.27	132.06	132.055	151.52	130.96	6479	6477.3	3827	6484
61546	6.5	13.42	13.413	22.58	13.43	132.21	132.201	151.82	131.30	6509	6510.4	3891	6536
61552	6.6	13.52	13.529	22.83	13.61	132.32	132.338	151.66	131.26	6549	6549.1	3914	6558
61558	6.7	13.64	13.644	22.85	13.69	132.55	132.538	151.74	131.42	6589	6589.2	3955	6595
61564	6.8	13.79	13.781	22.96	13.84	132.68	132.673	152.13	131.76	6625	6626.0	4005	6632
61570	6.9	13.90	13.899	23.09	13.96	132.78	132.797	151.83	131.70	6665	6664.7	4042	6672
61576	7.0	14.03	14.026	23.12	14.06	133.00	132.993	151.92	131.88	6702	6701.5	4092	6716
61582	7.1	14.15	14.146	23.11	14.13	133.16	133.155	152.20	132.16	6736	6737.3	4138	6753
61588	7.2	14.23	14.231	23.22	14.23	133.35	133.361	151.98	132.12	6787	6785.5	4170	6787
61594	7.3	14.35	14.357	23.16	14.31	133.63	133.622	152.23	132.45	6832	6832.2	4238	6846
61600	7.4	14.51	14.509	23.20	14.41	133.80	133.804	152.56	132.75	6874	6874.8	4284	6881
61606	7.5	14.64	14.652	23.34	14.56	134.02	134.009	152.43	132.81	6925	6924.0	4339	6934
61612	7.6	14.76	14.765	23.57	14.78	134.10	134.102	152.76	133.08	6976	6976.5	4380	6962
61618	7.7	14.86	14.861	23.75	14.97	134.24	134.248	152.57	133.14	7031	7031.9	4449	7029
61624	7.8	14.96	14.946	23.66	15.00	134.35	134.349	152.59	133.32	7094	7092.9	4513	7090
61630	7.9	15.01	15.010	23.80	15.18	134.32	134.323	152.55	133.46	7156	7156.5	4581	7154
61636	8.0	15.08	15.079	23.75	15.20	134.32	134.322	152.18	133.37	7212	7213.7	4631	7210
61642	8.1	15.12	15.124	23.64	15.16	134.29	134.300	151.96	133.33	7279	7278.5	4663	7246
61648	8.2	15.20	15.198	23.76	15.32	134.44	134.433	151.62	133.33	7334	7333.9	4750	7335
61654	8.3	15.27	15.271	23.64	15.32	134.49	134.482	151.52	133.43	7388	7389.3	4614	7399
61660	8.4	15.31	15.300	23.74	15.46	134.50	134.495	151.48	133.54	7464	7463.0	4878	7459
61666	8.5	15.37	15.366	23.70	15.49	134.60	134.595	151.18	133.50	7528	7527.6	4938	7523
61672	8.6	15.44	15.444	23.56	15.47	134.58	134.581	151.04	133.58	7582	7581.6	5006	7593
61678	8.7	15.53	15.532	23.65	15.58	134.62	134.619	150.88	133.58	7636	7636.4	5057	7643
61684	8.8	15.59	15.597	23.66	15.65	134.71	134.704	150.79	133.65	7702	7702.3	5116	7702
61690	8.9	15.61	15.643	23.77	15.78	134.66	134.674	150.67	133.69	7775	7775.7	5176	7760

Table B-1 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNCHRONIZED		ELEVATION ANGLE				AZIMUTH ANGLE				SLANT RANGE			
FPS-16 TIME SEC	GMD-2 TIME MIN	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS METERS	FPS-16 MEAN METERS	GMD-2 MEAS METERS	GMD-2 TRANS METERS
61696	9.0	15.72	15.708	23.65	15.77	134.71	134.710	150.30	133.63	7843	7842.9	5249	7840
61702	9.1	15.76	15.767	23.65	15.83	134.80	134.794	150.18	133.69	7914	7914.8	5317	7908
61708	9.2	15.81	15.819	23.67	15.91	134.74	134.751	150.10	133.77	7989	7988.4	5386	7975
61714	9.3	15.87	15.864	23.63	15.94	134.81	134.813	149.76	133.69	8057	8057.9	5454	8049
61720	9.4	15.88	15.873	23.65	16.03	134.93	134.929	149.65	133.76	8140	8139.9	5528	8121
61726	9.5	15.92	15.919	23.49	15.99	134.96	134.959	149.66	133.91	8215	8214.0	5601	8193
61732	9.6	15.97	15.973	23.43	16.01	135.04	135.045	149.42	133.89	8275	8275.0	5669	8265
61738	9.7	16.04	16.050	23.42	16.07	135.02	135.032	149.28	133.95	8337	8336.9	5756	8352
61744	9.8	16.12	16.125	23.46	16.14	135.13	135.129	149.19	133.95	8405	8404.7	5797	8393
61750	9.9	16.18	16.181	23.47	16.20	135.15	135.141	149.07	134.01	8470	8470.5	5870	8466
61756	10.0	16.21	16.197	23.45	16.24	135.11	135.109	148.99	134.06	8552	8551.1	5930	8525
61762	10.1	16.25	16.240	23.44	16.29	135.18	135.168	148.75	134.03	8627	8626.0	6008	8606
61768	10.2	16.30	16.297	23.31	16.26	135.16	135.156	148.60	134.07	8686	8686.6	6085	8686
61774	10.3	16.32	16.319	23.31	16.31	135.14	135.141	148.48	134.08	8765	8763.7	6145	8746
61780	10.4	16.35	16.349	23.39	16.42	135.12	135.116	148.21	134.02	8841	8841.0	6222	8826
61786	10.5	16.40	16.400	23.30	16.41	135.16	135.159	147.97	133.99	8909	8910.4	6305	8912
61792	10.6	16.43	16.425	23.30	16.46	135.17	135.179	147.79	133.98	8993	8992.5	6373	8983
61798	10.7	16.43	16.429	23.26	16.49	135.23	135.228	147.67	134.02	9080	9079.3	6456	9066
61804	10.8	16.43	16.426	23.17	16.49	135.20	135.194	147.56	134.06	9164	9163.7	6533	9145
61810	10.9	16.47	16.464	23.22	16.58	135.26	135.262	147.35	134.04	9238	9239.2	6620	9233
61816	11.0	16.44	16.440	23.19	16.61	135.29	135.292	147.29	134.09	9333	9333.1	6689	9302
61822	11.1	16.47	16.472	23.14	16.63	135.30	135.304	147.19	134.15	9412	9413.1	6776	9389
61828	11.2	16.48	16.477	23.11	16.66	135.42	135.415	146.92	134.07	9503	9502.2	6853	9471
61834	11.3	16.50	16.495	23.02	16.66	135.41	135.414	146.89	134.18	9588	9587.8	6954	9571
61840	11.4	16.53	16.534	22.93	16.64	135.50	135.491	146.71	134.16	9667	9667.9	7032	9652
61846	11.5	16.54	16.546	22.89	16.67	135.55	135.551	146.65	134.23	9755	9754.6	7119	9738
61852	11.6	16.56	16.576	22.83	16.68	135.58	135.592	146.58	134.28	9837	9836.8	7201	9821
61858	11.7	16.60	16.593	22.70	16.63	135.65	135.640	146.60	134.39	9920	9920.3	7274	9893
61864	11.8	16.61	16.614	22.65	16.65	135.67	135.670	146.46	134.40	10000	9999.8	7361	9982
61870	11.9	16.63	16.633	22.70	16.72	135.66	135.663	146.33	134.39	10074	10074.3	7430	10051
61876	12.0	16.63	16.628	22.58	16.68	135.71	135.707	146.37	134.50	10162	10161.4	7503	10123
61882	12.1	16.66	16.658	22.55	16.70	135.78	135.769	146.15	134.45	10238	10238.7	7594	10218
61888	12.2	16.67	16.665	22.47	16.67	135.73	135.744	146.15	134.51	10321	10320.8	7644	10268
61894	12.3	16.63	16.659	22.49	16.74	135.84	135.838	145.88	134.43	10408	10408.3	7745	10372
61900	12.4	16.68	16.683	22.32	16.66	135.88	135.879	145.80	134.48	10482	10482.6	7841	10470
61906	12.5	16.68	16.680	22.25	16.65	135.89	135.886	145.88	134.61	10570	10569.4	7905	10532
61912	12.6	16.69	16.685	22.26	16.70	136.01	136.005	145.62	134.52	10654	10653.2	8001	10632
61918	12.7	16.70	16.704	22.15	16.68	136.05	136.036	145.66	134.66	10728	10728.4	8102	10731
61924	12.8	16.71	16.705	22.14	16.71	135.99	135.987	145.69	134.75	10809	10809.0	8175	10802
61930	12.9	16.71	16.699	22.17	16.76	136.02	136.030	145.49	134.68	10898	10896.5	8252	10882
61936	13.0	16.73	16.726	22.19	16.82	136.09	136.090	145.42	134.71	10969	10969.8	8344	10973
61942	13.1	16.73	16.728	22.13	16.81	136.08	136.091	145.45	134.80	11062	11062.1	8408	11036
61948	13.2	16.70	16.703	22.19	16.90	136.13	136.124	145.34	134.80	11163	11162.1	8495	11123
61954	13.3	16.70	16.709	22.09	16.87	136.07	136.086	145.28	134.85	11248	11248.2	8600	11229
61960	13.4	16.71	16.711	22.08	16.89	136.19	136.185	144.95	134.69	11338	11337.7	8682	11318
61966	13.5	16.70	16.702	21.99	16.86	136.18	136.192	145.00	134.79	11435	11433.8	8751	11385
61972	13.6	16.72	16.712	21.91	16.85	136.26	136.260	144.89	134.82	11517	11517.6	8874	11510
61978	13.7	16.71	16.694	21.78	16.78	136.33	136.320	144.76	134.79	11617	11615.9	8952	11591
61984	13.8	16.73	16.724	21.65	16.73	136.34	136.349	144.85	134.95	11700	11700.7	9053	11690
61990	13.9	16.74	16.735	21.64	16.75	136.44	136.443	144.69	134.89	11785	11784.9	9130	11770
61996	14.0	16.73	16.732	21.58	16.74	136.48	136.475	144.75	135.01	11881	11879.5	9217	11855
62002	14.1	16.75	16.749	21.50	16.72	136.49	136.483	144.77	135.10	11959	11959.8	9309	11945
62008	14.2	16.76	16.759	21.55	16.78	136.49	136.496	144.65	135.06	12052	12052.2	9382	12020
62014	14.3	16.74	16.739	21.53	16.81	136.55	136.558	144.60	135.11	12153	12151.7	9482	12120
62020	14.4	16.74	16.733	21.44	16.77	136.63	136.626	144.58	135.16	12245	12245.8	9574	12212
62026	14.5	16.70	16.705	21.42	16.79	136.68	136.673	144.58	135.23	12346	12345.1	9661	12297
62032	14.6	16.71	16.700	21.36	16.79	136.76	136.756	144.60	135.33	12437	12436.9	9775	12410
62038	14.7	16.69	16.696	21.29	16.77	136.83	136.828	144.57	135.37	12523	12522.9	9862	12498
62044	14.8	16.72	16.720	21.27	16.79	136.87	136.856	144.57	135.45	12596	12597.3	9962	12597
62050	14.9	16.74	16.732	21.19	16.75	136.86	136.864	144.61	135.53	12681	12680.6	10036	12669
62056	15.0	16.74	16.740	21.31	16.87	136.92	136.912	144.42	135.43	12768	12769.1	10113	12749
62062	15.1	16.74	16.749	21.21	16.82	136.86	136.868	144.48	135.54	12857	12857.6	10200	12834
62068	15.2	16.77	16.771	21.21	16.85	136.90	136.898	144.25	135.43	12943	12942.1	10292	12930
62074	15.3	16.76	16.756	21.20	16.87	136.94	136.936	144.18	135.43	13035	13034.7	10369	13009
62080	15.4	16.78	16.782	21.13	16.84	136.96	136.964	144.16	135.48	13125	13123.3	10470	13109
62086	15.5	16.82	16.807	21.12	16.86	136.93	136.939	144.09	135.48	13202	13202.4	10552	13192
62092	15.6	16.81	16.817	21.11	16.88	136.84	136.843	144.03	135.48	13290	13290.7	10634	13275
62098	15.7	16.83	16.822	21.12	16.91	136.85	136.841	143.82	135.38	13381	13380.5	10735	13380
62104	15.8	16.85	16.848	21.08	16.90	136.81	136.802	143.73	135.36	13458	13458.5	10813	13459
62110	15.9	16.84	16.842	21.08	16.93	136.74	136.739	143.74	135.41	13553	13553.6	10886	13531
62116	16.0	16.84	16.843	21.12	16.98	136.76	136.753	143.48	135.26	13651	13651.0	10973	13623
62122	16.1	16.87	16.864	20.95	16.87	136.72	136.710	143.46	135.30	13734	13735.1	11060	13711
62128	16.2	16.86	16.868	21.01	16.94	136.59	136.589	143.31	135.23	13827	13826.8	11137	13791
62134	16.3	16.88	16.876	20.97	16.92	136.59	136.584	143.00	135.04	13921	13921.3	11224	13885
62140	16.4	16.90	16.884	20.96	16.94	136.57	136.566	142.91	135.02	14007	14007.7	11325	13987
62146	16.5	16.89	16.890	20.94	16.95	136.48	136.484	142.86	135.03	14106	14105.6	11407	14070
62152	16.6	16.88	16.884	20.92	16.96	136.47	136.466	142.72	134.98	14209	14209.0	11512	14177
62158	16.7	16.90	16.896	20.91	16.98	136.39	136.399	142.68	135.00	14296	14296.1	11613	14278
62164	16.8	16.89	16.880	20.91	17.00	136.33	136.329	142.55	134.94	14403	14402.0	11691	14358
62170	16.9	16.89	16.890	20.94	17.04	136.32	136.322	142.25	134.76	14497	14497.0	11800	14474

Table B-1 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNCHRONIZED		ELEVATION ANGLE				AZIMUTH ANGLE				SLANT RANGE			
FPS-16 TIME SEC	GMD-2 TIME MIN	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS METERS	FPS-16 MEAN METERS	GMD-2 MEAS METERS	GMD-2 TRANS METERS
62176	17.0	16.91	16.897	20.84	16.98	136.23	136.226	142.18	134.75	14590	14591.4	11892	14567
62182	17.1	16.90	16.888	20.83	17.00	136.21	136.201	141.87	134.56	14703	14702.7	11997	14679
62188	17.2	16.89	16.891	20.77	16.97	136.17	136.167	141.90	134.63	14795	14797.3	12093	14774
62194	17.3	16.91	16.904	20.71	16.95	136.11	136.107	141.86	134.64	14892	14893.1	12184	14863
62200	17.4	16.89	16.890	20.73	16.99	136.03	136.028	141.77	134.62	15009	15008.1	12290	14972
62206	17.5	16.87	16.870	20.74	17.02	135.96	135.965	141.57	134.51	15125	15125.8	12395	15081
62212	17.6	16.85	16.852	20.65	16.97	135.96	135.949	141.33	134.38	15243	15243.1	12514	15206
62218	17.7	16.84	16.835	20.52	16.88	135.93	135.929	141.20	134.32	15355	15353.6	12614	15311
62224	17.8	16.85	16.849	20.46	16.86	135.84	135.842	141.12	134.32	15448	15449.2	12756	15454
62230	17.9	16.82	16.831	20.44	16.86	135.76	135.766	141.09	134.32	15562	15561.2	12820	15518
62236	18.0	16.83	16.831	20.58	17.00	135.74	135.741	141.01	134.30	15660	15659.8	12930	15627
62242	18.1	16.83	16.829	20.56	17.00	135.64	135.642	140.93	134.27	15761	15761.5	13016	15715
62248	18.2	16.82	16.813	20.48	16.95	135.57	135.576	140.58	134.03	15873	15872.9	13112	15820
62254	18.3	16.82	16.816	20.32	16.84	135.59	135.583	140.43	133.96	15969	15968.8	13218	15930
62260	18.4	16.82	16.814	20.30	16.85	135.53	135.525	140.41	133.99	16066	16065.8	13323	16035
62266	18.5	16.80	16.793	20.28	16.85	135.43	135.432	140.41	134.03	16177	16176.0	13423	16135
62272	18.6	16.79	16.789	20.37	16.94	135.42	135.423	140.17	133.87	16283	16283.1	13533	16249
62278	18.7	16.76	16.764	20.30	16.90	135.41	135.406	140.06	133.82	16398	16397.2	13638	16356
62284	18.8	16.76	16.764	20.28	16.91	135.33	135.337	139.98	133.80	16504	16503.6	13753	16472
62290	18.9	16.77	16.767	20.20	16.86	135.29	135.285	139.84	133.73	16602	16602.5	13862	16585
62296	19.0	16.75	16.751	20.19	16.87	135.18	135.188	139.81	133.74	16709	16709.3	13954	16677
62302	19.1	16.73	16.733	20.20	16.90	135.16	135.161	139.60	133.60	16824	16822.6	14054	16782
62308	19.2	16.74	16.735	20.13	16.86	135.14	135.142	139.44	133.51	16918	16918.5	14159	16891
62314	19.3	16.73	16.731	20.07	16.83	135.06	135.060	139.42	133.53	17022	17021.4	14265	16997
62320	19.4	16.74	16.734	20.05	16.82	135.03	135.027	139.27	133.44	17118	17119.7	14361	17096
62326	19.5	16.71	16.718	20.03	16.82	135.03	135.028	139.18	133.40	17232	17231.0	14457	17193
62332	19.6	16.72	16.720	20.00	16.82	135.04	135.033	139.18	133.44	17332	17332.7	14571	17307
62338	19.7	16.71	16.702	19.98	16.82	135.01	135.005	139.11	133.41	17447	17445.6	14653	17391
62344	19.8	16.70	16.702	19.88	16.75	134.93	134.936	139.05	133.40	17540	17540.1	14768	17507
62350	19.9	16.69	16.698	19.88	16.76	134.86	134.856	138.88	133.28	17637	17637.0	14854	17598
62356	20.0	16.69	16.678	19.82	16.73	134.81	134.815	138.78	133.23	17743	17742.4	14955	17701
62362	20.1	16.67	16.663	19.84	16.76	134.80	134.807	138.69	133.19	17850	17850.0	15065	17812
62368	20.2	16.66	16.663	19.76	16.71	134.79	134.778	138.64	133.19	17941	17940.9	15170	17919
62374	20.3	16.63	16.649	19.75	16.72	134.68	134.686	138.60	133.18	18039	18039.1	15257	18006
62380	20.4	16.63	16.631	19.73	16.72	134.64	134.639	138.39	133.04	18145	18145.2	15376	18129
62386	20.5	16.63	16.628	19.70	16.71	134.62	134.622	138.28	132.97	18237	18237.6	15463	18219
62392	20.6	16.60	16.615	19.64	16.67	134.53	134.534	138.25	132.98	18333	18333.8	15554	18311
62398	20.7	16.60	16.594	19.64	16.68	134.49	134.496	138.11	132.88	18448	18446.8	15632	18391
62404	20.8	16.59	16.594	19.56	16.63	134.46	134.461	137.99	132.82	18541	18541.1	15741	18504
62410	20.9	16.58	16.575	19.53	16.62	134.37	134.371	137.95	132.81	18644	18644.4	15856	18619
62416	21.0	16.57	16.565	19.54	16.64	134.35	134.353	137.87	132.77	18750	18748.8	15947	18712
62422	21.1	16.58	16.573	19.53	16.55	134.31	134.305	137.74	132.69	18831	18831.4	16061	18829
62428	21.2	16.57	16.566	19.52	16.65	134.22	134.217	137.72	132.70	18922	18922.5	16135	18902
62434	21.3	16.56	16.559	19.52	16.66	134.16	134.159	137.53	132.56	19026	19025.0	16217	18988
62440	21.4	16.56	16.564	19.46	16.62	134.16	134.148	137.42	132.49	19114	19114.2	16322	19096
62446	21.5	16.59	16.582	19.45	16.62	134.07	134.077	137.36	132.47	19188	19187.8	16404	19180
62452	21.6	16.59	16.592	19.45	16.63	133.98	133.980	137.34	132.47	19263	19263.4	16477	19253
62458	21.7	16.59	16.595	19.50	16.68	133.87	133.869	137.15	132.33	19343	19342.8	16555	19334
62464	21.8	16.59	16.591	19.46	16.66	133.81	133.813	136.95	132.18	19432	19431.5	16628	19412
62470	21.9	16.61	16.601	19.46	16.67	133.80	133.791	136.85	132.11	19508	19508.4	16720	19505
62476	22.0	16.62	16.611	19.44	16.66	133.70	133.698	136.83	132.11	19586	19585.1	16788	19574
62482	22.1	16.60	16.597	19.43	16.66	133.62	133.617	136.78	132.09	19679	19679.5	16871	19657
62488	22.2	16.58	16.588	19.44	16.68	133.58	133.581	136.66	132.01	19772	19770.7	16953	19741
62494	22.3	16.60	16.599	19.39	16.65	133.52	133.524	136.55	131.94	19844	19844.0	17054	19845
62500	22.4	16.60	16.602	19.37	16.64	133.42	133.418	136.50	131.91	19918	19917.9	17118	19910
62506	22.5	16.60	16.600	19.38	16.66	133.30	133.305	136.33	131.79	20006	20005.8	17195	19991
62512	22.6	16.58	16.590	19.34	16.63	133.21	133.214	136.13	131.64	20103	20104.2	17287	20087
62518	22.7	16.57	16.570	19.37	16.67	133.15	133.141	136.00	131.55	20207	20207.2	17369	20171
62524	22.8	16.56	16.564	19.26	16.59	133.03	133.026	135.93	131.51	20303	20302.5	17470	20274
62530	22.9	16.58	16.574	19.26	16.60	132.93	132.930	135.75	131.38	20387	20387.4	17570	20378
62536	23.0	16.56	16.562	19.26	16.60	132.85	132.849	135.61	131.28	20494	20494.1	17652	20463
62542	23.1	16.54	16.541	19.27	16.62	132.73	132.730	135.52	131.22	20604	20603.4	17753	20565
62548	23.2	16.55	16.546	19.27	16.64	132.63	132.630	135.36	131.11	20699	20699.4	17863	20678
62554	23.3	16.53	16.540	19.26	16.63	132.56	132.567	135.18	130.98	20808	20806.3	17950	20768
62560	23.4	16.55	16.547	19.26	16.65	132.52	132.522	135.08	130.91	20897	20896.6	18059	20880
62566	23.5	16.56	16.552	19.26	16.66	132.43	132.437	135.03	130.89	20990	20989.8	18146	20967
62572	23.6	16.56	16.554	19.24	16.65	132.39	132.378	134.90	130.79	21080	21079.8	18224	21048
62578	23.7	16.56	16.560	19.24	16.66	132.27	132.266	134.82	130.74	21165	21165.2	18325	21150
62584	23.8	16.54	16.545	19.23	16.66	132.14	132.136	134.67	130.63	21275	21274.1	18407	21235
62590	23.9	16.53	16.527	19.26	16.69	132.05	132.046	134.50	130.50	21383	21382.2	18503	21334
62596	24.0	16.52	16.529	19.18	16.63	131.96	131.962	134.37	130.41	21471	21472.0	18608	21442
62602	24.1	16.53	16.534	19.18	16.64	131.86	131.853	134.24	130.32	21556	21555.5	18695	21531
62608	24.2	16.54	16.542	19.17	16.64	131.74	131.735	134.10	130.21	21637	21637.9	18768	21607
62614	24.3	16.54	16.543	19.16	16.64	131.58	131.577	133.93	130.08	21731	21731.7	18860	21702
62620	24.4	16.53	16.532	19.13	16.62	131.45	131.442	133.71	129.91	21836	21835.3	18933	21780
62626	24.5	16.53	16.531	19.11	16.61	131.31	131.309	133.50	129.75	21936	21936.9	19061	21912
62632	24.6	16.51	16.519	19.04	16.56	131.17	131.166	133.35	129.64	22046	22046.1	19152	22007
62638	24.7	16.49	16.499	19.07	16.60	131.03	131.034	133.18	129.51	22165	22164.6	19266	22124
62644	24.8	16.50	16.497	19.03	16.57	130.89	130.897	133.02	129.39	22268	22268.1	19367	22228
62650	24.9	16.49	16.492	19.00	16.55	130.79	130.792	132.84	129.25	22365	22364.5	19463	22328

Table B-1 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNCHRONIZED		ELEVATION ANGLE				AZIMUTH ANGLE				SLANT RANGE			
FPS-16 TIME SEC	GMD-2 TIME MIN	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS METERS	FPS-16 MEAN METERS	GMD-2 MEAS METERS	GMD-2 TRANS METERS
62656	25.0	16.48	16.486	18.99	16.55	130.72	130.722	132.70	129.15	22470	22470.6	19568	22435
62662	25.1	16.47	16.468	18.99	16.56	130.61	130.614	132.59	129.07	22594	22593.5	19669	22538
62668	25.2	16.47	16.462	18.94	16.53	130.47	130.467	132.45	128.97	22708	22706.8	19792	22664
62674	25.3	16.46	16.466	18.92	16.52	130.35	130.349	132.28	128.84	22804	22805.3	19893	22768
62680	25.4	16.46	16.465	18.92	16.53	130.21	130.215	132.13	128.73	22910	22910.5	19998	22876
62686	25.5	16.45	16.457	18.91	16.53	130.11	130.114	131.92	128.56	23033	23032.9	20094	22976
62692	25.6	16.45	16.445	18.90	16.53	130.02	130.019	131.83	128.50	23152	23150.9	20213	23096
62698	25.7	16.44	16.435	18.88	16.52	129.93	129.936	131.65	128.35	23254	23254.5	20295	23182
62704	25.8	16.43	16.430	18.86	16.51	129.87	29.866	131.54	128.28	23357	23357.7	20423	23312
62710	25.9	16.42	16.414	18.84	16.51	129.78	129.751	131.45	128.21	23464	23464.5	20524	23414
62716	26.0	16.40	16.408	18.80	16.48	129.70	129.704	131.36	128.15	23564	23564.3	20629	23521
62722	26.1	16.40	16.402	18.79	16.48	129.60	129.595	131.25	128.07	23657	23657.2	20734	23628
62728	26.2	16.40	16.399	18.81	16.51	129.45	129.461	131.11	127.96	23759	23758.7	20825	23722
62734	26.3	16.40	16.396	18.79	16.49	129.37	129.366	130.92	127.81	23860	23859.9	20926	23826
62740	26.4	16.39	16.383	18.78	16.49	129.25	129.247	130.82	127.74	23978	23977.7	21027	23928
62746	26.5	16.37	16.373	18.83	16.55	129.09	129.092	130.63	127.59	24094	24094.8	21136	24040
62752	26.6	16.38	16.361	18.71	16.45	128.97	128.953	130.44	127.44	24219	24218.4	21260	24169
62758	26.7	16.36	16.352	18.63	16.39	128.80	128.800	130.32	127.35	24334	24334.3	21379	24291
62764	26.8	16.35	16.343	18.63	16.40	128.64	128.645	130.09	127.16	24446	24446.8	21484	24399
62770	26.9	16.34	16.338	18.64	16.41	128.51	128.502	129.66	126.97	24567	24565.5	21589	24508
62776	27.0	16.33	16.331	18.55	16.34	128.36	128.352	129.68	126.83	24678	24678.8	21717	24640
62782	27.1	16.32	16.316	18.66	16.45	128.19	128.199	129.51	126.70	24798	24798.1	21818	24742
62788	27.2	16.31	16.303	18.55	16.36	128.07	128.068	129.29	126.52	24913	24913.4	21932	24862
62794	27.3	16.28	16.285	18.49	16.31	127.92	127.921	129.17	126.43	25035	25033.6	22046	24979
62800	27.4	16.28	16.282	18.57	16.39	127.77	127.772	128.99	126.28	25137	25137.4	22160	25094
62806	27.5	16.26	16.272	18.53	16.36	127.63	127.634	128.81	126.13	25238	25238.4	22252	25189
62812	27.6	16.26	16.257	18.51	16.35	127.52	127.520	128.69	126.04	25339	25338.6	22348	25287
62818	27.7	16.24	16.239	18.56	16.40	127.39	127.404	128.51	125.89	25446	25444.9	22444	25386
62824	27.8	16.24	16.236	18.49	16.35	127.24	127.241	128.39	125.80	25558	25558.7	22558	25503
62830	27.9	16.23	16.221	18.48	16.35	127.08	127.078	128.22	125.66	25670	25671.6	22650	25597
62836	28.0	16.21	16.209	18.48	16.35	126.95	126.951	127.98	125.46	25796	25794.4	22782	25733
62842	28.1	16.20	16.198	18.48	16.36	126.81	126.805	127.82	125.34	25911	25910.9	22906	25859
62848	28.2	16.18	16.181	18.42	16.32	126.65	126.648	127.63	125.18	26022	26022.9	23006	25963
62854	28.3	16.15	16.159	18.35	16.26	126.50	126.498	127.45	125.03	26134	26132.1	23116	26076
62860	28.4	16.15	16.149	18.32	16.24	126.38	126.385	127.25	124.87	26249	26248.3	23230	26194
62866	28.5	16.14	16.138	18.26	16.20	126.24	126.235	127.12	124.77	26363	26364.6	23345	26311
62872	28.6	16.12	16.122	18.23	16.18	126.08	126.075	126.92	124.60	26496	26494.6	23459	26429
62878	28.7	16.11	16.110	18.20	16.16	125.90	125.904	126.74	124.45	26619	26619.3	23578	26551
62884	28.8	16.08	16.087	18.20	16.17	125.70	125.700	126.56	124.31	26745	26745.7	23697	26672
62890	28.9	16.09	16.071	18.20	16.17	125.49	125.494	126.32	124.10	26859	26857.8	23816	26794
62896	29.0	16.07	16.065	18.22	16.20	125.28	125.282	126.09	123.91	26969	26968.8	23930	26911
629	29.1	16.06	16.062	18.21	16.19	125.10	125.098	125.85	123.71	27079	27080.7	24035	27020
62908	29.2	16.06	16.053	18.21	16.20	124.90	124.905	125.60	123.50	27211	27210.1	24136	27124
62914	29.3	16.04	16.031	18.21	16.21	124.70	124.706	125.37	123.31	27331	27330.0	24273	27264
62920	29.4	16.03	16.027	18.18	16.19	124.52	124.526	125.13	123.10	27437	27437.5	24401	27396
62926	29.5	16.02	16.016	18.16	16.18	124.38	124.385	124.92	122.93	27551	27551.1	24497	27495
62932	29.6	16.01	16.004	18.13	16.16	124.24	124.237	124.77	122.80	27670	27669.0	24611	27612
62938	29.7	15.99	15.998	18.10	16.14	124.10	124.097	124.61	122.67	27786	27787.0	24725	27728
62944	29.8	15.99	15.983	18.10	16.14	123.97	123.970	124.41	122.50	27904	27905.3	24840	27845
62950	29.9	15.97	15.971	18.08	16.13	123.86	123.859	124.30	122.41	28032	28031.3	24963	27970
62956	30.0	15.96	15.959	18.05	16.11	123.74	123.742	124.16	122.30	28160	28160.9	25077	28087
62962	30.1	15.95	15.950	18.03	16.10	123.63	123.632	124.00	122.16	28287	28288.2	25205	28217
62968	30.2	15.92	15.925	17.98	16.07	123.51	123.514	123.91	122.09	28412	28411.0	25352	28365
62974	30.3	15.92	15.909	17.96	16.05	123.41	123.404	123.74	121.95	28544	28544.5	25448	28463
62980	30.4	15.86	15.870	17.93	16.03	123.29	123.281	123.61	121.84	28690	28691.0	25571	28589
62986	30.5	15.85	15.839	17.85	15.97	123.14	123.137	123.49	121.75	28838	28838.5	25718	28738
62992	30.6	15.81	15.808	17.78	15.92	123.00	123.004	123.31	121.60	28986	28985.9	25864	28887
62998	30.7	15.77	15.777	17.75	15.90	122.86	122.866	123.12	121.44	29135	29134.6	26006	29031
63004	30.8	15.76	15.758	17.66	15.83	122.75	122.751	122.95	121.29	29271	29271.8	26156	29186
63010	30.9	15.74	15.737	17.67	15.84	122.62	122.625	122.84	121.20	29419	29419.5	26294	29324
63016	31.0	15.70	15.710	17.60	15.79	122.50	122.501	122.68	121.07	29570	29567.7	26435	29468
63022	31.1	15.70	15.694	17.59	15.79	122.38	122.377	122.52	120.94	29704	29704.1	26586	29621
63028	31.2	15.67	15.669	17.65	15.85	122.27	122.267	122.40	120.84	29846	29845.9	26732	29768
63034	31.3	15.64	15.644	15.78	14.18	122.15	122.141	122.25	120.72	29990	29989.3	26847	29910
63040	31.4	15.62	15.617	17.56	15.78	121.99	121.994	122.13	120.61	30132	30134.4	27002	30042
63046	31.5	15.59	15.584	17.48	15.72	121.89	121.889	121.95	120.46	30292	30291.0	27139	30182
63052	31.6	15.56	15.555	17.48	15.73	121.76	121.756	121.85	120.38	30446	30446.3	27304	30348
63058	31.7	15.53	15.528	17.42	15.68	121.61	121.609	121.69	120.24	30590	30590.3	27437	30483
63064	31.8	15.49	15.497	17.34	15.62	121.46	121.460	121.51	120.09	30738	30738.0	27583	30632
63070	31.9	15.47	15.469	17.31	15.60	121.31	121.319	121.33	119.93	30886	30885.7	27738	30790
63076	32.0	15.46	15.454	17.29	15.58	121.21	121.212	121.15	119.78	31026	31025.7	27880	30934
63082	32.1	15.43	15.422	17.26	15.56	121.07	121.072	120.94	119.60	31169	31170.1	27971	31028
63088	32.2	15.39	15.386	17.18	15.50	120.94	120.935	120.80	119.48	31325	31325.2	28164	31222
63094	32.3	15.35	15.357	17.15	15.48	120.80	120.800	120.72	119.42	31481	31480.5	28319	31379
63100	32.4	15.33	15.329	17.12	15.46	120.68	120.681	120.53	119.25	31633	31633.9	28470	31532
63106	32.5	15.29	15.295	17.09	15.44	120.55	120.552	120.40	119.14	31794	31793.9	28621	31685
63112	32.6	15.27	15.266	17.08	15.44	120.42	120.422	120.25	119.01	31941	31939.2	28767	31832
63118	32.7	15.24	15.244	17.04	15.41	120.30	120.303	120.11	118.83	32071	32071.6	28922	31990
63124	32.8	15.22	15.225	17.01	15.39	120.20	120.204	119.95	118.76	32206	32206.7	29050	32120
63130	32.9	15.20	15.200	16.95	15.34	120.11	120.106	119.85	118.67	32351	32350.6	29179	32249

Table B-1 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNCHRONIZED		ELEVATION ANGLE				AZIMUTH ANGLE				SLANT RANGE			
FPS-16 TIME SEC	GMD-2 TIME MIN	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS METERS	FPS-16 MEAN METERS	GMD-2 MEAS METERS	GMD-2 TRANS METERS
63136	33.0	15.19	15.181	16.90	15.30	119.96	119.964	119.72	118.56	32492	32492.8	29316	32388
63142	33.1	15.15	15.155	16.88	15.29	119.82	119.818	119.53	118.39	32641	32640.7	29462	32537
63148	33.2	15.12	15.126	16.83	15.25	119.72	119.719	119.43	118.31	32781	32780.3	29590	32666
63154	33.3	15.11	15.108	16.82	15.25	119.59	119.585	119.31	118.21	32910	32911.1	29755	32832
63160	33.4	15.09	15.087	16.80	15.23	119.45	119.456	119.10	118.02	33054	33054.0	29873	32953
63166	33.5	15.07	15.066	16.76	15.20	119.33	119.319	119.04	117.97	33201	33200.7	29988	33068
63172	33.6	15.04	15.036	16.71	15.16	119.17	119.166	118.83	117.79	33354	33353.1	30157	33240
63178	33.7	15.02	15.019	16.66	15.13	119.04	119.040	118.61	117.60	33492	33493.2	30312	33398
63184	33.8	14.99	14.990	16.62	15.10	118.91	118.907	118.53	117.53	33644	33642.9	30459	33546
63190	33.9	14.97	14.969	16.60	15.08	118.76	118.768	118.37	117.39	33782	33783.6	30600	33689
63196	34.0	14.95	14.949	16.55	15.04	118.66	118.659	118.20	117.24	33932	33933.0	30742	33833
63202	34.1	14.92	14.923	16.49	15.00	118.54	118.539	118.12	117.17	34077	34076.5	30888	33980
63208	34.2	14.91	14.903	16.47	14.98	118.40	118.417	117.95	117.02	34214	34214.5	31026	34119
63214	34.3	14.88	14.885	16.44	14.96	118.33	118.327	117.80	116.89	34360	34359.2	31163	34258
63220	34.4	14.86	14.862	16.42	14.95	118.23	118.226	117.75	116.85	34503	34502.5	31295	34391
63226	34.5	14.84	14.841	16.41	14.94	118.11	118.113	117.63	116.74	34649	34650.4	31437	34534
63232	34.6	14.83	14.824	16.37	14.91	118.01	118.015	117.48	116.61	34809	34807.4	31579	34677
63238	34.7	14.81	14.803	16.35	14.90	117.92	117.914	117.38	116.53	34948	34948.0	31753	34852
63244	34.8	14.78	14.782	16.33	14.89	117.80	117.801	117.26	116.42	35094	35095.2	31876	34977
63250	34.9	14.77	14.756	16.29	14.86	117.70	117.696	117.10	116.28	35251	35249.6	32013	35115
63256	35.0	14.74	14.745	16.26	14.84	117.55	117.552	116.96	116.16	35402	35399.9	32169	35272
63262	35.1	14.73	14.731	16.23	14.82	117.41	117.409	116.88	116.09	35538	35539.2	32338	35442
63268	35.2	14.71	14.716	16.21	14.81	117.25	117.251	116.68	115.91	35690	35688.1	32598	35705
63274	35.3	14.69	14.701	16.20	14.80	117.10	117.101	116.54	115.79	35824	35824.6	32644	35751
63280	35.4	14.69	14.679	16.19	14.79	116.95	116.951	116.42	115.68	35973	35972.4	32749	35858
63286	35.5	14.66	14.661	16.18	14.79	116.80	116.796	116.23	115.51	36118	36118.0	32900	36010
63292	35.6	14.64	14.647	16.15	14.77	116.65	116.651	116.03	115.33	36254	36254.1	33037	36149
63298	35.7	14.64	14.632	16.11	14.74	116.50	116.498	115.88	115.20	36391	36389.2	33174	36287
63304	35.8	14.63	14.630	16.10	14.73	116.35	116.360	115.70	115.04	36512	36512.4	33307	36421
63310	35.9	14.62	14.620	16.09	14.73	116.23	116.231	115.55	114.90	36639	36641.3	33421	36536
63316	36.0	14.60	14.605	16.08	14.72	116.13	116.130	115.41	114.78	36787	36785.2	33558	36675
63322	36.1	14.60	14.597	16.08	14.73	116.05	116.043	115.28	114.66	36914	36915.1	33705	36822
63328	36.2	14.59	14.589	16.04	14.69	115.94	115.941	115.22	114.61	37053	37051.4	33819	36937
63334	36.3	14.57	14.576	16.03	14.69	115.82	115.821	115.07	114.47	37169	37170.9	33975	37093
63340	36.4	14.57	14.567	16.02	14.68	115.70	115.703	114.92	114.34	37314	37314.5	34084	37204
63346	36.5	14.55	14.553	16.01	14.68	115.59	115.566	114.79	114.22	37454	37455.4	34240	37360
63352	36.6	14.54	14.542	16.00	14.68	115.44	115.431	114.65	114.10	37605	37603.4	34368	37469
63358	36.7	14.53	14.528	15.99	14.67	115.29	115.291	114.52	113.98	37741	37743.0	34528	37650
63364	36.8	14.52	14.514	15.96	14.65	115.15	115.149	114.35	113.83	37903	37902.9	34637	37761
63370	36.9	14.50	14.505	15.93	14.63	115.02	115.019	114.17	113.67	38059	38057.5	34807	37931
63376	37.0	14.50	14.490	15.91	14.61	114.90	114.894	114.03	113.54	38203	38205.0	34958	38083
63382	37.1	14.47	14.466	15.90	14.61	114.77	114.764	113.88	113.41	38371	38369.9	35095	38221
63388	37.2	14.45	14.456	15.88	14.59	114.59	114.604	113.76	113.30	38518	38518.6	35278	38405
63394	37.3	14.44	14.442	15.86	14.58	114.45	114.455	113.57	113.13	38681	38682.6	35438	38566
63400	37.4	14.43	14.424	15.86	14.59	114.30	114.290	113.45	113.02	38858	38856.5	35584	38713
63406	37.5	14.40	14.407	15.85	14.58	114.11	114.113	113.23	112.82	39017	39017.8	35753	38883
63412	37.6	14.40	14.394	15.82	14.56	113.97	113.965	113.02	112.63	39184	39185.5	35927	39058
63418	37.7	14.37	14.369	15.78	14.53	113.82	113.813	112.88	112.50	39367	39366.0	36096	39228
63424	37.8	14.36	14.360	15.73	14.49	113.66	113.664	112.70	112.34	39523	39524.1	36265	39398
63430	37.9	14.35	14.344	15.71	14.47	113.52	113.524	112.56	112.21	39694	39694.3	36430	39564
63436	38.0	14.32	14.317	15.70	14.47	113.36	113.360	112.42	112.09	39870	39869.3	36571	39706
63442	38.1	14.29	14.296	15.70	14.47	113.22	113.216	112.20	111.89	40037	40036.2	36759	39894
63448	38.2	14.28	14.274	15.69	14.47	113.09	113.090	112.05	111.75	40211	40212.5	36919	40055
63454	38.3	14.24	14.249	15.65	14.44	112.97	112.971	111.91	111.62	40404	40403.7	37102	40239
63460	38.4	14.22	14.227	15.64	14.44	112.86	112.861	111.77	111.50	40591	40590.6	37298	40436
63466	38.5	14.22	14.218	15.60	14.40	112.75	112.746	111.66	111.40	40764	40764.7	37481	40619
63472	38.6	14.20	14.201	15.56	14.37	112.66	112.651	111.52	111.27	40934	40931.7	37655	40794
63478	38.7	14.18	14.183	15.55	14.37	112.56	112.562	111.42	111.18	41100	41100.6	37824	40964
63484	38.8	14.16	14.159	15.53	14.35	112.49	112.489	111.30	111.07	41280	41278.6	37984	41124
63490	38.9	14.15	14.147	15.52	14.35	112.41	112.416	111.22	111.00	41446	41447.2	38172	41312
63496	39.0	14.13	14.129	15.48	14.32	112.35	112.355	111.14	110.93	41621	41621.0	38336	41477
63502	39.1	14.10	14.105	15.46	14.30	112.30	112.295	111.04	110.83	41802	41801.2	38501	41642
63508	39.2	14.09	14.085	15.44	14.29	112.24	112.238	110.99	110.79	41969	41970.3	38688	41830
63514	39.3	14.07	14.068	15.43	14.28	112.18	112.175	110.93	110.73	42156	42155.9	38857	41999
63520	39.4	14.05	14.045	15.38	14.24	112.12	112.112	110.86	110.67	42351	42350.4	39036	42178
63526	39.5	14.01	14.017	15.35	14.22	112.03	112.037	110.76	110.58	42544	42546.0	39237	42380
63532	39.6	13.99	13.989	15.34	14.22	111.99	111.989	110.70	110.53	42745	42744.7	39420	42563
63538	39.7	13.97	13.970	15.28	14.17	111.93	111.926	110.64	110.47	42934	42934.3	39626	42770
63544	39.8	13.96	13.952	15.26	14.15	111.90	111.897	110.55	110.39	43125	43126.1	39813	42958
63550	39.9	13.94	13.933	15.20	14.10	111.85	111.854	110.50	110.34	43323	43322.1	40014	43160
63556	40.0	13.91	13.910	15.16	14.07	111.81	111.808	110.49	110.33	43513	43512.7	40197	43343
63562	40.1	13.89	13.886	15.14	14.06	111.76	111.759	110.44	110.29	43705	43704.9	40380	43526
63568	40.2	13.87	13.871	15.11	14.03	111.71	111.715	110.40	110.25	43891	43889.9	40567	43714
63574	40.3	13.86	13.852	15.09	14.02	111.68	111.679	110.31	110.17	44067	44067.8	40764	43911
63580	40.4	13.85	13.845	15.07	14.00	111.65	111.639	110.30	110.16	44237	44236.8	40947	44094
63586	40.5	13.83	13.831	15.03	13.97	111.59	111.591	110.25	110.12	44401	44401.0	41111	44260
63592	40.6	13.83	13.826	15.02	13.97	111.54	111.534	110.19	110.06	44563	44564.4	41290	44438
63598	40.7	13.81	13.812	15.01	13.96	111.48	111.482	110.15	110.02	44736	44735.9	41436	44585
63604	40.8	13.80	13.798	15.00	13.95	111.43	111.433	110.07	109.95	44904	44903.9	41605	44754
63610	40.9	13.78	13.785	14.99	13.95	111.40	111.397	110.06	109.94	45062	45062.6	41788	44937

Table B-1 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNCHRONIZED		ELEVATION ANGLE				AZIMUTH ANGLE				SLANT RANGE			
FPS-16 TIME SEC	GMD-2 TIME MIN	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS METERS	FPS-16 MEAN METERS	GMD-2 MEAS METERS	GMD-2 TRANS METERS
63616	41.0	13.77	13.767	14.97	13.93	111.35	111.356	109.97	109.86	45224	45224.2	41934	45084
63622	41.1	13.75	13.750	14.92	13.89	111.30	111.296	109.96	109.85	45396	45395.9	42099	45249
63628	41.2	13.73	13.725	14.92	13.90	111.24	111.239	109.85	109.75	45571	45572.1	42254	45404
63634	41.3	13.70	13.714	14.90	13.88	111.17	111.174	109.80	109.70	45753	45752.0	42446	45597
63640	41.4	13.72	13.707	14.88	13.87	111.11	111.108	109.71	109.62	45925	45926.1	42620	45771
63646	41.5	13.70	13.694	14.85	13.84	111.05	111.061	109.64	109.56	46104	46105.5	42789	45940
63652	41.6	13.67	13.678	14.83	13.83	111.02	111.020	109.58	109.50	46280	46278.5	42981	46133
63658	41.7	13.66	13.660	14.83	13.83	110.97	110.980	109.52	109.44	46453	46453.3	43146	46297
63664	41.8	13.65	13.644	14.82	13.83	110.94	110.932	109.50	109.43	46627	46625.8	43320	46471
63670	41.9	13.63	13.629	14.77	13.79	110.89	110.869	109.43	109.36	46790	46790.9	43489	46641
63676	42.0	13.61	13.602	14.76	13.78	110.79	110.795	109.38	109.32	46966	46966.8	43658	46810
63682	42.1	13.59	13.592	14.76	13.78	110.75	110.737	109.28	109.22	47132	47131.4	43841	46990
63688	42.2	13.58	13.580	14.71	13.74	110.68	110.675	109.24	109.19	47290	47289.4	43992	47145
63694	42.3	13.56	13.558	14.70	13.73	110.61	110.611	109.15	109.10	47469	47467.0	44147	47300
63700	42.4	13.54	13.540	14.68	13.72	110.57	110.562	109.09	109.05	47640	47640.1	44330	47484
63706	42.5	13.50	13.518	14.65	13.69	110.50	110.504	109.04	109.00	47818	47818.0	44513	47667
63712	42.6	13.49	13.503	14.64	13.69	110.42	110.432	108.98	108.95	48002	48002.0	44687	47841
63718	42.7	13.46	13.482	14.64	13.69	110.40	110.393	108.86	108.83	48180	48179.5	44870	48024
63724	42.8	13.47	13.470	14.60	13.66	110.34	110.340	108.84	108.82	48341	48342.5	45043	48198
63730	42.9	13.45	13.453	14.58	13.64	110.29	110.303	108.77	108.75	48507	48507.9	45194	48349
63736	43.0	13.43	13.435	14.59	13.65	110.25	110.245	108.76	108.74	48672	48673.1	45382	48536
63742	43.1	13.40	13.416	14.58	13.65	110.19	110.200	108.70	108.68	48852	48851.6	45533	48687
63748	43.2	13.39	13.395	14.53	13.60	110.15	110.158	108.61	108.60	49035	49034.3	45706	48862
63754	43.3	13.39	13.382	14.50	13.58	110.09	110.094	108.60	108.59	49212	49212.2	45894	49049
63760	43.4	13.36	13.366	14.50	13.58	110.03	110.031	108.53	108.53	49393	49393.0	46058	49214
63766	43.5	13.36	13.351	14.49	13.58	109.95	109.946	108.43	108.43	49569	49567.6	46246	49402
63772	43.6	13.33	13.333	14.45	13.54	109.87	109.875	108.37	108.38	49746	49747.5	46429	49585
63778	43.7	13.32	13.314	14.42	13.52	109.80	109.792	108.28	108.29	49945	49943.5	46607	49764
63784	43.8	13.30	13.294	14.37	13.47	109.71	109.707	108.18	108.20	50134	50133.7	46794	49952
63790	43.9	13.26	13.274	14.34	13.45	109.63	109.628	108.11	108.13	50313	50313.6	46991	50149
63796	44.0	13.25	13.257	14.30	13.41	109.57	109.567	108.02	108.05	50497	50496.1	47169	50327
63802	44.1	13.23	13.237	14.27	13.39	109.51	109.516	107.93	107.97	50670	50671.1	47357	50515
63808	44.2	13.22	13.225	14.20	13.33	109.46	109.456	107.89	107.93	50838	50837.6	47526	50685
63814	44.3	13.21	13.216	14.19	13.32	109.41	109.407	107.81	107.85	51001	51000.8	47686	50845
63820	44.4	13.20	13.209	14.21	13.34	109.36	109.363	107.76	107.81	51160	51161.5	47841	51000
63826	44.5	13.19	13.204	14.21	13.34	109.30	109.296	107.72	107.77	51323	51324.0	48015	51174
63832	44.6	13.19	13.188	14.19	13.33	109.24	109.230	107.63	107.69	51496	51494.8	48180	51339
63838	44.7	13.17	13.174	14.17	13.31	109.20	109.187	107.56	107.62	51664	51665.4	48349	51508
63844	44.8	13.16	13.163	14.16	13.31	109.14	109.140	107.51	107.57	51850	51849.9	48518	51677
63850	44.9	13.16	13.156	14.15	13.30	109.10	109.094	107.46	107.53	52036	52035.0	48701	51860
63856	45.0	13.14	13.148	14.14	13.29	109.03	109.030	107.41	107.48	52196	52197.1	48879	52039
63862	45.1	13.14	13.137	14.12	13.28	108.97	108.973	107.34	107.41	52363	52363.4	49062	52222
63868	45.2	13.12	13.130	14.11	13.27	108.92	108.920	107.27	107.35	52534	52534.1	49218	52377
63874	45.3	13.11	13.113	14.10	13.26	108.86	108.862	107.24	107.32	52717	52717.3	49382	52542
63880	45.4	13.09	13.094	14.10	13.27	108.78	108.781	107.16	107.24	52901	52901.5	49560	52720
63886	45.5	13.06	13.066	14.08	13.25	108.71	108.717	107.05	107.14	53088	53087.6	49739	52899
63892	45.6	13.05	13.050	14.03	13.21	108.66	108.643	107.02	107.11	53277	53275.8	49940	53100
63898	45.7	13.03	13.034	14.02	13.20	108.58	108.587	106.96	107.06	53473	53473.6	50132	53292
63904	45.8	13.02	13.018	14.02	13.20	108.51	108.510	106.89	106.99	53676	53675.1	50315	53475
63910	45.9	13.01	13.006	14.02	13.21	108.46	108.451	106.81	106.91	53868	53866.8	50539	53699
63916	46.0	12.99	12.990	14.00	13.19	108.37	108.367	106.76	106.87	54055	54056.5	50717	53877
63922	46.1	12.97	12.968	14.00	13.19	108.29	108.282	106.65	106.76	54254	54251.5	50900	54060
63928	46.2	12.96	12.957	13.99	13.19	108.21	108.205	106.53	106.65	54428	54429.3	51101	54261
63934	46.3	12.94	12.939	13.93	13.13	108.13	108.131	106.47	106.59	54613	54614.5	51266	54426
63940	46.4	12.92	12.918	13.91	13.12	108.06	108.056	106.35	106.48	54802	54800.6	51462	54623
63946	46.5	12.90	12.904	13.90	13.11	107.98	107.992	106.26	106.39	54980	54981.4	51645	54806
63952	46.6	12.90	12.894	13.86	13.08	107.94	107.935	106.21	106.35	55166	55167.3	51842	55003
63958	46.7	12.87	12.876	13.81	13.03	107.87	107.862	106.10	106.24	55363	55360.6	52016	55177
63964	46.8	12.85	12.858	13.77	13.00	107.80	107.800	106.00	106.15	55548	55548.9	52217	55378
63970	46.9	12.84	12.848	13.75	12.98	107.75	107.749	105.95	106.10	55736	55736.3	52404	55566
63976	47.0	12.83	12.830	13.75	12.98	107.69	107.695	105.90	106.05	55922	55921.2	52578	55739
63982	47.1	12.81	12.813	13.73	12.97	107.63	107.640	105.83	105.99	56107	56105.6	52770	55932
63988	47.2	12.81	12.805	13.72	12.96	107.59	107.595	105.81	105.97	56276	56278.2	52944	56105
63994	47.3	12.79	12.786	13.71	12.95	107.56	107.552	105.77	105.93	56463	56461.9	53113	56275
64000	47.4	12.76	12.767	13.70	12.94	107.50	107.510	105.69	105.85	56654	56652.3	53310	56471
64006	47.5	12.76	12.755	13.69	12.94	107.48	107.472	105.67	105.84	56825	56825.8	53492	56654
64012	47.6	12.75	12.745	13.69	12.94	107.45	107.444	105.65	105.82	57003	57002.1	53666	56828
64018	47.7	12.73	12.725	13.68	12.93	107.39	107.392	105.59	105.76	57180	57177.0	53840	57001
64024	47.8	12.73	12.722	13.69	12.94	107.35	107.361	105.54	105.71	57340	57340.4	54023	57184
64030	47.9	12.71	12.712	13.66	12.92	107.34	107.336	105.51	105.68	57512	57513.0	54201	57363
64036	48.0	12.71	12.701	13.62	12.88	107.31	107.301	105.48	105.65	57690	57690.3	54352	57514
64042	48.1	12.69	12.686	13.61	12.88	107.28	107.277	105.43	105.61	57853	57853.5	54544	57706
64048	48.2	12.68	12.679	13.60	12.87	107.23	107.234	105.42	105.60	58014	58014.1	54699	57861
64054	48.3	12.66	12.668	13.60	12.87	107.19	107.194	105.39	105.57	58172	58171.4	54855	58017
64060	48.4	12.67	12.664	13.58	12.85	107.14	107.139	105.31	105.49	58334	58332.3	55010	58172
64066	48.5	12.67	12.659	13.57	12.85	107.10	107.095	105.29	105.47	58485	58486.8	55179	58341
64072	48.6	12.66	12.656	13.56	12.84	107.05	107.041	105.23	105.41	58647	58646.2	55312	58474
64078	48.7	12.65	12.649	13.56	12.84	106.97	106.977	105.14	105.33	58809	58806.7	55495	58656
64084	48.8	12.66	12.654	13.58	12.86	106.92	106.924	105.10	105.29	58957	58959.3	55655	58816
64090	48.9	12.64	12.641	13.53	12.82	106.86	106.859	105.02	105.22	59124	59124.4	55788	58949

Table B-1 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNCHRONIZED		ELEVATION ANGLE					AZIMUTH ANGLE				SLANT RANGE			
FPS-16 TIME SEC	GMD-2 TIME MIN	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS METERS	FPS-16 MEAN METERS	GMD-2 MEAS METERS	GMD-2 TRANS METERS
64096	49.0	12.64	12.641	13.50	12.79	106.78	106.782	104.95	105.15	59289	59286.9	55966	59127
64102	49.1	12.64	12.628	13.50	12.79	106.70	106.700	104.88	105.08	59433	59434.5	56126	59287
64108	49.2	12.63	12.623	13.50	12.79	106.63	106.628	104.80	105.01	59595	59597.1	56286	59447
64114	49.3	12.60	12.611	13.50	12.80	106.56	106.563	104.72	104.93	59777	59775.5	56437	59598
64120	49.4	12.60	12.595	13.46	12.76	106.50	106.493	104.63	104.84	59936	59937.1	56620	59781
64126	49.5	12.59	12.588	13.46	12.76	106.42	106.431	104.60	104.82	60107	60107.3	56775	59936
64132	49.6	12.58	12.576	13.46	12.76	106.35	106.358	104.51	104.73	60286	60285.7	56949	60109
64138	49.7	12.57	12.566	13.46	12.77	106.29	106.283	104.44	104.66	60464	60463.9	57127	60287
64144	49.8	12.54	12.554	13.45	12.76	106.25	106.242	104.38	104.61	60629	60632.0	57310	60470
64150	49.9	12.54	12.543	13.45	12.76	106.18	106.180	104.33	104.56	60816	60815.7	57475	60635
64156	50.0	12.53	12.534	13.43	12.74	106.13	106.120	104.25	104.48	61008	61008.5	57662	60822
64162	50.1	12.53	12.522	13.41	12.73	106.07	106.078	104.22	104.45	61195	61194.6	57850	61009
64168	50.2	12.51	12.518	13.37	12.69	106.05	106.047	104.16	104.39	61368	61366.2	58023	61183
64174	50.3	12.50	12.511	13.35	12.67	105.99	105.996	104.08	104.32	61532	61533.9	58211	61371
64180	50.4	12.50	12.493	13.33	12.66	105.93	105.934	104.06	104.30	61710	61708.5	58384	61545
64186	50.5	12.48	12.481	13.33	12.66	105.89	105.878	104.00	104.24	61881	61878.4	58544	61704
64192	50.6	12.46	12.475	13.29	12.62	105.84	105.843	103.91	104.16	62039	62040.7	58700	61860
64198	50.7	12.46	12.461	13.28	12.62	105.79	105.797	103.86	104.11	62210	62209.4	58874	62034
64204	50.8	12.46	12.457	13.27	12.61	105.75	105.757	103.81	104.06	62380	62375.9	59043	62203
64210	50.9	12.45	12.454	13.19	12.53	105.72	105.712	103.77	104.02	62531	62532.4	59226	62386
64216	51.0	12.45	12.449	13.21	12.55	105.66	105.667	103.73	103.98	62688	62688.3	59367	62528
64222	51.1	12.42	12.441	13.23	12.57	105.62	105.627	103.69	103.94	62850	62848.6	59523	62683
64228	51.2	12.42	12.443	13.21	12.56	105.59	105.591	103.63	103.89	62991	62991.4	59687	62847
64234	51.3	12.44	12.440	13.20	12.55	105.55	105.547	103.60	103.86	63123	63124.0	59838	62998
64240	51.4	12.43	12.435	13.20	12.55	105.50	105.502	103.54	103.80	63269	63268.2	59957	63117
64246	51.5	12.43	12.435	13.19	12.54	105.46	105.459	103.49	103.75	63410	63408.9	60113	63272
64252	51.6	12.43	12.436	13.18	12.54	105.42	105.423	103.46	103.72	63543	63543.5	60245	63405
64258	51.7	12.43	12.434	13.17	12.53	105.38	105.375	103.40	103.67	63688	63688.0	60392	63551
64264	51.8	12.43	12.435	13.17	12.53	105.34	105.341	103.36	103.63	63834	63831.7	60520	63678
64270	51.9	12.45	12.437	13.16	12.52	105.30	105.311	103.33	103.60	63973	63970.9	60680	63838
64276	52.0	12.44	12.436	13.16	12.52	105.24	105.245	103.30	103.57	64092	64093.5	60808	63966
64282	52.1	12.43	12.435	13.15	12.51	105.20	105.195	103.24	103.51	64219	64219.2	60940	64099
64288	52.2	12.44	12.439	13.15	12.51	105.14	105.150	103.18	103.45	64352	64351.1	61054	64213
64294	52.3	12.44	12.436	13.16	12.53	105.09	105.096	103.12	103.40	64473	64473.1	61196	64354
64300	52.4	12.43	12.437	13.15	12.52	105.04	105.043	103.08	103.36	64599	64601.8	61306	64464
64306	52.5	12.44	12.442	13.16	12.53	104.98	104.983	103.00	103.28	64741	64741.6	61434	64591
64312	52.6	12.44	12.444	13.16	12.53	104.94	104.941	102.95	103.23	64383	64502.8	61576	64733
64318	52.7	12.44	12.447	13.15	12.52	104.89	104.885	102.90	103.19	65013	65015.3	61731	64888
64324	52.8	12.45	12.443	13.14	12.51	104.82	104.825	102.85	103.14	65163	65159.4	61887	65043
64330	52.9	12.44	12.445	13.16	12.53	104.79	104.779	102.77	103.06	65312	65310.9	62001	65157
64336	53.0	12.45	12.449	13.14	12.52	104.73	104.726	102.75	103.04	65469	65468.3	62147	65303
64342	53.1	12.44	12.442	13.13	12.51	104.68	104.675	102.64	102.94	65609	65611.4	62303	65458
64348	53.2	12.44	12.449	13.15	12.53	104.61	104.620	102.63	102.93	65761	65761.3	62444	65600
64354	53.3	12.45	12.449	13.14	12.52	104.56	104.558	102.58	102.88	65914	65913.5	62600	65755
64360	53.4	12.44	12.454	13.13	12.51	104.49	104.493	102.48	102.78	66068	66068.9	62751	65905
64366	53.5	12.44	12.447	13.17	12.55	104.43	104.436	102.40	102.71	66228	66229.2	62911	66065
64372	53.6	12.45	12.441	13.17	12.55	104.39	104.381	102.35	102.66	66398	66396.5	63080	66233
64378	53.7	12.45	12.448	13.14	12.53	104.32	104.327	102.30	102.61	66543	66551.0	63235	66389
64384	53.8	12.45	12.444	13.17	12.56	104.27	104.276	102.21	102.52	66714	66715.2	63391	66544
64390	53.9	12.44	12.443	13.13	12.52	104.23	104.236	102.18	102.49	66881	66880.2	63560	66713
64396	54.0	12.45	12.443	13.14	12.53	104.21	104.195	102.15	102.46	67046	67046.0	63706	66859
64402	54.1	12.44	12.442	13.12	12.51	104.16	104.157	102.10	102.42	67206	67207.4	63871	67023
64408	54.2	12.43	12.443	13.11	12.51	104.12	104.119	102.04	102.36	67374	67372.8	64035	67188
64414	54.3	12.45	12.441	13.12	12.52	104.08	104.088	102.03	102.35	67536	67535.9	64209	67361
64420	54.4	12.43	12.440	13.13	12.53	104.05	104.045	101.95	102.27	67700	67700.7	64365	67516
64426	54.5	12.43	12.439	13.11	12.51	104.00	104.009	101.95	102.27	67862	67861.4	64529	67681
64432	54.6	12.42	12.431	13.09	12.49	103.98	103.988	101.92	102.24	68022	68023.0	64698	67850
64438	54.7	12.42	12.430	13.09	12.49	103.96	103.957	101.86	102.18	68182	68181.6	64858	68010
64444	54.8	12.41	12.432	13.07	12.48	103.91	103.909	101.83	102.15	68333	68333.5	65018	68170
64450	54.9	12.43	12.432	13.06	12.47	103.89	103.888	101.78	102.11	68484	68482.8	65151	68302
64456	55.0	12.44	12.441	13.08	12.49	103.84	103.850	101.75	102.08	68620	68618.9	65320	68471
64462	55.1	12.44	12.440	13.09	12.50	103.80	103.811	101.74	102.07	68746	68746.7	65466	68617
64468	55.2	12.45	12.444	13.08	12.49	103.77	103.769	101.66	101.99	68883	68881.0	65594	68745
64474	55.3	12.44	12.448	13.09	12.50	103.74	103.726	101.63	101.96	69012	69012.4	65723	68873
64480	55.4	12.46	12.450	13.11	12.52	103.69	103.689	101.59	101.92	69150	69147.8	65841	68991
64486	55.5	12.45	12.452	13.12	12.53	103.63	103.641	101.54	101.87	69281	69281.0	65983	69132
64492	55.6	12.46	12.460	13.19	12.60	103.59	103.602	101.45	101.82	69410	69411.3	66116	69264
64498	55.7	12.46	12.464	13.17	12.58	103.57	103.558	101.46	101.80	69546	69545.9	66239	69387
64504	55.8	12.46	12.462	13.18	12.59	103.50	103.503	101.37	101.71	69690	69689.2	66361	69528
64510	55.9	12.46	12.457	13.19	12.60	103.46	103.458	101.33	101.67	69833	69832.9	66532	69679
64516	56.0	12.46	12.455	13.20	12.62	103.41	103.404	101.27	101.61	69970	69971.3	66651	69797
64522	56.1	12.46	12.455	13.16	12.58	103.34	103.351	101.21	101.55	70114	70114.5	66811	69957
64528	56.2	12.46	12.459	13.15	12.57	103.30	103.295	101.16	101.51	70262	70261.8	66934	70080
64534	56.3	12.46	12.454	13.14	12.56	103.24	103.246	101.11	101.46	70398	70399.0	67094	70240
64540	56.4	12.46	12.458	13.14	12.56	103.18	103.191	101.07	101.42	70539	70539.3	67236	70381
64546	56.5	12.45	12.458	13.23	12.65	103.16	103.159	100.99	101.34	70690	70687.2	67387	70531
64552	56.6	12.46	12.456	13.19	12.61	103.12	103.119	100.95	101.30	70821	70822.4	67533	70677
64558	56.7	12.46	12.456	13.16	12.59	103.07	103.075	100.91	101.26	70955	70957.1	67661	70805
64564	56.8	12.45	12.452	13.16	12.59	103.03	103.035	100.86	101.22	71084	71085.7	67807	70951
64570	56.9	12.45	12.457	13.14	12.57	102.98	102.989	100.83	101.19	71212	71212.0	67926	71070

Table B-1 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNCHRONIZED		ELEVATION ANGLE				AZIMUTH ANGLE				SLANT RANGE			
FPS-16 TIME SEC	GMD-2 TIME MIN	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD 2 TRANS DEG	FPS-16 MEAS METERS	FPS-16 MEAN METERS	GMD-2 MEAS METERS	GMD-2 TRANS METERS
64576	57.0	12.47	12.454	13.14	12.57	102.93	102.934	100.76	101.12	71329	71330.2	68045	71189
64582	57.1	12.46	12.462	13.10	12.53	102.87	102.881	100.71	101.07	71454	71454.0	68173	71317
64588	57.2	12.46	12.465	13.10	12.53	102.84	102.830	100.66	101.02	71581	71580.7	68306	71449
64594	57.3	12.46	12.466	13.09	12.53	102.78	102.781	100.62	100.98	71702	71702.6	68415	71558
64600	57.4	12.48	12.467	13.06	12.50	102.72	102.718	100.56	100.93	71822	71824.8	68539	71682
64606	57.5	12.46	12.470	13.07	12.51	102.66	102.657	100.50	100.87	71958	71954.4	68667	71809
64612	57.6	12.47	12.470	13.09	12.53	102.60	102.594	100.41	100.78	72081	72078.9	68790	71932
64618	57.7	12.46	12.473	13.11	12.55	102.53	102.529	100.36	100.73	72197	72199.0	68927	72068
64624	57.8	12.47	12.469	13.12	12.56	102.46	102.460	100.29	100.67	72326	72327.2	69033	72173
64630	57.9	12.48	12.474	13.12	12.56	102.41	102.400	100.21	100.59	72463	72459.8	69170	72309
64636	58.0	12.48	12.474	13.13	12.57	102.36	102.361	100.16	100.54	72579	72582.9	69302	72441
64642	58.1	12.47	12.470	13.13	12.57	102.29	102.31[illegible]	100.09	100.47	72711	72711.7	69412	72551
64648	58.2	12.47	12.472	13.12	12.56	102.27	102.267	100.06	100.44	72841	72839.6	69545	72683
64654	58.3	12.46	12.469	13.12	12.56	102.23	102.229	100.00	100.39	72970	72968.9	69677	72815
64660	58.4	12.47	12.470	13.09	12.54	102.19	102.190	99.96	100.35	73094	73094.0	69819	72957
64666	58.5	12.48	12.468	13.05	12.50	102.16	102.153	99.94	100.33	73219	73221.2	69929	73067
64672	58.6	12.48	12.479	13.13	12.58	102.13	102.128	99.90	100.29	73351	73351.7	70057	73194
64678	58.7	12.47	12.469	13.09	12.54	102.09	102.101	99.85	100.24	73483	73483.3	70194	73331
64684	58.8	12.47	12.472	13.05	12.50	102.07	102.075	99.83	100.22	73613	73612.9	70331	73468
64690	58.9	12.47	12.471	13.10	12.55	102.05	102.053	99.80	100.19	73740	73740.7	70455	73591
64696	59.0	12.47	12.468	13.10	12.55	102.03	102.031	99.78	100.17	73864	73861.3	70573	73710
64702	59.1	12.46	12.466	13.04	12.50	102.01	102.005	99.75	100.14	73980	73979.8	70692	73829
64708	59.2	12.47	12.469	13.06	12.52	101.97	101.983	99.71	100.10	74094	74092.7	70820	73957
64714	59.3	12.47	12.468	13.06	12.52	101.98	101.970	99.70	100.09	74195	74196.1	70925	74062
64720	59.4	12.50	12.479	13.15	12.60	101.92	101.937	99.67	100.06	74297	74294.2	71040	74175
64726	59.5	12.49	12.481	13.11	12.57	101.90	101.903	99.66	100.05	74393	74391.9	71131	74266
64732	59.6	12.47	12.487	13.09	12.55	101.88	101.873	99.63	100.02	74474	74473.1	71236	74372
64738	59.7	12.48	12.491	13.08	12.54	101.84	101.825	99.59	99.99	74564	74566.2	71319	74454
64744	59.8	12.49	12.491	13.10	12.56	101.78	101.787	99.52	99.92	74662	74662.7	71401	74535
64750	59.9	12.50	12.497	13.12	12.58	101.72	101.743	99.49	99.89	74755	74756.1	71497	74631
64756	60.0	12.49	12.498	13.12	12.58	101.69	101.699	99.46	99.86	74842	74843.0	71593	74726
64762	60.1	12.49	12.493	13.09	12.55	101.65	101.650	99.38	99.78	74932	74932.9	71680	74813
64768	60.2	12.50	12.495	13.08	12.54	101.61	101.602	99.35	99.75	75033	75032.5	71771	74904
64774	60.3	12.51	12.497	13.10	12.56	101.56	101.556	99.29	99.70	75136	75134.6	71872	75004
64780	60.4	12.50	12.498	13.11	12.57	101.52	101.528	99.25	99.66	75231	75233.4	71977	75109
64786	60.5	12.49	12.500	13.11	12.57	101.48	101.485	99.21	99.62	75339	75339.1	72078	75209
64792	60.6	12.49	12.494	13.10	12.57	101.44	101.447	99.17	99.58	75454	75451.8	72178	75309
64798	60.7	12.51	12.487	13.08	12.55	101.38	101.394	99.13	99.54	75549	75555.6	72306	75437
64804	60.8	12.48	12.488	13.08	12.55	101.35	101.348	99.09	99.50	75672	75672.5	72384	75515
64810	60.9	12.49	12.490	13.08	12.55	101.30	101.299	99.01	99.42	75789	75787.0	72516	75647
64816	61.0	12.49	12.491	13.04	12.51	101.26	101.259	98.98	99.40	75897	75898.0	72640	75770
64822	61.1	12.47	12.486	13.03	12.50	101.24	101.226	98.93	99.35	76020	76019.7	72750	75880
64828	61.2	12.50	12.493	13.02	12.49	101.20	101.201	98.88	99.30	76133	76132.7	72859	75989
64834	61.3	12.50	12.501	13.07	12.54	101.17	101.174	98.88	99.30	76231	76231.8	72969	76098
64840	61.4	12.52	12.510	13.08	12.55	101.15	101.148	98.86	99.28	76329	76330.1	73065	76194
64846	61.5	12.52	12.513	13.10	12.57	101.12	101.123	98.82	99.24	76423	76422.0	73170	76298
64852	61.6	12.52	12.518	13.11	12.58	101.08	101.091	98.80	99.22	76509	76507.9	73257	76385
64858	61.7	12.54	12.533	13.14	12.61	101.07	101.070	98.78	99.20	76588	76590.0	73358	76485
64864	61.8	12.56	12.545	13.12	12.59	101.05	101.055	98.74	99.16	76680	76679.0	73431	76558
64870	61.9	12.56	12.551	13.16	12.63	101.03	101.036	98.72	99.14	76768	76768.1	73522	76649
64876	62.0	12.57	12.567	13.20	12.67	101.00	101.015	98.69	99.11	76851	76851.0	73614	76739
64882	62.1	12.57	12.579	13.25	12.72	100.99	101.000	98.68	99.10	76934	76934.6	73696	76821
64888	62.2	12.60	12.596	13.20	12.67	100.99	100.983	98.66	99.08	77022	77022.3	73783	76906
64894	62.3	12.59	12.607	13.20	12.67	100.95	100.965	98.65	99.07	77112	77108.6	73884	77009
64900	62.4	12.62	12.622	13.26	12.73	100.95	100.952	98.64	99.06	77182	77181.1	73961	77086
64906	62.5	12.64	12.638	13.25	12.72	100.93	100.930	98.61	99.03	77248	77248.0	74025	77150
64912	62.6	12.66	12.658	13.28	12.75	100.92	100.922	98.59	99.01	77318	77316.5	74103	77227
64918	62.7	12.68	12.678	13.37	12.84	100.88	100.906	98.58	99.00	77386	77383.8	74176	77299
64924	62.8	12.69	12.694	13.36	12.83	100.89	100.888	98.58	99.00	77455	77455.1	74231	77354
64930	62.9	12.70	12.709	13.36	12.83	100.85	100.865	98.55	98.97	77532	77530.3	74318	77440
64936	63.0	12.73	12.731	13.41	12.88	100.85	100.855	98.55	98.97	77597	77596.2	74377	77499
64942	63.1	12.74	12.749	13.48	12.95	100.84	100.839	98.51	98.94	77671	77670.8	74464	77585
64948	63.2	12.77	12.760	13.38	12.85	100.82	100.829	98.51	98.94	77729	77731.1	74519	77641
64954	63.3	12.79	12.780	13.48	12.95	100.81	100.801	98.50	98.93	77795	77793.5	74583	77704
64960	63.4	12.79	12.803	13.50	12.97	100.78	100.791	98.46	98.89	77850	77848.2	74642	77762
64966	63.5	12.81	12.821	13.43	12.90	100.73	100.771	98.43	98.86	77893	77893.0	74693	77813
64972	63.6	12.85	12.839	13.50	12.97	100.76	100.754	98.40	98.83	77940	77940.6	74757	77876
64978	63.7	12.86	12.854	13.58	13.05	100.75	100.744	98.40	98.83	77985	77983.6	74789	77907
64984	63.8	12.87	12.881	13.51	12.98	100.71	100.720	98.38	98.81	78028	78028.5	74839	77958
64990	63.9	12.89	12.900	13.50	12.97	100.70	100.699	98.35	98.78	78074	78073.4	74871	77990
64996	64.0	12.93	12.918	13.60	13.07	100.68	100.680	98.33	98.76	78110	78110.3	74931	78048
65002	64.1	12.95	12.937	13.55	13.02	100.65	100.655	98.33	98.76	78143	78144.5	74953	78072
65008	64.2	12.95	12.954	13.56	13.03	100.63	100.628	98.27	98.70	78189	78188.9	74990	78107
65014	64.3	12.97	12.971	13.55	13.02	100.61	100.606	98.24	98.67	78241	78239.6	75031	78148
65020	64.4	12.99	12.988	13.67	13.13	100.59	100.579	98.21	98.65	78288	78289.4	75086	78201
65026	64.5	13.01	13.006	13.51	12.98	100.55	100.558	98.18	98.62	78343	78344.4	75141	78256
65032	64.6	13.03	13.025	13.58	13.05	100.53	100.533	98.18	98.62	78403	78399.4	75200	78317
65038	64.7	13.06	13.056	13.61	13.08	100.55	100.538	98.18	98.62	78442	78441.1	75255	78371
65044	64.8	13.06	13.062	13.66	13.13	100.53	100.519	98.17	98.61	78489	78489.5	75292	78407
65050	64.9	13.08	13.080	13.68	13.15	100.48	100.508	98.15	98.59	78534	78532.4	75342	78457

Table B-1 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNCHRONIZED		ELEVATION ANGLE				AZIMUTH ANGLE				SLANT RANGE			
FPS-16 TIME SEC	GMD-2 TIME MIN	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS METERS	FPS-16 MEAN METERS	GMD-2 MEAS METERS	GMD-2 TRANS METERS
65056	65.0	13.10	13.093	13.74	13.20	100.51	100.506	98.16	98.60	78570	78569.0	75383	78497
65062	65.1	13.11	13.112	13.81	13.27	100.51	100.497	98.12	98.56	78603	78605.0	75424	78537
65068	65.2	13.13	13.132	13.65	13.12	100.48	100.489	98.12	98.56	78632	78632.3	75470	78565
65074	65.3	13.15	13.149	13.76	13.22	100.52	100.495	98.11	98.55	78653	78652.6	75488	78602
65080	65.4	13.16	13.169	13.84	13.30	100.49	100.500	98.11	98.55	78683	78683.9	75507	78619
65086	65.5	13.18	13.188	13.69	13.16	100.50	100.499	98.10	98.54	78720	78720.5	75539	78653
65092	65.6	13.20	13.205	13.80	13.26	100.51	100.513	98.11	98.55	78757	78756.4	75580	78693
65098	65.7	13.22	13.222	13.97	13.43	100.51	100.512	98.11	98.55	78785	78784.5	75621	78732
65104	65.8	13.25	13.241	13.84	13.30	100.52	100.522	98.12	98.56	78811	78813.1	75657	78770
65110	65.9	13.25	13.254	13.84	13.30	100.53	100.525	98.12	98.56	78850	78850.4	75671	78784
65116	66.0	13.28	13.271	13.88	13.34	100.55	100.533	98.13	98.57	78893	78885.9	75717	78829
65122	66.1	13.29	13.284	13.87	13.33	100.53	100.530	98.15	98.58	78919	78919.4	75758	78870
65128	66.2	13.32	13.313	13.86	13.32	100.53	100.524	98.16	98.59	78959	78960.2	75776	78889
65134	66.3	13.31	13.337	13.96	13.42	100.51	100.520	98.16	98.59	78997	78994.4	75813	78924
65140	66.4	13.35	13.348	14.15	13.60	100.50	100.503	98.15	98.58	79012	79010.8	75849	78958
65146	66.5	13.38	13.377	13.99	13.45	100.48	100.474	98.11	98.55	79026	79026.4	75886	78997
65152	66.6	13.40	13.399	14.07	13.52	100.45	100.450	98.10	98.54	79044	79044.2	75886	78996
65158	66.7	13.43	13.415	14.12	13.57	100.44	100.436	98.06	98.50	79056	79054.5	75904	79013
65164	66.8	13.44	13.443	14.02	13.48	100.39	100.393	98.02	98.46	79060	79062.8	75913	79023
65170	66.9	13.47	13.469	14.01	13.47	100.37	100.367	97.99	98.43	79075	79076.3	75936	79046
65176	67.0	13.50	13.497	14.15	13.60	100.34	100.337	97.96	98.40	79097	79094.8	75945	79053
65182	67.1	13.52	13.523	14.13	13.58	100.30	100.303	97.93	98.37	79110	79111.3	75959	79066
65188	67.2	13.55	13.545	14.12	13.57	100.30	100.289	97.91	98.35	79128	79128.6	75950	79057
65194	67.3	13.56	13.565	14.11	13.56	100.27	100.263	97.89	98.33	79155	79155.0	75987	79094
65200	67.4	13.58	13.590	14.16	13.61	100.25	100.245	97.86	98.31	79186	79184.7	76028	79134
65206	67.5	13.62	13.611	14.18	13.63	100.22	100.228	97.85	98.30	79215	79215.5	76055	79161
65212	67.6	13.64	13.630	14.20	13.65	100.21	100.206	97.83	98.28	79249	79249.8	76083	79188
65218	67.7	13.66	13.650	14.22	13.67	100.20	100.194	97.82	98.27	79293	79290.1	76115	79220
65224	67.8	13.68	13.675	14.25	13.70	100.17	100.180	97.81	98.26	79325	79323.6	76151	79256
65230	67.9	13.69	13.697	14.26	13.71	100.16	100.164	97.80	98.25	79358	79359.2	76183	79287
65236	68.0	13.72	13.724	14.30	13.75	100.16	100.155	97.78	98.23	79398	79397.4	76229	79332
65242	68.1	13.75	13.745	14.38	13.82	100.15	100.141	97.77	98.22	79429	79429.2	76266	79368
65248	68.2	13.78	13.774	14.37	13.82	100.12	100.128	97.76	98.21	79449	79453.5	76298	79400
65254	68.3	13.80	13.794	14.46	13.90	100.11	100.126	97.75	98.20	79484	79482.9	76320	79421
65260	68.4	13.82	13.831	14.51	13.95	100.13	100.131	97.75	98.20	79507	79507.1	76357	79457
65266	68.5	13.85	13.851	14.50	13.94	100.11	100.122	97.75	98.20	79524	79526.2	76375	79476
65272	68.6	13.89	13.879	14.49	13.93	100.10	100.109	97.72	98.17	79549	79549.1	76403	79503
65278	68.7	13.88	13.900	14.57	14.01	100.08	100.087	97.71	98.16	79573	79568.1	76426	79525
65284	68.8	13.93	13.929	14.75	14.18	100.07	100.066	97.71	98.16	79568	79570.6	76448	79545
65290	68.9	13.94	13.940	14.77	14.20	100.02	100.034	97.68	98.13	79592	79592.3	76471	79568
65296	69.0	13.96	13.967	14.79	14.22	100.01	100.010	97.64	98.09	79616	79616.1	76485	79581
65302	69.1	13.99	13.987	14.81	14.24	99.98	99.978	97.60	98.06	79644	79643.1	76499	79594
65308	69.2	14.01	14.009	14.74	14.17	99.95	99.945	97.55	98.01	79667	79668.2	76522	79617
65314	69.3	14.03	14.021	14.72	14.15	99.92	99.920	97.52	97.98	79701	79701.1	76535	79631
65320	69.4	14.05	14.043	14.73	14.16	99.88	99.883	97.50	97.96	79744	79741.1	76567	79662
65326	69.5	14.08	14.058	14.78	14.21	99.87	99.869	97.47	97.93	79781	79781.8	76613	79707
65332	69.6	14.09	14.077	14.79	14.22	99.86	99.853	97.45	97.91	79827	79827.3	76654	79748
65338	69.7	14.09	14.090	14.75	14.18	99.84	99.840	97.41	97.87	79878	79876.1	76704	79798
65344	69.8	14.11	14.108	14.79	14.22	99.84	99.843	97.40	97.86	79908	79910.8	76750	79843
65350	69.9	14.11	14.134	14.80	14.23	99.84	99.846	97.39	97.85	79943	79943.3	76787	79880
65356	70.0	14.16	14.147	14.76	14.19	99.84	99.844	97.38	97.84	79974	79973.3	76819	79912
65362	70.1	14.17	14.172	14.81	14.24	99.86	99.853	97.37	97.83	79997	79998.1	76851	79943
65368	70.2	14.21	14.196	14.82	14.25	99.86	99.865	97.37	97.83	80024	80026.4	76878	79971
65374	70.3	14.20	14.215	14.84	14.27	99.85	99.861	97.39	97.85	80056	80054.9	76887	79980
65380	70.4	14.23	14.233	14.84	14.27	99.87	99.864	97.41	97.87	80075	80077.2	76924	80017
65386	70.5	14.26	14.255	15.03	14.46	99.88	99.866	97.43	97.89	80100	80102.2	76960	80051
65392	70.6	14.27	14.280	14.95	14.38	99.86	99.867	97.44	97.90	80132	80127.9	76979	80070
65398	70.7	14.28	14.293	15.00	14.43	99.86	99.861	97.44	97.90	80138	80139.2	77002	80092
65404	70.8	14.31	14.317	15.01	14.44	99.85	99.852	97.44	97.90	80155	80152.8	77015	80106
65410	70.9	14.33	14.339	15.03	14.46	99.85	99.855	97.44	97.90	80166	80165.8	77024	80115
65416	71.0	14.36	14.360	15.12	14.54	99.83	99.836	97.44	97.90	80171	80171.7	77038	80127
65422	71.1	14.40	14.389	14.99	14.42	99.84	99.818	97.41	97.87	80172	80173.3	77047	80138
65428	71.2	14.43	14.416	15.03	14.46	99.82	99.816	97.39	97.85	80179	80178.3	77038	80128
65434	71.3	14.42	14.429	15.20	14.62	99.78	99.800	97.38	97.84	80180	80177.7	77052	80139
65440	71.4	14.45	14.451	15.15	14.57	99.77	99.769	97.36	97.82	80178	80180.5	77047	80135
65446	71.5	14.46	14.469	15.10	14.52	99.71	99.742	97.35	97.81	80187	80186.5	77066	80154
65452	71.6	14.48	14.484	15.25	14.67	99.71	99.710	97.32	97.78	80198	80197.4	77066	80152
65458	71.7	14.51	14.511	15.10	14.52	99.67	99.676	97.27	97.74	80201	80205.1	77070	80158
65464	71.8	14.53	14.527	15.16	14.58	99.65	99.653	97.24	97.71	80226	80224.7	77079	80166
65470	71.9	14.54	14.543	15.25	14.67	99.64	99.629	97.20	97.67	80239	80239.1	77102	80187
65476	72.0	14.56	14.562	15.10	14.52	99.62	99.590	97.19	97.66	80248	80252.1	77120	80207
65482	72.1	14.58	14.574	15.14	14.56	99.55	99.557	97.15	97.62	80283	80282.2	77139	80225
65488	72.2	14.59	14.599	15.25	14.67	99.52	99.522	97.12	97.59	80307	80305.9	77153	80237
65494	72.3	14.61	14.613	15.19	14.61	99.50	99.495	97.08	97.55	80319	80320.9	77189	80274
65500	72.4	14.63	14.631	15.24	14.66	99.46	99.475	97.05	97.52	80343	80340.1	77198	80282
65506	72.5	14.67	14.659	15.30	14.72	99.47	99.452	97.04	97.51	80349	80347.7	77230	80313
65512	72.6	14.67	14.674	15.30	14.72	99.45	99.434	97.02	97.50	80339	80343.1	77226	80308
65518	72.7	14.70	14.698	15.31	14.73	99.42	99.409	97.00	97.48	80347	80347.1	77207	80289
65524	72.8	14.72	14.721	15.34	14.76	99.39	99.394	96.97	97.45	80359	80357.8	77235	80316
65530	72.9	14.73	14.734	15.38	14.79	99.39	99.381	96.96	97.44	80368	80368.5	77244	80325

Table B-1 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNCHRONIZED		ELEVATION ANGLE				AZIMUTH ANGLE				SLANT RANGE			
FPS-16 TIME SEC	GMD-2 TIME MIN	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS METERS	FPS-16 MEAN METERS	GMD-2 MEAS METERS	GMD-2 TRANS METERS
65536	73.0	14.76	14.763	15.36	14.78	99.37	99.364	96.95	97.43	80388	80387.5	77267	80348
65542	73.1	14.77	14.781	15.41	14.82	99.35	99.350	96.93	97.41	80405	80404.5	77281	80360
65548	73.2	14.80	14.804	15.42	14.83	99.33	99.344	96.92	97.40	80419	80420.7	77299	80378
65554	73.3	14.83	14.824	15.46	14.87	99.34	99.342	96.89	97.37	80426	80428.4	77303	80382
65560	73.4	14.84	14.845	15.54	14.95	99.34	99.337	96.88	97.36	80436	80437.2	77317	80395
65566	73.5	14.86	14.866	15.54	14.95	99.33	99.329	96.88	97.36	80446	80446.0	77317	80395
65572	73.6	14.89	14.886	15.53	14.94	99.31	99.320	96.88	97.36	80452	80452.2	77322	80399
65578	73.7	14.91	14.914	15.71	15.11	99.30	99.301	96.87	97.35	80447	80448.2	77335	80411
65584	73.8	14.94	14.929	15.61	15.02	99.28	99.280	96.86	97.34	80445	80444.2	77317	80394
65590	73.9	14.96	14.958	15.65	15.06	99.27	99.261	96.83	97.31	80434	80433.0	77349	80425
65596	74.0	14.98	14.993	15.76	15.16	99.22	99.243	96.81	97.29	80418	80419.9	77331	80405
65602	74.1	15.02	15.019	15.73	15.13	99.24	99.23[illegible]	96.79	97.28	80406	80407.2	77313	80387
65608	74.2	15.04	15.047	15.84	15.24	99.21	99.229	96.78	97.27	80387	80388.3	77294	80367
65614	74.3	15.08	15.082	15.78	15.18	99.22	99.221	96.77	97.26	80361	80364.1	77285	80358
65620	74.4	15.12	15.112	15.83	15.23	99.23	99.223	96.75	97.24	80353	80351.2	77244	80316
65626	74.5	15.14	15.142	15.87	15.27	99.23	99.222	96.74	97.23	80327	80326.0	77244	80315
65632	74.6	15.18	15.173	15.85	15.25	99.23	99.220	96.74	97.23	80291	80293.5	77207	80279
65638	74.7	15.22	15.217	15.84	15.24	99.22	99.221	96.74	97.23	80262	80261.3	77162	80234
65644	74.8	15.21	15.233	15.94	15.33	99.23	99.231	96.74	97.23	80238	80233.5	77153	80223
65650	74.9	15.28	15.280	16.08	15.47	99.23	99.237	96.73	97.22	80191	80192.6	77139	80207
65656	75.0	15.32	15.309	15.96	15.35	99.22	99.232	96.74	97.23	80154	80153.9	77075	80145
65662	75.1	15.34	15.339	15.94	15.33	99.23	99.232	96.73	97.22	80115	80110.6	77038	80109
65668	75.2	15.36	15.366	16.01	15.40	99.23	99.239	96.74	97.23	80070	80069.1	77002	80071
65674	75.3	15.41	15.409	16.06	15.45	99.22	99.219	96.74	97.23	80028	80025.5	76956	80025
65680	75.4	15.44	15.440	16.07	15.46	99.21	99.208	96.75	97.24	79973	79973.6	76919	79988
65686	75.5	15.47	15.480	16.18	15.56	99.20	99.198	96.75	97.24	79922	79923.3	76869	79936
65692	75.6	15.49	15.504	16.16	15.54	99.21	99.193	96.74	97.23	79872	79874.4	76842	79909
65698	75.7	15.54	15.548	16.29	15.67	99.18	99.190	96.73	97.22	79836	79837.0	76773	79838
65704	75.8	15.58	15.584	16.26	15.64	99.17	99.174	96.73	97.22	79797	79798.3	76736	79802
65710	75.9	15.61	15.617	16.27	15.65	99.17	99.165	96.73	97.22	79774	79773.3	76700	79766
65716	76.0	15.65	15.644	16.33	15.70	99.15	99.159	96.73	97.22	79748	79750.3	76682	79746
65722	76.1	15.68	15.684	16.30	15.68	99.15	99.151	96.72	97.21	79722	79725.1	76654	79719
65728	76.2	15.70	15.715	16.40	15.77	99.15	99.137	96.71	97.20	79711	79710.7	76622	79686
65734	76.3	15.74	15.749	16.44	15.81	99.12	99.133	96.70	97.20	79683	79684.5	76608	79671
65740	76.4	15.79	15.780	16.43	15.80	99.12	99.118	96.68	97.18	79654	79655.8	76590	79653
65746	76.5	15.82	15.816	16.50	15.87	99.13	99.112	96.66	97.16	79640	79639.4	76563	79624
65752	76.6	15.85	15.849	16.58	15.94	99.09	99.105	96.66	97.16	79612	79613.6	76558	79619
65758	76.7	15.88	15.882	16.47	15.84	99.07	99.083	96.64	97.14	79602	79601.5	76540	79602
65764	76.8	15.91	15.909	16.73	16.09	99.07	99.071	96.64	97.14	79576	79576.7	76535	79593
65770	76.9	15.93	15.938	16.70	16.06	99.04	99.047	96.61	97.11	79561	79562.4	76503	79561
65776	77.0	15.98	15.971	16.62	15.98	99.03	99.026	96.56	97.06	79552	79552.3	76485	79544
65782	77.1	16.00	16.006	16.74	16.10	99.01	99.001	96.56	97.06	79533	79534.9	76467	79524
65788	77.2	16.03	16.037	16.70	16.06	99.00	98.976	96.55	97.05	79527	79526.0	76444	79501
65794	77.3	16.06	16.064	16.78	16.14	98.95	98.957	96.50	97.01	79523	79523.7	76435	79490
65800	77.4	16.09	16.096	16.77	16.13	98.93	98.923	96.47	96.98	79502	79503.9	76448	79504
65806	77.5	16.12	16.121	16.74	16.10	98.89	98.895	96.44	96.95	79505	79504.0	76412	79467
65812	77.6	16.15	16.150	16.92	16.27	98.87	98.858	96.42	96.93	79514	79513.7	76416	79469
65818	77.7	16.18	16.170	16.90	16.25	98.82	98.817	96.39	96.90	79513	79513.8	76439	79492
65824	77.8	16.19	16.202	16.97	16.32	98.80	98.802	96.35	96.86	79518	79517.2	76435	79486
65830	77.9	16.23	16.224	17.08	16.42	98.78	98.777	96.32	96.83	79521	79520.9	76421	79470
65836	78.0	16.25	16.260	17.04	16.39	98.76	98.749	96.30	96.81	79524	79523.9	76439	79489
65842	78.1	16.28	16.278	17.09	16.43	98.76	98.75[illegible]	96.26	96.78	79528	79527.9	76448	79497
65848	78.2	16.31	16.308	17.13	16.47	98.75	98.746	96.25	96.77	79523	79523.5	76458	79505
65854	78.3	16.35	16.333	17.08	16.42	98.73	98.729	96.25	96.77	79518	79518.8	76467	79515
65860	78.4	16.36	16.362	17.00	16.35	98.72	98.720	96.25	96.77	79511	79510.2	76444	79493
65866	78.5	16.39	16.390	17.07	16.41	98.71	98.716	96.25	96.77	79496	79495.8	76430	79479
65872	78.6	16.42	16.413	17.14	16.48	98.69	98.697	96.21	96.73	79494	79494.1	76430	79477
65878	78.7	16.44	16.443	17.07	16.41	98.69	98.692	96.20	96.72	79498	79497.7	76430	79478
65884	78.8	16.47	16.464	17.25	16.59	98.68	98.682	96.21	96.73	79504	79502.0	76435	79480
65890	78.9	16.49	16.484	17.27	16.61	98.67	98.672	96.20	96.72	79516	79513.5	76426	79471
65896	79.0	16.51	16.514	17.27	16.61	98.67	98.672	96.18	96.70	79510	79510.4	76439	79484
65902	79.1	16.55	16.537	17.28	16.62	98.67	98.658	96.18	96.70	79518	79514.2	76435	79479
65908	79.2	16.57	16.569	17.33	16.67	98.64	98.645	96.18	96.70	79503	79507.1	76462	79506
65914	79.3	16.59	16.588	17.33	16.67	98.63	98.632	96.16	96.68	79512	79511.3	76439	79483
65920	79.4	16.60	16.611	17.35	16.68	98.64	98.633	96.15	96.67	79505	79504.0	76458	79501
65926	79.5	16.65	16.641	17.36	16.69	98.64	98.635	96.14	96.66	79487	79486.9	76448	79491
65932	79.6	16.68	16.678	17.43	16.76	98.62	98.640	96.14	96.66	79470	79469.6	76439	79481
65938	79.7	16.71	16.706	17.41	16.74	98.63	98.634	96.14	96.66	79444	79444.4	76398	79440
65944	79.8	16.74	16.734	17.49	16.82	98.66	98.648	96.14	96.66	79427	79424.6	76375	79416
65950	79.9	16.77	16.765	17.59	16.91	98.65	98.667	96.13	96.65	79389	79391.7	76357	79396
65956	80.0	16.78	16.801	17.59	16.91	98.70	98.681	96.14	96.66	79360	79360.1	76320	79360
65962	80.1	16.82	16.830	17.63	16.95	98.69	98.697	96.15	96.67	79326	79325.7	76288	79327
65968	80.2	16.86	16.859	17.60	16.92	98.71	98.708	96.23	96.75	79290	79290.7	76256	79297
65974	80.3	16.89	16.893	17.59	16.91	98.73	98.725	96.25	96.77	79259	79259.5	76224	79265
65980	80.4	16.93	16.924	17.70	17.02	98.74	98.733	96.27	96.79	79219	79218.9	76188	79227
65986	80.5	16.95	16.956	17.73	17.05	98.74	98.747	96.28	96.80	79183	79182.6	76138	79176
65992	80.6	17.00	16.999	17.74	17.06	98.76	98.749	96.27	96.79	79145	79143.4	76110	79149
65998	80.7	17.03	17.024	17.79	17.10	98.75	98.756	96.28	96.80	79102	79102.0	76074	79111
66004	80.8	17.06	17.068	17.88	17.19	98.76	98.754	96.28	96.80	79058	79056.8	76023	79060
66010	80.9	17.09	17.096	17.74	17.05	98.75	98.751	96.48	96.99	79025	79024.4	75991	79032

Table B-1 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNCHRONIZED		ELEVATION ANGLE				AZIMUTH ANGLE				SLANT RANGE			
FPS-16 TIME SEC	GMD-2 TIME MIN	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS METERS	FPS-16 MEAN METERS	GMD-2 MEAS METERS	GMD-2 TRANS METERS
66016	81.0	17.12	17.126	17.84	17.15	98.74	98.746	96.28	96.80	78987	78987.1	75945	78982
66022	81.1	17.14	17.155	17.80	17.11	98.73	98.739	96.28	96.80	78955	78955.7	75904	78942
66028	81.2	17.20	17.193	17.97	17.28	98.73	98.733	96.28	96.80	78921	78921.1	75895	78930
66034	81.3	17.24	17.220	17.95	17.26	98.73	98.718	96.28	96.80	78899	78899.0	75868	78903
66040	81.4	17.25	17.253	17.97	17.28	98.71	98.721	96.27	96.79	78876	78874.7	75836	78871
66046	81.5	17.28	17.283	18.00	17.30	98.73	98.721	96.24	96.76	78836	78837.0	75817	78851
66052	81.6	17.32	17.323	18.15	17.45	98.73	98.731	96.22	96.75	78803	78801.3	75735	78767
66058	81.7	17.37	17.361	18.14	17.44	98.74	98.735	96.22	96.75	78759	78758.5	75735	78767
66064	81.8	17.40	17.397	18.12	17.42	98.74	98.736	96.22	96.75	78724	78723.7	75699	78730
66070	81.9	17.44	17.434	18.18	17.48	98.75	98.740	96.22	96.75	78692	78690.3	75667	78697
66076	82.0	17.47	17.467	18.24	17.53	98.74	98.746	96.23	96.76	78643	78643.4	75630	78660
66082	82.1	17.52	17.509	18.22	17.51	98.74	98.742	96.24	96.77	78595	78594.9	75593	78624
66088	82.2	17.54	17.549	18.25	17.54	98.76	98.761	96.25	96.78	78554	78550.1	75534	78564
66094	82.3	17.59	17.586	18.52	17.80	98.76	98.745	96.26	96.79	78502	78503.1	75493	78519
66100	82.4	17.62	17.624	18.29	17.58	98.75	98.759	96.27	96.80	78468	78467.5	75443	78472
66106	82.5	17.66	17.657	18.45	17.73	98.76	98.759	96.27	96.80	78432	78431.7	75401	78428
66112	82.6	17.70	17.694	18.60	17.88	98.77	98.762	96.27	96.80	78403	78404.4	75379	78403
66118	82.7	17.73	17.726	18.47	17.75	98.77	98.776	96.27	96.80	78390	78387.8	75342	78369
66124	82.8	17.76	17.758	18.56	17.84	98.78	98.775	96.27	96.80	78372	78373.0	75337	78363
66130	82.9	17.78	17.787	18.64	17.91	98.77	98.771	96.27	96.80	78377	78375.9	75301	78325
66136	83.0	17.81	17.806	18.64	17.91	98.78	98.769	96.28	96.81	78376	78375.6	75319	78343
66142	83.1	17.84	17.840	18.63	17.90	98.76	98.759	96.28	96.81	78375	78375.0	75324	78348
66148	83.2	17.86	17.861	18.61	17.89	98.76	98.757	96.28	96.81	78383	78382.6	75310	78335
66154	83.3	17.89	17.892	18.73	18.00	98.74	98.746	96.28	96.81	78384	78384.0	75315	78337
66160	83.4	17.92	17.922	18.74	18.01	98.78	98.758	96.28	96.81	78391	78390.7	75328	78351
66166	83.5	17.95	17.949	18.73	18.00	98.76	98.752	96.27	96.80	78382	78383.0	75342	78364
66172	83.6	17.96	17.974	18.71	17.98	98.76	98.764	96.25	96.78	78389	78387.4	75319	78342
66178	83.7	18.01	18.006	18.80	18.07	98.77	98.780	96.25	96.78	78369	78369.9	75333	78354
66184	83.8	18.05	18.046	18.78	18.05	98.78	98.780	96.25	96.78	78362	78359.4	75310	78331
66190	83.9	18.08	18.078	18.85	18.12	98.80	98.789	96.25	96.78	78334	78334.2	75301	78321
66196	84.0	18.12	18.108	18.85	18.12	98.80	98.802	96.26	96.79	78305	78304.4	75278	78298
66202	84.1	18.15	18.150	18.93	18.19	98.81	98.817	96.27	96.80	78275	78273.4	75246	78265
66208	84.2	18.20	18.193	18.98	18.24	98.80	98.823	96.28	96.81	78251	78247.8	75223	78241
66214	84.3	18.22	18.224	18.92	18.18	98.83	98.842	96.32	96.85	78218	78218.0	75196	78215
66220	84.4	18.25	18.254	19.05	18.31	98.85	98.850	96.32	96.85	78185	78184.9	75164	78181
66226	84.5	18.30	18.295	19.03	18.29	98.88	98.877	96.33	96.86	78147	78145.3	75118	78136
66232	84.6	18.35	18.336	19.16	18.41	98.90	98.899	96.35	96.88	78103	78103.9	75091	78107
66238	84.7	18.38	18.379	19.10	18.35	98.92	98.923	96.38	96.91	78059	78058.9	75054	78071
66244	84.8	18.41	18.412	19.30	18.55	98.94	98.942	96.41	96.94	78003	78004.5	74999	78013
66250	84.9	18.46	18.462	19.16	18.41	98.96	98.973	96.42	96.95	77960	77957.4	74949	77966
66256	85.0	18.53	18.506	19.34	18.58	98.98	98.985	96.46	96.98	77901	77900.0	74917	77931
66262	85.1	18.54	18.546	19.26	18.51	99.01	99.010	96.48	97.00	77840	77842.3	74848	77864
66268	85.2	18.57	18.582	19.57	18.80	99.04	99.031	96.51	97.03	77796	77795.2	74793	77804
66274	85.3	18.62	18.619	19.38	18.62	99.05	99.056	96.52	97.04	77749	77749.2	74757	77771
66280	85.4	18.66	18.660	19.56	18.79	99.09	99.078	96.56	97.08	77702	77703.5	74725	77736
66286	85.5	18.69	18.696	19.60	18.83	99.10	99.115	96.58	97.10	77667	77667.2	74670	77681
66292	85.6	18.73	18.737	19.70	18.93	99.15	99.130	96.60	97.12	77626	77626.7	74633	77643
66298	85.7	18.76	18.764	19.57	18.80	99.15	99.150	96.62	97.14	77601	77600.0	74583	77595
66304	85.8	18.80	18.807	19.75	18.97	99.19	99.181	96.65	97.17	77568	77570.8	74588	77597
66310	85.9	18.84	18.831	19.88	19.10	99.19	99.198	96.67	97.19	77551	77550.0	74546	77553
66316	86.0	18.88	18.874	19.67	18.90	99.24	99.233	96.69	97.21	77516	77516.3	74519	77530
66322	86.1	18.90	18.903	19.86	19.08	99.27	99.267	96.72	97.24	77488	77489.7	74501	77509
66328	86.2	18.95	18.942	19.83	19.05	99.31	99.314	96.77	97.29	77472	77470.8	74455	77464
66334	86.3	18.97	18.971	19.84	19.06	99.33	99.338	96.80	97.31	77442	77441.6	74437	77446
66340	86.4	19.01	19.007	19.88	19.10	99.38	99.377	96.86	97.37	77412	77411.4	74400	77409
66346	86.5	19.05	19.048	20.07	19.28	99.40	99.397	96.27	96.81	77382	77380.4	74377	77377
66352	86.6	19.08	19.086	19.92	19.13	99.45	99.446	96.90	97.41	77350	77349.6	74345	77354
66358	86.7	19.12	19.122	20.13	19.34	99.46	99.467	96.93	97.44	77308	77308.3	74313	77319
66364	86.8	19.17	19.168	20.00	19.21	99.49	99.497	96.97	97.48	77268	77267.2	74272	77280
66370	86.9	19.20	19.216	20.22	19.42	99.52	99.517	96.99	97.50	77213	77216.7	74231	77235
66376	87.0	19.25	19.248	20.12	19.32	99.54	99.530	97.01	97.52	77176	77175.1	74185	77192
66382	87.1	19.30	19.295	20.21	19.41	99.55	99.553	97.03	97.54	77114	77115.2	74140	77144
66388	87.2	19.37	19.350	20.12	19.32	99.57	99.571	97.05	97.56	77061	77063.2	74076	77082
66394	87.3	19.40	19.397	20.22	19.42	99.60	99.595	97.06	97.57	77002	77001.7	74030	77035
66400	87.4	19.44	19.442	20.30	19.49	99.61	99.611	97.08	97.59	76931	76932.3	73980	76983
66406	87.5	19.49	19.498	20.38	19.57	99.62	99.625	97.12	97.63	76872	76871.0	73906	76909
66412	87.6	19.55	19.517	20.47	19.66	99.64	99.643	97.13	97.64	76803	76802.3	73856	76857
66418	87.7	19.60	19.587	20.50	19.68	99.64	99.649	97.13	97.64	76738	76736.1	73765	76765
66424	87.8	19.64	19.643	20.40	19.59	99.67	99.661	97.15	97.66	76668	76666.7	73714	76717
66430	87.9	19.70	19.701	20.53	19.71	99.67	99.674	97.16	97.67	76591	76592.4	73632	76632
66436	88.0	19.73	19.746	20.66	19.84	99.67	99.675	97.16	97.67	76527	76527.3	73568	76566
66442	88.1	19.80	19.796	20.81	19.98	99.70	99.679	97.18	97.69	76470	76467.4	73504	76499
66448	88.2	19.84	19.840	20.97	20.13	99.67	99.677	97.18	97.69	76412	76412.0	73426	76419
66454	88.3	19.88	19.887	20.76	19.93	99.68	99.670	97.19	97.70	76352	76354.3	73390	76386
66460	88.4	19.94	19.932	20.92	20.08	99.65	99.660	97.19	97.70	76310	76309.6	73317	76310
66466	88.5	19.97	19.980	20.93	20.09	99.66	99.649	97.19	97.70	76258	76258.2	73271	76264
66472	88.6	20.02	20.025	21.00	20.16	99.65	99.641	97.19	97.70	76211	76212.1	73230	76222
66478	88.7	20.05	20.061	21.08	20.24	99.65	99.657	97.18	97.69	76159	76160.8	73179	76170
66484	88.8	20.10	20.105	21.16	20.31	99.65	99.656	97.17	97.68	76116	76115.5	73134	76123
66490	88.9	20.16	20.157	21.18	20.33	99.66	99.665	97.17	97.68	76049	76051.2	73106	76095

Table B-1 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNCHRONIZED		ELEVATION ANGLE				AZIMUTH ANGLE				SLANT RANGE			
FPS-16 TIME SEC	GMD-2 TIME MIN	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS METERS	FPS-16 MEAN METERS	GMD-2 MEAS METERS	GMD-2 TRANS METERS
66496	89.0	20.20	20.207	21.17	20.32	99.66	99.666	97.16	97.67	75992	75990.1	73029	76017
66502	89.1	20.27	20.258	21.17	20.32	99.68	99.686	97.16	97.67	75923	75922.8	72983	75971
66508	89.2	20.30	20.302	21.35	20.49	99.70	99.699	97.18	97.69	75870	75870.1	72919	75904
66514	89.3	20.36	20.354	21.19	20.34	99.70	99.710	97.21	97.72	75804	75807.8	72850	75839
66520	89.4	20.40	20.397	21.40	20.54	99.74	99.733	97.24	97.75	75766	75762.2	72805	75790
66526	89.5	20.45	20.443	21.35	20.49	99.76	99.766	97.25	97.76	75697	75695.5	72759	75745
66532	89.6	20.49	20.493	21.53	20.66	99.77	99.775	97.27	97.78	75631	75631.8	72690	75673
66538	89.7	20.55	20.549	21.40	20.54	99.79	99.791	97.30	97.81	75565	75563.8	72626	75612
66544	89.8	20.60	20.599	21.58	20.71	99.81	99.811	97.32	97.83	75494	75494.4	72544	75526
66550	89.9	20.65	20.654	21.63	20.76	99.81	99.809	97.32	97.83	75415	75416.2	72503	75484
66556	90.0	20.69	20.702	21.60	20.73	99.83	99.818	97.34	97.85	75345	75344.3	72420	75403
66562	90.1	20.75	20.755	21.70	20.82	99.82	99.823	97.35	97.86	75262	75261.9	72343	75323
66568	90.2	20.81	20.816	21.83	20.94	99.83	99.818	97.35	97.86	75187	75187.8	72256	75234
66574	90.3	20.86	20.870	21.77	20.89	99.79	99.804	97.35	97.86	75114	75113.2	72196	75176
66580	90.4	20.93	20.927	21.80	20.91	99.81	99.807	97.35	97.86	75046	75044.8	72123	75102
66586	90.5	20.98	20.982	21.89	21.00	99.80	99.801	97.35	97.86	74980	74980.8	72046	75022
66592	90.6	21.05	21.037	21.98	21.09	99.78	99.790	97.34	97.85	74921	74922.1	71991	74966
66598	90.7	21.09	21.088	21.97	21.07	99.80	99.792	97.34	97.85	74873	74870.9	71922	74897
66604	90.8	21.14	21.141	22.03	21.13	99.80	99.780	97.33	97.85	74811	74813.1	71881	74855
66610	90.9	21.18	21.186	22.08	21.18	99.77	99.782	97.33	97.85	74770	74770.2	71808	74781
66616	91.0	21.22	21.227	22.25	21.34	99.78	99.781	97.32	97.84	74731	74729.5	71771	74741
66622	91.1	21.28	21.274	22.28	21.37	99.79	99.805	97.32	97.84	74679	74678.7	71739	74708
66628	91.2	21.31	21.321	22.46	21.54	99.80	99.792	97.31	97.83	74642	74639.8	71689	74654
66634	91.3	21.38	21.371	22.29	21.38	99.80	99.802	97.30	97.82	74593	74594.4	71652	74621
66640	91.4	21.43	21.420	22.50	21.58	99.83	99.818	97.31	97.83	74548	74546.6	71593	74557
66646	91.5	21.48	21.478	22.49	21.57	99.82	99.819	97.33	97.85	74490	74491.0	71561	74526
66652	91.6	21.52	21.519	22.35	21.43	99.83	99.842	97.35	97.87	74428	74427.9	71492	74460
66658	91.7	21.58	21.576	22.64	21.71	99.86	99.857	97.36	97.88	74366	74366.0	71428	74390
66664	91.8	21.62	21.625	22.52	21.60	99.87	99.867	97.37	97.89	74297	74297.4	71373	74338
66670	91.9	21.67	21.670	22.62	21.69	99.88	99.881	97.40	97.92	74248	74246.4	71305	74268
66676	92.0	21.72	21.724	22.68	21.75	99.90	99.893	97.41	97.93	74185	74185.3	71250	74212
66682	92.1	21.76	21.769	22.69	21.76	99.90	99.900	97.42	97.94	74134	74135.5	71204	74166
66688	92.2	21.82	21.811	22.69	21.76	99.89	99.897	97.42	97.94	74090	74089.6	71163	74125
66694	92.3	21.88	21.871	22.79	21.85	99.92	99.909	97.42	97.94	74036	74036.4	71122	74082
66700	92.4	21.93	21.924	22.91	21.97	99.90	99.904	97.42	97.94	73987	73987.8	71076	74034
66706	92.5	21.97	21.972	23.00	22.05	99.90	99.906	97.42	97.94	73945	73944.1	71026	73981
66712	92.6	21.99	22.020	23.11	22.16	99.92	99.922	97.42	97.94	73907	73905.5	70967	73920
66718	92.7	22.06	22.065	23.20	22.24	99.92	99.911	97.42	97.94	73861	73861.7	70953	73904
66724	92.8	22.10	22.108	23.24	22.28	99.93	99.927	97.43	97.95	73821	73819.5	70889	73839
66730	92.9	22.16	22.158	23.28	22.32	99.92	99.924	97.43	97.95	73775	73773.5	70834	73784
66736	93.0	22.20	22.212	23.15	22.19	99.93	99.924	97.43	97.95	73719	73721.2	70793	73745
66742	93.1	22.25	22.256	23.29	22.33	99.92	99.929	97.44	97.96	73688	73686.2	70738	73688
66748	93.2	22.30	22.298	23.40	22.43	99.91	99.928	97.43	97.95	73645	73646.3	70720	73667
66754	93.3	22.33	22.344	23.38	22.41	99.93	99.922	97.44	97.96	73616	73617.8	70683	73631
66760	93.4	22.39	22.387	23.51	22.54	99.90	99.922	97.43	97.95	73603	73598.3	70656	73601
66766	93.5	22.43	22.432	23.60	22.62	99.53	99.926	97.44	97.96	73564	73564.8	70647	73590
66772	93.6	22.47	22.475	23.63	22.65	99.91	99.906	97.44	97.96	73539	73537.6	70605	73548
66778	93.7	22.54	22.531	23.52	22.55	99.92	99.909	97.44	97.96	73494	73495.9	70569	73514
66784	93.8	22.57	22.573	23.72	22.74	99.91	99.917	97.44	97.97	73464	73462.9	70532	73473
66790	93.9	22.63	22.620	23.59	22.61	99.92	99.915	97.44	97.97	73418	73420.0	70509	73453
66796	94.0	22.66	22.668	23.60	22.62	99.91	99.922	97.43	97.96	73389	73387.5	70455	73398
66802	94.1	22.71	22.718	23.71	22.73	99.94	99.939	97.43	97.96	73340	73339.8	70445	73386
66808	94.2	22.76	22.761	23.74	22.75	99.94	99.946	97.44	97.97	73300	73300.9	70386	73326
66814	94.3	22.82	22.809	23.56	22.58	99.94	99.963	97.44	97.97	73251	73251.8	70345	73289
66820	94.4	22.86	22.868	23.85	22.86	99.97	99.974	97.48	98.01	73205	73201.8	70313	73251
66826	94.5	22.93	22.924	23.81	22.82	99.99	99.989	97.48	98.01	73137	73138.5	70244	73183
66832	94.6	22.98	22.980	23.95	22.95	100.00	100.007	97.48	98.01	73086	73084.9	70189	73126
66838	94.7	23.05	23.039	23.96	22.96	100.01	100.014	97.49	98.02	73028	73027.0	70139	73075
66844	94.8	23.10	23.098	24.17	23.16	100.03	100.037	97.51	98.04	72972	72972.4	70070	73002
66850	94.9	23.16	23.163	24.20	23.19	100.04	100.046	97.52	98.05	72931	72928.6	70020	72952
66856	95.0	23.20	23.205	24.28	23.27	100.06	100.060	97.54	98.07	72889	72889.4	69942	72872
66862	95.1	23.24	23.251	24.60	23.57	100.07	100.063	97.55	98.08	72844	72844.6	69938	72861
66868	95.2	23.28	23.294	24.46	23.44	100.09	100.093	97.56	98.09	72810	72809.2	69892	72818
66874	95.3	23.34	23.345	24.58	23.55	100.12	100.107	97.61	98.14	72775	72773.3	69851	72775
66880	95.4	23.40	23.396	24.61	23.58	100.12	100.126	97.64	98.16	72732	72733.5	69819	72743
66886	95.5	23.46	23.445	24.75	23.71	100.12	100.121	97.64	98.17	72703	72704.5	69792	72712
66892	95.6	23.49	23.494	24.52	23.49	100.13	100.142	97.65	98.17	72671	72670.9	69760	72685
66898	95.7	23.54	23.537	24.82	23.78	100.13	100.133	97.66	98.19	72644	72644.6	69728	72647
66904	95.8	23.60	23.589	24.67	23.64	100.13	100.138	97.67	98.19	72608	72609.4	69696	72618
66910	95.9	23.64	23.645	24.63	23.60	100.16	100.157	97.67	98.19	72585	72581.6	69668	72592
66916	96.0	23.69	23.696	24.79	23.75	100.18	100.171	97.68	98.20	72527	72530.5	69650	72570
66922	96.1	23.74	23.754	24.74	23.70	100.18	100.178	97.70	98.22	72489	72490.4	69590	72512
66928	96.2	23.80	23.810	24.83	23.79	100.18	100.190	97.71	98.23	72443	72440.4	69549	72469
66934	96.3	23.86	23.865	24.89	23.84	100.23	100.215	97.72	98.24	72386	72386.6	69494	72413
66940	96.4	23.90	23.905	25.04	23.99	100.22	100.214	97.73	98.25	72347	72344.9	69435	72350
66946	96.5	23.97	23.969	24.98	23.93	100.25	100.245	97.73	98.25	72298	72299.7	69421	72338
66952	96.6	24.01	24.015	24.09	23.07	100.26	100.246	97.73	98.25	72268	72267.6	69357	72293
66958	96.7	24.06	24.064	24.22	23.20	100.25	100.267	97.75	98.27	72236	72236.5	69330	72263
66964	96.8	24.11	24.109	25.33	24.26	100.28	100.277	97.78	98.30	72212	72208.7	69298	72207
66970	96.9	24.17	24.162	25.46	24.39	100.29	100.284	97.78	98.31	72155	72157.4	69284	72190

Table B-1 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNCHRONIZED		ELEVATION ANGLE				AZIMUTH ANGLE				SLANT RANGE			
FPS-16 TIME SEC	GMD-2 TIME MIN	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS METERS	FPS-16 MEAN METERS	GMD-2 MEAS METERS	GMD-2 TRANS METERS
66976	97.0	24.20	24.212	25.41	24.34	100.29	100.295	97.78	98.31	72122	72118.0	69211	72118
66982	97.1	24.27	24.274	25.44	24.37	100.31	100.305	97.79	98.32	72053	72053.7	69197	72104
66988	97.2	24.32	24.333	25.49	24.41	100.31	100.313	97.83	98.35	71998	71998.6	69124	72030
66994	97.3	24.38	24.380	25.52	24.44	100.31	100.314	97.83	98.35	71933	71934.3	69078	71984
67000	97.4	24.45	24.439	25.55	24.47	100.35	100.335	97.83	98.36	71885	71885.6	69014	71919
67006	97.5	24.49	24.500	25.77	24.68	100.34	100.337	97.85	98.38	71839	71839.7	68973	71873
67012	97.6	24.56	24.553	25.82	24.73	100.34	100.349	97.90	98.42	71788	71788.5	68914	71813
67018	97.7	24.61	24.613	25.86	24.77	100.36	100.365	97.90	98.42	71744	71742.0	68863	71762
67024	97.8	24.67	24.666	25.84	24.75	100.39	100.382	97.91	98.43	71691	71692.1	68827	71726
67030	97.9	24.71	24.716	25.73	24.64	100.43	100.416	97.91	98.43	71655	71652.2	68745	71646
67036	98.0	24.78	24.777	25.95	24.85	100.43	100.443	97.95	98.47	71592	71593.2	68745	71641
67042	98.1	24.83	24.832	25.93	24.83	100.45	100.456	97.97	98.49	71546	71548.2	68681	71578
67048	98.2	24.89	24.885	25.93	24.83	100.46	100.466	97.98	98.50	71503	71502.4	68630	71528
67054	98.3	24.95	24.944	26.14	25.03	100.50	100.489	98.00	98.52	71463	71461.5	68594	71486
67060	98.4	25.01	25.004	26.26	25.14	100.49	100.493	98.00	98.52	71411	71413.0	68553	71442
67066	98.5	25.04	25.047	26.26	25.14	100.52	100.516	98.00	98.52	71387	71384.6	68498	71388
67072	98.6	25.11	25.102	26.36	25.24	100.53	100.540	98.02	98.54	71332	71333.2	68489	71376
67078	98.7	25.17	25.159	26.36	25.24	100.55	100.554	98.04	98.56	71301	71302.0	68434	71322
67084	98.8	25.21	25.212	26.30	25.18	100.57	100.577	98.05	98.57	71262	71263.0	68388	71277
67090	98.9	25.26	25.262	26.46	25.33	100.60	100.600	98.10	98.62	71232	71230.0	68361	71247
67096	99.0	25.32	25.328	26.69	25.55	100.60	100.602	98.10	98.62	71166	71172.8	68338	71218
67102	99.1	25.39	25.384	26.39	25.26	100.61	100.607	98.13	98.65	71137	71133.7	68269	71157
67108	99.2	25.45	25.451	26.66	25.52	100.59	100.614	98.13	98.65	71072	71071.6	68237	71119
67114	99.3	25.51	25.510	26.68	25.54	100.60	100.605	98.13	98.65	71014	71013.7	68169	71050
67120	99.4	25.58	25.579	26.61	25.47	100.59	100.598	98.13	98.65	70947	70947.9	68100	70983
67126	99.5	25.67	25.653	26.83	25.68	100.60	100.594	98.13	98.65	70888	70887.1	68041	70918
67132	99.6	25.73	25.720	26.88	25.73	100.58	100.579	98.13	98.65	70812	70813.1	67972	70848
67138	99.7	25.78	25.782	26.84	25.69	100.58	100.568	98.12	98.64	70766	70763.7	67894	70772
67144	99.8	25.86	25.852	27.10	25.94	100.56	100.562	98.10	98.63	70695	70694.8	67844	70715
67150	99.9	25.91	25.912	27.22	26.05	100.55	100.554	98.09	98.62	70639	70641.8	67794	70662
67156	100.0	25.99	25.982	27.12	25.96	100.55	100.560	98.07	98.60	70590	70588.1	67739	70609
67162	100.1	26.04	26.052	27.40	26.22	100.58	100.586	98.06	98.59	70534	70533.4	67693	70557
67168	100.2	26.11	26.102	27.50	26.32	100.59	100.593	98.06	98.59	70480	70482.2	67652	70513
67174	100.3	26.17	26.163	27.09	25.92	100.62	100.615	98.06	98.59	70443	70440.7	67579	70450
67180	100.4	26.22	26.222	27.48	26.30	100.64	100.637	98.07	98.60	70381	70381.5	67560	70422
67186	100.5	26.28	26.289	27.58	26.39	100.66	100.659	98.11	98.64	70335	70334.0	67501	70361
67192	100.6	26.34	26.346	27.41	26.23	100.67	100.671	98.14	98.67	70280	70279.5	67455	70319
67198	100.7	26.42	26.406	27.51	26.32	100.71	100.697	98.16	98.63	70228	70226.1	67423	70285
67204	100.8	26.48	26.476	27.83	26.63	100.69	100.697	98.20	98.73	70157	70159.3	67364	70218
67210	100.9	26.54	26.544	27.44	26.25	100.71	100.719	98.21	98.74	70097	70094.6	67291	70155
67216	101.0	26.61	26.605	27.85	26.65	100.73	100.728	98.22	98.75	70016	70015.6	67222	70076
67222	101.1	26.68	26.674	27.87	26.66	100.75	100.752	98.23	98.76	69936	69937.0	67144	69998
67228	101.2	26.74	26.742	27.97	26.76	100.77	100.768	98.25	98.78	69862	69861.1	67071	69923
67234	101.3	26.81	26.800	28.11	26.89	100.82	100.788	98.28	98.81	69807	69806.4	67007	69855
67240	101.4	26.88	26.866	28.40	27.17	100.80	100.801	98.29	98.82	69744	69746.6	66952	69793
67246	101.5	26.92	26.924	28.47	27.24	100.84	100.836	98.30	98.83	69708	69706.9	66898	69737
67252	101.6	26.99	26.986	28.51	27.27	100.86	100.851	98.33	98.86	69650	69650.4	66838	69677
67258	101.7	27.05	27.049	28.27	27.04	100.87	100.873	98.36	98.89	69592	69591.8	66783	69626
67264	101.8	27.11	27.111	28.44	27.20	100.87	100.874	98.37	98.90	69524	69523.2	66724	69565
67270	101.9	27.16	27.173	28.39	27.15	100.89	100.898	98.37	98.90	69467	69464.6	66655	69497
67276	102.0	27.24	27.235	28.63	27.38	100.89	100.885	98.38	98.91	69394	69395.4	66614	69450
67282	102.1	27.30	27.293	28.35	27.11	100.89	100.902	98.40	98.93	69346	69342.2	66545	69389
67288	102.2	27.36	27.365	28.63	27.38	100.92	100.917	98.40	98.93	69271	69273.1	66481	69318
67294	102.3	27.43	27.427	28.68	27.43	100.92	100.926	98.43	98.96	69210	69209.7	66417	69253
67300	102.4	27.51	27.501	28.64	27.39	100.91	100.924	98.44	98.97	69138	69138.2	66344	69181
67306	102.5	27.55	27.566	28.95	27.68	100.95	100.948	98.46	98.99	69072	69072.1	66289	69118
67312	102.6	27.64	27.633	29.09	27.82	100.96	100.964	98.48	99.01	68999	69001.1	66221	69046
67318	102.7	27.69	27.698	29.02	27.75	100.99	100.981	98.52	99.05	68946	68944.8	66161	68989
67324	102.8	27.77	27.765	29.30	28.02	101.00	100.998	98.53	99.06	68873	68875.3	66088	68909
67330	102.9	27.84	27.827	29.41	28.12	100.99	101.009	98.53	99.06	68821	68819.4	66036	68855
67336	103.0	27.90	27.894	29.20	27.92	101.04	101.031	98.56	99.09	68764	68762.5	65974	68797
67342	103.1	27.97	27.962	29.60	28.30	101.04	101.036	98.57	99.10	68689	68690.8	65928	68741
67348	103.2	28.02	28.028	29.38	28.09	101.05	101.043	98.57	99.10	68635	68634.9	65846	68665
67354	103.3	28.10	28.103	29.40	28.11	101.09	101.082	98.57	99.10	68573	68571.0	65791	68609
67360	103.4	28.17	28.177	29.65	28.34	101.10	101.112	98.59	99.12	68488	68494.1	65732	68543
67366	103.5	28.23	28.246	29.57	28.27	101.13	101.140	98.63	99.16	68431	68432.1	65672	68486
67372	103.6	28.33	28.318	29.54	28.24	101.18	101.159	98.68	99.21	68362	68360.9	65594	68410
67378	103.7	28.39	28.395	29.87	28.55	101.18	101.185	98.68	99.21	68292	68293.0	65544	68351
67384	103.8	28.46	28.465	29.80	28.48	101.18	101.176	98.71	99.24	68224	68224.4	65476	68285
67390	103.9	28.53	28.537	29.65	28.34	101.19	101.192	98.72	99.25	68167	68165.1	65425	68238
67396	104.0	28.60	28.610	29.86	28.54	101.20	101.196	98.73	99.26	68092	68092.8	65334	68141
67402	104.1	28.67	28.677	30.09	28.76	101.20	101.192	98.73	99.26	68033	68034.3	65279	68081
67408	104.2	28.74	28.743	30.26	28.92	101.21	101.203	98.73	99.26	67971	67969.2	65224	68021
67414	104.3	28.83	28.824	30.46	29.11	101.22	101.230	98.74	99.27	67903	67902.0	65151	67943
67420	104.4	28.89	28.898	30.58	29.22	101.22	101.234	98.75	99.28	67822	67823.1	65101	67889
67426	104.5	28.97	28.975	30.31	28.96	101.25	101.247	98.80	99.33	67749	67746.3	65005	67801
67432	104.6	29.07	29.061	30.60	29.24	101.30	101.263	98.81	99.34	67655	67656.8	64941	67729
67438	104.7	29.15	29.143	30.56	29.20	101.28	101.285	98.81	99.34	67573	67571.8	64863	67653
67444	104.8	29.23	29.230	30.35	29.00	101.30	101.305	98.83	99.36	67494	67491.9	64776	67572
67450	104.9	29.32	29.317	30.72	29.35	101.32	101.315	98.84	99.37	67392	67394.1	64694	67480

Table B-1 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNCHRONIZED		ELEVATION ANGLE				AZIMUTH ANGLE				SLANT RANGE			
FPS-16 TIME SEC	GMD-2 TIME MIN	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS DEG	FPS-16 MEAN DEG	GMD-2 MEAS DEG	GMD-2 TRANS DEG	FPS-16 MEAS METERS	FPS-16 MEAN METERS	GMD-2 MEAS METERS	GMD-2 TRANS METERS
67456	105.0	29.40	29.405	30.73	29.36	101.31	101.314	98.85	99.38	67303	67299.9	64616	67402
67462	105.1	29.51	29.505	30.78	29.40	101.33	101.329	98.86	99.39	67190	67190.3	64502	67286
67468	105.2	29.60	29.606	31.27	29.87	101.31	101.315	98.86	99.39	67084	67084.6	64383	67154
67474	105.3	29.70	29.702	31.30	29.90	101.31	101.316	98.86	99.39	66974	66975.1	64296	67066
67480	105.4	29.79	29.794	31.47	30.06	101.31	101.310	98.88	99.42	66875	66874.4	64154	66920
67486	105.5	29.91	29.896	31.53	30.11	101.33	101.317	98.88	99.42	66770	66770.5	64090	66854
67492	105.6	29.99	29.976	31.60	30.18	101.30	101.297	98.88	99.42	66680	66679.5	64013	66775
67498	105.7	30.07	30.066	31.41	29.99	101.30	101.298	98.88	99.42	66598	66595.2	63880	66647
67504	105.8	30.15	30.155	31.69	30.26	101.30	101.290	98.87	99.41	66496	66497.7	63830	66589
67510	105.9	30.23	30.233	31.56	30.13	101.29	101.292	98.84	99.38	66428	66428.4	63743	66506
67516	106.0	30.32	30.315	31.76	30.32	101.30	101.303	98.82	99.36	66357	66355.5	63670	66427
67522	106.1	30.40	30.401	31.93	30.49	101.30	101.305	98.82	99.37	66270	66271.3	63610	66363
67528	106.2	30.48	30.485	32.02	30.57	101.29	101.302	98.82	99.37	66190	66189.8	63528	66278
67534	106.3	30.57	30.562	32.19	30.73	101.30	101.301	98.82	99.37	66116	66114.9	63409	66155
67540	106.4	30.66	30.655	32.48	31.01	101.30	101.309	98.84	99.39	66029	66031.3	63354	66092
67546	106.5	30.74	30.746	32.57	31.09	101.29	101.302	98.84	99.39	65953	65951.5	63263	65998
67552	106.6	30.83	30.825	32.31	30.84	101.32	101.307	98.88	99.43	65873	65872.9	63203	65946
67558	106.7	30.91	30.912	32.61	31.13	101.30	101.294	98.87	99.42	65780	65783.5	63126	65860
67564	106.8	30.99	30.994	32.27	30.80	101.29	101.287	98.86	99.41	65711	65710.0	63025	65769
67570	106.9	31.08	31.087	32.49	31.01	101.29	101.291	98.84	99.39	65629	65628.8	62956	65694
67576	107.0	31.18	31.170	32.63	31.14	101.32	101.306	98.83	99.39	65559	65560.5	62883	65617
67582	107.1	31.25	31.250	32.65	31.16	101.32	101.316	98.81	99.37	65488	65489.0	62824	65556
67588	107.2	31.31	31.323	32.81	31.31	101.36	101.350	98.80	99.36	65435	65433.8	62764	65492
67594	107.3	31.41	31.403	33.13	31.61	101.38	101.378	98.81	99.37	65367	65368.8	62696	65415
67600	107.4	31.49	31.483	33.21	31.69	101.38	101.388	98.85	99.41	65311	65310.3	62618	65335
67606	107.5	31.55	31.560	33.26	31.74	101.42	101.427	98.91	99.47	65250	65251.3	62568	65284
67612	107.6	31.63	31.634	33.39	31.86	101.45	101.446	98.92	99.48	65194	65194.2	62504	65216
67618	107.7	31.71	31.711	33.43	31.90	101.44	101.442	98.95	99.51	65134	65133.4	62458	65169
67624	107.8	31.79	31.790	33.40	31.87	101.47	101.479	98.97	99.53	65078	65077.4	62399	65111
67630	107.9	31.86	31.864	33.69	32.14	101.50	101.485	99.02	99.57	65014	65015.0	62358	65062
67636	108.0	31.94	31.931	33.47	31.93	101.52	101.519	99.04	99.59	64984	64981.0	62284	64995
67642	108.1	32.01	32.013	33.62	32.07	101.57	101.554	99.04	99.59	64931	64928.0	62261	64968
67648	108.2	32.07	32.067	33.60	32.05	101.60	101.611	99.04	99.59	64898	64896.3	62211	64918
67654	108.3	32.14	32.141	33.68	32.13	101.67	101.665	99.12	99.67	64852	64850.2	62184	64889
67660	108.4	32.24	32.220	33.91	32.35	101.71	101.715	99.16	99.71	64798	64801.3	62143	64841
67666	108.5	32.29	32.287	33.86	32.30	101.77	101.767	99.20	99.75	64767	64764.0	62101	64802
67672	108.6	32.38	32.371	34.07	32.50	101.81	101.803	99.31	99.85	64694	64694.8	62060	64756
67678	108.7	32.45	32.455	34.17	32.59	101.87	101.853	99.31	99.85	64647	64645.0	61987	64679
67684	108.8	32.53	32.534	34.48	32.89	101.88	101.899	99.41	99.95	64586	64585.9	61946	64630
67690	108.9	32.61	32.610	34.30	32.71	101.94	101.943	99.41	99.95	64538	64538.7	61900	64589
67696	109.0	32.69	32.697	34.48	32.88	101.99	102.009	99.51	100.05	64484	64485.0	61859	64544
67702	109.1	32.78	32.772	34.55	32.95	102.03	102.040	99.52	100.06	64431	64429.9	61791	64473
67708	109.2	32.73	32.854	34.43	32.83	102.08	102.086	99.59	100.12	64347	64348.7	61749	64436
67714	109.3	32.97	32.967	34.70	33.09	102.13	102.118	99.62	100.15	64263	64262.0	61649	64328
67720	109.4	33.07	33.064	34.71	33.10	102.15	102.159	99.63	100.16	64177	64177.4	61580	64259
67726	109.5	33.18	33.165	35.00	33.37	102.23	102.218	99.66	100.19	64088	64092.1	61484	64154
67732	109.6	33.26	33.263	35.29	33.65	102.26	102.261	99.77	100.30	64006	64003.2	61411	64073
67738	109.7	33.37	33.372	34.96	33.33	102.32	102.317	99.80	100.33	63899	63899.2	61315	63987
67744	109.8	33.47	33.477	35.28	33.63	102.38	102.394	99.88	100.40	63804	63805.1	61215	63877
67750	109.9	33.58	33.584	35.53	33.87	102.48	102.481	100.00	100.52	63723	63723.5	61128	63784
67756	110.0	33.67	33.679	35.56	33.90	102.54	102.551	100.03	100.55	63638	63638.2	61054	63710
67762	110.1	33.79	33.791	35.67	34.00	102.64	102.640	100.11	100.62	63537	63538.9	60958	63611
67768	110.2	33.92	33.914	35.74	34.06	102.72	102.723	100.27	100.77	63436	63434.7	60853	63505
67774	110.3	34.01	34.027	35.58	33.91	102.79	102.791	100.29	100.79	63326	63328.1	60762	63418
67780	110.4	34.14	34.137	35.66	33.98	102.86	102.873	100.35	100.85	63234	63233.7	60661	63316
67786	110.5	34.24	34.255	36.31	34.60	102.89	102.900	100.50	101.00	63127	63126.4	60584	63219
67792	110.6	34.36	34.358	36.08	34.38	102.96	102.948	100.53	101.02	63024	63024.9	60469	63112
67798	110.7	34.47	34.468	36.44	34.72	102.99	102.997	100.60	101.09	62930	62929.6	60369	63000
67804	110.8	34.60	34.590	36.65	34.92	103.02	103.023	100.65	101.14	62831	62829.6	60286	62912
67810	110.9	34.72	34.709	36.34	34.62	103.09	103.087	100.66	101.15	62720	62720.4	60186	62821
67816	111.0	34.82	34.819	36.81	35.07	103.11	103.111	100.75	101.24	62628	62626.1	60099	62720
67822	111.1	34.94	34.937	36.54	34.80	103.16	103.171	100.76	101.25	62517	62518.3	59994	62624
67828	111.2	35.05	35.054	36.87	35.12	103.21	103.211	100.83	101.31	62424	62424.5	59884	62504
67834	111.3	35.17	35.175	37.01	35.25	103.27	103.268	100.89	101.37	62321	62322.0	59806	62422
67840	111.4	35.29	35.289	37.17	35.40	103.33	103.335	100.91	101.39	62227	62226.8	59710	62321
67846	111.5	35.40	35.406	37.38	35.60	103.39	103.389	101.02	101.50	62127	62127.5	59605	62210
67852	111.6	35.52	35.529	37.43	35.64	103.48	103.478	101.05	101.53	62038	62036.3	59514	62117
67858	111.7	35.64	35.633	37.49	35.70	103.52	103.518	101.17	101.64	61951	61953.5	59427	62029
67864	111.8	35.76	35.752	37.61	35.81	103.59	103.593	101.21	101.68	61861	61861.1	59349	61947
67870	111.9	35.87	35.866	37.75	35.94	103.65	103.657	101.28	101.75	61774	61773.2	59267	61861

Table B-2

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
FIRST DERIVATIVE

SYNC TIME MIN	ELEVATION ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	AZIMUTH ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	SLANT RANGE (METERS/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN
1.0	-2.48	-2.59	-2.50	-0.03	1.55	0.19	-461.56	-350.99	-448.39
1.1	-2.82	-2.50	-2.63	1.18	-0.48	1.02	-402.25	-458.38	-411.04
1.2	-2.23	-2.55	-2.72	0.58	2.43	0.56	-393.30	-262.44	-404.52
1.3	-2.58	-2.51	-2.66	0.71	0.01	0.87	-475.24	-533.06	-450.86
1.4	-2.85	-2.18	-2.82	0.55	2.25	0.60	-338.23	-299.09	-367.93
1.5	-2.60	-3.46	-2.61	0.82	-1.25	0.61	-548.65	-477.67	-529.29
1.6	-2.43	-2.52	-2.51	-0.22	1.56	0.17	-511.81	-593.88	-506.13
1.7	-2.83	-1.98	-2.64	0.52	1.75	0.33	-425.14	-188.42	-447.08
1.8	-2.35	-3.13	-2.53	0.06	-0.72	0.00	-564.64	-663.17	-533.48
1.9	-2.66	-2.06	-2.61	-0.53	0.07	-0.39	-463.68	-542.13	-479.43
2.0	-2.33	-3.41	-2.31	1.09	-0.71	0.72	-500.83	-411.93	-511.57
2.1	-2.47	-1.81	-2.46	-0.49	1.23	-0.15	-536.95	-537.67	-517.75
2.2	-2.71	-2.33	-2.73	0.11	-0.08	0.02	-462.33	-508.39	-465.56
2.3	-2.61	-2.93	-2.65	0.14	0.52	-0.15	-422.64	-411.55	-440.87
2.4	-2.91	-2.45	-2.70	-0.96	0.52	-0.68	-545.69	-415.91	-519.23
2.5	-2.40	-2.75	-2.25	-1.21	-2.22	-1.07	-489.12	-652.79	-481.49
2.6	-2.10	-2.53	-2.01	0.30	-0.07	-0.19	-347.44	-431.62	-374.11
2.7	-2.47	-1.95	-2.45	-2.50	1.48	-2.01	-452.45	-297.34	-429.42
2.8	-2.31	-2.30	-2.38	-1.37	-4.18	-1.51	-361.27	-454.98	-392.38
2.9	-2.15	-2.50	-2.02	-1.13	-0.82	-1.29	-516.37	-496.35	-432.90
3.0	-1.86	-2.26	-2.05	-3.10	-0.86	-2.90	-406.99	-496.40	-405.68
3.1	-2.30	-1.30	-2.39	-1.92	-3.01	-2.01	-260.29	-365.45	-280.53
3.2	-2.04	-2.25	-2.21	-1.76	-1.50	-1.77	-388.84	-255.28	-376.98
3.3	-2.08	-2.66	-2.25	-2.28	-2.49	-2.11	-393.10	-411.42	-393.95
3.4	-2.39	-2.61	-2.01	-1.48	-1.10	-1.69	-420.43	-367.88	-435.39
3.5	-1.77	-1.94	-1.73	-1.69	-1.69	-1.71	-504.04	-459.16	-491.84
3.6	-1.59	-1.30	-1.89	-2.49	-2.09	-2.25	-446.61	-557.96	-438.52
3.7	-2.12	-1.67	-1.84	-0.70	-2.40	-0.88	-429.57	-379.66	-444.21
3.8	-1.69	-2.09	-1.55	-2.20	0.44	-2.09	-526.05	-491.94	-513.70
3.9	-1.32	-1.72	-1.80	-1.35	-3.62	-1.42	-470.72	-530.69	-469.15
4.0	-1.59	-1.69	-1.33	-2.17	0.07	-2.13	-402.17	-481.13	-420.00
4.1	-1.23	-2.00	-1.31	-1.32	-2.48	-1.39	-520.97	-416.76	-501.99
4.2	-1.52	-0.68	-1.59	-1.70	3.96	-1.65	-375.04	-609.23	-391.87
4.3	-1.15	-1.46	-1.20	-1.81	-5.91	-1.74	-553.07	-234.39	-535.03
4.4	-1.88	-1.77	-1.49	-1.13	-2.74	-1.14	-429.81	-612.19	-444.93
4.5	-1.05	-0.98	-1.16	-1.07	-0.42	-1.25	-562.00	-520.24	-540.25
4.6	-1.19	-1.69	-1.41	-1.43	-2.03	-1.28	-425.39	-690.72	-435.92
4.7	-1.47	-0.42	-1.33	-1.76	-1.50	-1.73	-447.72	-233.02	-460.94
4.8	-0.96	-1.39	-0.96	-1.40	-0.32	-1.53	-580.53	-461.57	-584.06
4.9	-1.13	-0.66	-1.19	-1.46	-1.09	-1.35	-461.81	-445.03	-474.92
5.0	-0.98	-1.32	-0.99	-1.65	-2.74	-1.57	-497.82	-514.71	-500.72
5.1	-1.05	-1.26	-0.96	-0.66	-0.30	-0.89	-480.31	-612.68	-466.14
5.2	-1.12	-1.00	-1.19	-2.29	-0.89	-2.14	-493.03	-493.21	-498.92
5.3	-0.80	-1.01	-0.94	-0.81	-3.01	-0.88	-572.10	-408.23	-579.10
5.4	-0.96	-0.93	-0.97	-0.69	-0.90	-0.76	-527.59	-542.69	-515.82
5.5	-1.15	-0.72	-1.05	-1.59	-0.11	-1.49	-546.68	-478.10	-545.77
5.6	-0.98	-0.75	-1.09	-1.26	-0.51	-1.29	-461.50	-460.72	-465.08
5.7	-0.96	-1.08	-0.87	-0.66	-1.57	-0.83	-571.98	-609.98	-544.78
5.8	-0.89	-1.04	-0.97	-1.79	-1.26	-1.44	-497.96	-621.53	-501.34
5.9	-1.29	-1.12	-1.16	-0.91	-1.83	-1.12	-370.07	-448.79	-391.76
6.0	-0.85	-0.87	-1.00	-1.84	0.33	-1.75	-479.88	-438.25	-444.65
6.1	-1.49	-0.90	-1.38	-1.81	-2.88	-1.74	-352.01	-362.99	-372.89
6.2	-1.04	-1.83	-1.09	-1.10	-0.81	-1.34	-370.45	-373.65	-379.29
6.3	-1.27	-0.87	-1.14	-1.98	-1.17	-1.78	-448.14	-428.47	-423.21
6.4	-1.29	-1.63	-1.29	-1.48	-3.38	-1.46	-305.95	-523.38	-331.21
6.5	-1.02	-1.74	-1.16	-1.15	0.39	-1.37	-393.43	-223.75	-386.59
6.6	-1.20	-0.78	-1.15	-2.25	-1.59	-1.99	-406.47	-364.19	-400.83
6.7	-1.45	-1.58	-1.37	-1.32	-3.43	-1.36	-356.50	-373.88	-368.22
6.8	-1.14	-1.18	-1.18	-0.93	0.69	-1.24	-402.83	-393.74	-387.00
6.9	-1.27	-0.96	-1.27	-2.23	-1.86	-1.96	-368.38	-446.84	-367.80
7.0	-1.20	-0.73	-1.20	-1.59	-2.80	-1.62	-335.05	-366.35	-358.75
7.1	-0.84	-1.02	-0.85	-1.96	0.42	-2.06	-508.35	-336.87	-481.84
7.2	-1.22	-0.73	-1.27	-2.77	-3.28	-2.60	-456.62	-591.73	-467.11
7.3	-1.57	-1.04	-1.51	-1.68	-3.02	-1.82	-420.24	-349.81	-425.99
7.4	-1.31	-1.55	-1.43	-2.20	-0.61	-2.05	-511.72	-529.23	-491.91
7.5	-1.18	-2.14	-1.13	-0.80	-2.73	-0.93	-507.68	-287.67	-524.47
7.6	-1.01	-1.96	-0.96	-1.47	-0.55	-1.46	-553.06	-668.04	-554.73
7.7	-0.97	-0.31	-0.85	-1.12	-1.82	-1.01	-622.12	-605.25	-609.50
7.8	-0.52	-1.76	-0.64	0.36	-1.37	0.26	-626.14	-639.30	-636.27
7.9	-0.71	-0.15	-0.69	-0.05	0.85	0.01	-562.22	-563.67	-571.58
8.0	-0.36	0.40	-0.46	0.36	0.40	0.21	-662.54	-363.54	-647.97
8.1	-0.85	-1.68	-0.73	-1.48	0.03	-1.33	-553.49	-885.34	-554.04
8.2	-0.65	0.03	-0.73	-0.49	-0.99	-0.49	-543.63	-640.66	-554.20
8.3	-0.39	-1.39	-0.29	-0.11	-1.13	-0.13	-754.36	-604.31	-736.83
8.4	-0.66	-0.30	-0.66	-0.99	0.42	-1.00	-640.39	-636.71	-646.04
8.5	-0.69	0.18	-0.77	0.19	-0.77	0.14	-539.27	-698.04	-540.25
8.6	-0.90	-1.08	-0.89	-0.46	-0.04	-0.38	-542.59	-505.00	-548.13
8.7	-0.60	-0.69	-0.65	-0.89	-0.70	-0.85	-656.11	-584.80	-658.94
8.8	-0.22	-1.32	-0.46	0.50	-0.41	0.30	-731.97	-581.33	-733.80
8.9	-1.05	0.17	-0.65	-0.47	0.67	-0.36	-684.01	-796.03	-672.07

Table B-2 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
FIRST DERIVATIVE

SYNC TIME MIN	ELEVATION ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	AZIMUTH ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	SLANT RANGE (METERS/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN
9.0	-0.44	-0.68	-0.59	-0.88	-0.62	-0.84	-708.44	-682.06	-718.94
9.1	-0.52	-0.82	-0.42	0.52	-0.82	0.43	-744.74	-671.22	-735.77
9.2	-0.57	-0.28	-0.54	-0.66	0.77	-0.62	-685.68	-739.14	-694.92
9.3	-0.08	-0.82	-0.08	-1.15	-0.66	-1.17	-832.37	-723.40	-820.60
9.4	-0.44	0.35	-0.46	-0.34	-1.52	-0.30	-744.78	-716.60	-740.70
9.5	-0.44	-0.15	-0.54	-0.84	0.24	-0.86	-598.72	-720.54	-609.92
9.6	-0.72	-0.69	-0.77	0.22	-0.64	0.13	-621.91	-867.76	-618.77
9.7	-0.82	-0.62	-0.76	-1.13	-0.11	-0.96	-681.04	-411.77	-678.44
9.8	-0.55	-0.69	-0.55	-0.11	-0.47	-0.12	-644.38	-730.18	-657.72
9.9	-0.30	-0.37	-0.16	0.38	-0.49	0.32	-822.45	-592.90	-805.86
10.0	-0.47	-0.52	-0.43	-0.71	0.27	-0.59	-750.39	-805.87	-749.00
10.1	-0.52	0.29	-0.57	0.22	-0.37	0.12	-594.01	-799.57	-606.20
10.2	-0.19	-0.46	-0.22	0.16	-0.15	0.15	-785.85	-601.49	-771.39
10.3	-0.29	-1.09	-0.29	0.25	0.62	0.26	-766.07	-804.16	-772.22
10.4	-0.51	0.05	-0.52	-0.47	0.27	-0.44	-679.18	-862.13	-694.88
10.5	-0.26	-0.48	-0.25	-0.06	0.18	-0.19	-834.91	-705.34	-820.42
10.6	0.01	-0.32	-0.03	-0.66	-0.42	-0.49	-869.95	-829.36	-868.32
10.7	-0.03	0.08	0.02	0.38	-0.43	0.34	-841.49	-789.42	-843.43
10.8	-0.39	-0.93	-0.38	-0.68	0.23	-0.68	-744.79	-885.13	-754.95
10.9	0.28	-0.28	0.24	-0.30	-0.55	-0.29	-946.43	-682.88	-939.01
11.0	-0.28	-0.24	-0.32	-0.05	-0.52	-0.12	-790.69	-872.66	-800.38
11.1	-0.13	-0.23	-0.04	-1.21	0.79	-1.11	-904.92	-821.94	-890.73
11.2	-0.17	-0.06	-0.18	0.11	-1.14	0.01	-855.19	-995.73	-856.36
11.3	-0.33	0.18	-0.39	-0.88	0.20	-0.76	-791.27	-809.40	-800.99
11.4	-0.08	-0.28	-0.13	-0.49	-0.68	-0.61	-872.75	-864.46	-868.84
11.5	-0.16	-0.08	-0.29	-0.30	-0.55	-0.40	-822.93	-825.29	-821.96
11.6	-0.41	0.46	-0.18	-0.69	-1.09	-0.48	-831.45	-724.00	-835.18
11.7	-0.08	-0.13	-0.20	-0.27	-0.07	-0.30	-800.17	-886.12	-794.99
11.8	-0.28	-0.75	-0.19	0.11	0.15	0.07	-741.08	-693.43	-744.99
11.9	0.03	0.41	0.05	-0.44	-1.18	-0.44	-877.54	-719.12	-871.04
12.0	-0.30	-0.25	-0.30	-0.75	0.51	-0.63	-764.58	-948.64	-773.18
12.1	-0.06	0.29	-0.07	0.53	-0.60	0.26	-821.71	-501.12	-820.89
12.2	0.38	-0.63	0.06	-1.10	0.84	-0.94	-878.49	-1044.45	-875.18
12.3	-0.54	0.74	-0.24	-0.47	-0.54	-0.42	-735.14	-978.98	-743.29
12.4	0.00	0.13	0.03	-0.05	-1.27	-0.08	-881.95	-615.68	-868.05
12.5	-0.05	-0.51	-0.05	-1.15	0.88	-1.17	-836.68	-1000.21	-837.38
12.6	-0.17	0.26	-0.19	-0.41	-1.35	-0.31	-745.45	-988.91	-752.48
12.7	-0.05	-0.33	-0.01	0.60	-0.94	0.49	-804.09	-710.41	-805.54
12.8	0.00	-0.56	0.06	-0.38	0.71	-0.44	-891.53	-805.58	-874.77
12.9	-0.18	-0.60	-0.27	-0.69	-0.35	-0.59	-712.79	-910.36	-733.49
13.0	-0.03	0.12	-0.02	0.11	-0.85	-0.02	-933.13	-627.89	-923.44
13.1	0.33	-0.85	0.24	-0.52	0.03	-0.32	-1005.51	-870.63	-999.57
13.2	-0.06	0.26	-0.06	0.63	-0.57	0.38	-846.01	-1058.78	-861.01
13.3	-0.07	-0.20	-0.02	-1.21	1.68	-0.99	-900.08	-888.23	-895.41
13.4	0.13	0.34	0.09	0.08	-1.01	-0.07	-969.31	-672.87	-960.82
13.5	-0.21	0.08	-0.11	-0.74	-0.29	-0.68	-822.64	-1249.12	-837.85
13.6	0.10	0.69	0.19	-0.71	0.24	-0.60	-1005.73	-811.61	-982.37
13.7	-0.22	0.52	-0.30	-0.15	-1.56	-0.29	-829.16	-983.53	-848.23
13.8	-0.05	-0.21	-0.11	-0.97	0.55	-0.94	-844.24	-804.13	-842.14
13.9	0.03	0.07	0.03	-0.37	-1.17	-0.32	-958.50	-847.48	-946.50
14.0	-0.20	0.23	-0.17	-0.07	-0.91	-0.08	-787.48	-904.86	-802.43
14.1	-0.03	-0.65	-0.10	-0.03	0.35	-0.13	-924.17	-742.58	-924.53
14.2	0.19	-0.24	0.20	-0.66	-0.40	-0.62	-1014.51	-1004.72	-994.57
14.3	0.00	0.34	0.06	-0.77	-0.58	-0.67	-918.82	-916.67	-940.63
14.4	0.36	-0.19	0.28	-0.44	-0.65	-0.48	-1014.37	-858.03	-992.96
14.5	-0.05	0.02	0.05	-0.82	-1.01	-0.83	-905.28	-1128.70	-918.50
14.6	0.11	0.23	0.04	-0.69	-0.43	-0.71	-864.42	-872.23	-860.02
14.7	-0.24	-0.22	-0.24	-0.41	-0.72	-0.28	-726.72	-993.85	-744.04
14.8	-0.22	0.35	-0.12	0.05	-0.85	-0.09	-845.80	-721.47	-832.80
14.9	0.03	-1.17	-0.08	-0.55	0.97	-0.48	-877.49	-797.69	-885.05
15.0	-0.05	0.46	-0.09	0.55	-1.10	0.44	-886.65	-854.76	-884.67
15.1	-0.30	-0.25	-0.22	-0.41	1.15	-0.30	-855.05	-958.60	-845.29
15.2	0.11	-0.17	0.05	-0.33	0.02	-0.38	-919.44	-785.36	-926.40
15.3	-0.19	0.22	-0.16	-0.25	-0.53	-0.28	-900.30	-1006.60	-886.13
15.4	-0.33	-0.18	-0.25	0.29	0.01	0.26	-772.52	-830.85	-790.58
15.5	0.05	-0.18	-0.10	0.95	-0.06	0.95	-882.14	-828.55	-882.90
15.6	-0.17	-0.34	-0.05	-0.08	1.01	0.03	-910.26	-1043.58	-898.29
15.7	-0.24	0.10	-0.26	0.39	0.21	0.39	-767.41	-795.01	-779.61
15.8	0.08	-0.24	0.05	0.66	-0.52	0.63	-955.54	-720.22	-951.71
15.9	0.00	-0.51	-0.01	-0.16	1.52	-0.14	-978.66	-916.77	-973.18
16.0	-0.30	1.10	-0.21	0.41	-0.42	0.43	-827.02	-885.72	-841.04
16.1	0.08	-0.68	-0.04	1.29	0.75	1.20	-927.77	-797.11	-916.88
16.2	-0.14	0.15	-0.08	0.00	1.91	0.06	-941.86	-939.56	-945.40
16.3	-0.25	-0.19	-0.07	0.19	0.14	0.17	-859.24	-1017.90	-863.91
16.4	0.14	-0.07	-0.07	0.88	-0.07	0.82	-987.69	-828.80	-979.59
16.5	0.08	-0.10	0.06	0.14	0.53	0.18	-1038.13	-1076.90	-1033.61
16.6	-0.16	-0.20	-0.12	0.74	-0.22	0.67	-863.99	-1006.33	-870.65
16.7	0.03	-0.18	0.16	0.60	0.62	0.70	-1073.88	-800.67	-1059.48
16.8	0.00	-0.46	-0.10	0.16	1.82	0.07	-937.34	-1154.42	-949.91
16.9	-0.14	0.58	-0.06	0.85	0.06	0.96	-932.62	-935.56	-943.90

Table B-2 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
FIRST DERIVATIVE

SYNC TIME MIN	ELEVATION ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	AZIMUTH ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	SLANT RANGE (METERS/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN
21.0	-0.05	-0.07	-0.08	0.44	0.78	0.48	-804.88	-1167.87	-826.32
21.1	0.08	-0.02	0.08	0.91	-0.03	0.89	-909.58	-733.88	-911.60
21.2	0.06	-0.09	0.06	0.60	1.38	0.58	-1042.20	-861.30	-1024.55
21.3	0.02	0.37	-0.05	0.00	0.64	0.11	-877.56	-1079.32	-892.40
21.4	-0.32	-0.03	-0.18	0.85	0.29	0.71	-745.49	-833.85	-735.67
21.5	0.06	-0.11	-0.11	0.91	-0.01	0.97	-745.27	-732.65	-756.30
21.6	-0.03	-0.51	-0.03	1.13	1.42	1.10	-799.62	-808.69	-793.69
21.7	0.00	0.27	0.04	0.58	1.49	0.56	-895.42	-777.63	-886.62
21.8	-0.19	-0.11	-0.10	0.16	0.62	0.22	-755.66	-932.26	-768.90
21.9	-0.06	0.08	-0.09	1.02	0.00	0.94	-781.78	-690.01	-767.41
22.0	0.20	-0.02	0.14	0.80	0.22	0.81	-932.16	-831.76	-944.41
22.1	0.16	-0.18	0.09	0.38	0.82	0.36	-928.19	-844.19	-911.26
22.2	-0.26	0.31	-0.11	0.54	0.68	0.57	-719.05	-1032.49	-733.19
22.3	0.01	0.09	-0.04	1.08	0.27	1.06	-744.08	-651.07	-739.02
22.4	-0.01	-0.16	0.02	1.10	1.26	1.13	-871.60	-809.35	-878.70
22.5	0.23	0.25	0.11	0.93	1.48	0.92	-979.21	-959.22	-984.65
22.6	0.14	-0.35	0.19	0.63	0.93	0.72	-1038.05	-843.29	-1029.92
22.7	0.08	0.82	0.07	1.24	0.35	1.15	-958.87	-1032.26	-953.14
22.8	-0.17	-0.10	-0.10	0.94	1.31	0.96	-833.80	-1040.22	-848.73
22.9	0.19	-0.08	0.12	0.77	1.01	0.81	-1078.04	-849.45	-1066.80
23.0	0.20	-0.20	0.21	1.24	0.56	1.19	-1097.74	-1019.70	-1092.76
23.1	-0.14	-0.11	-0.05	1.04	1.13	1.00	-945.94	-1126.86	-960.33
23.2	0.19	0.01	0.06	0.63	1.35	0.63	-1088.55	-904.53	-1069.15
23.3	-0.19	-0.12	-0.07	0.41	0.63	0.45	-890.59	-1114.23	-902.78
23.4	-0.06	-0.10	-0.05	0.88	0.26	0.85	-933.46	-676.07	-932.18
23.5	0.00	0.10	-0.02	0.49	0.95	0.59	-905.09	-804.29	-900.29
23.6	0.00	-0.11	-0.06	1.18	0.49	1.12	-841.44	-1018.97	-853.75
23.7	0.14	0.01	0.15	1.32	1.12	1.30	-1106.02	-852.45	-1088.80
23.8	0.11	-0.35	0.18	0.88	1.28	0.89	-1079.37	-987.46	-1081.62
23.9	0.07	0.59	-0.02	0.89	0.90	0.84	-881.21	-1085.99	-898.07
24.0	-0.07	-0.08	-0.05	1.00	0.95	1.09	-842.14	-892.28	-834.53
24.1	-0.07	0.02	-0.08	1.20	1.06	1.18	-812.82	-758.90	-823.50
24.2	0.02	0.01	-0.01	1.60	1.29	1.59	-942.51	-947.13	-938.10
24.3	0.06	0.21	0.11	1.32	1.75	1.34	-1044.94	-777.42	-1036.23
24.4	0.03	0.06	0.02	1.35	1.57	1.33	-1007.82	-1320.79	-1015.83
24.5	0.19	0.53	0.12	1.40	1.12	1.43	-1096.99	-951.24	-1092.24
24.6	0.14	-0.37	0.20	1.37	1.27	1.32	-1188.45	-1168.73	-1185.50
24.7	-0.03	0.26	0.02	1.46	1.20	1.38	-1033.05	-1039.88	-1034.46
24.8	0.05	0.18	0.05	1.02	1.39	1.05	-969.86	-996.59	-964.55
24.9	0.17	-0.01	0.06	0.69	1.03	0.70	-1046.94	-1077.09	-1060.92
17.0	0.11	-0.12	0.09	0.16	1.93	0.25	-1129.03	-1116.87	-1113.03
17.1	0.07	0.22	-0.03	0.48	-0.72	0.34	-917.86	-951.94	-945.51
17.2	-0.23	0.26	-0.13	0.53	-0.14	0.60	-970.18	-923.48	-958.01
17.3	0.25	-0.41	0.14	0.83	0.23	0.79	-1167.80	-1060.74	-1150.59
17.4	0.19	-0.30	0.20	0.65	1.11	0.63	-1167.92	-1088.42	-1177.28
17.5	0.14	0.50	0.18	0.05	1.35	0.16	-1179.53	-1247.37	-1172.38
17.6	0.20	0.85	0.17	0.30	0.55	0.19	-1110.69	-1045.48	-1105.06
17.7	-0.17	0.17	-0.14	0.88	0.00	0.87	-932.61	-1432.43	-955.94
17.8	0.33	0.02	0.18	0.80	-0.04	0.76	-1138.46	-644.59	-1120.42
17.9	-0.11	-1.39	0.01	0.16	0.23	0.24	-983.03	-1088.35	-985.99
18.0	-0.03	-0.02	0.02	1.04	0.28	0.99	-1014.88	-883.30	-1016.56
18.1	0.17	0.53	0.16	0.69	2.40	0.66	-1115.47	-1045.63	-1113.82
18.2	0.00	1.12	-0.03	-0.16	0.73	-0.07	-955.83	-1100.24	-959.79
18.3	0.00	-0.06	0.02	0.58	-0.26	0.58	-973.61	-1051.04	-969.58
18.4	0.19	-0.06	0.21	1.04	-0.40	0.92	-1106.09	-1001.10	-1101.91
18.5	0.11	-0.93	0.04	0.03	1.56	0.09	-1060.53	-1133.02	-1071.27
18.6	0.27	0.38	0.25	0.14	0.47	0.17	-1152.05	-1079.15	-1140.99
18.7	-0.02	-0.06	0.00	0.77	0.22	0.69	-1060.66	-1156.28	-1064.13
18.8	-0.10	0.47	-0.03	0.45	0.72	0.52	-985.17	-1133.07	-989.09
18.9	0.16	-0.10	0.16	1.04	-0.09	0.97	-1062.39	-916.53	-1068.07
19.0	0.21	-0.24	0.18	0.28	1.36	0.27	-1149.71	-1046.25	-1132.53
19.1	-0.05	0.41	-0.02	0.14	0.92	0.19	-940.38	-1091.06	-959.25
19.2	0.09	0.30	0.04	0.85	-0.21	0.82	-1046.47	-1057.63	-1028.96
19.3	-0.09	0.02	-0.03	0.32	0.90	0.33	-955.72	-991.21	-982.63
19.4	0.31	0.00	0.16	-0.04	0.41	-0.01	-1137.87	-977.50	-1113.63
19.5	-0.14	0.04	-0.02	-0.05	-0.38	-0.05	-1001.34	-1140.14	-1016.21
19.6	0.11	0.03	0.19	0.30	0.30	0.28	-1151.93	-836.76	-1129.78
19.7	0.14	0.64	0.00	0.77	0.10	0.70	-928.22	-1163.62	-944.93
19.8	0.06	-0.12	0.04	0.69	1.13	0.80	-973.86	-902.41	-968.68
19.9	-0.03	0.35	0.20	0.47	0.50	0.41	-1056.03	-1031.04	-1054.36
20.0	0.28	-0.34	0.14	0.08	0.42	0.08	-1073.94	-1108.80	-1075.46
20.1	0.08	0.50	0.00	0.19	0.07	0.28	-905.45	-1068.04	-908.84
20.2	0.25	-0.06	0.14	1.02	0.07	0.93	-987.63	-874.38	-982.31
20.3	0.06	0.01	0.18	0.47	1.39	0.47	-1055.93	-1232.57	-1061.27
20.4	-0.03	0.13	0.03	0.14	0.66	0.16	-918.29	-893.00	-923.89
20.5	0.28	0.36	0.13	0.98	-0.03	0.88	-958.11	-924.63	-959.73
20.6	0.05	-0.10	0.21	0.31	0.95	0.38	-1154.47	-804.71	-1131.65
20.7	0.02	0.53	0.00	0.37	0.67	0.35	-925.39	-1129.60	-943.38
20.8	0.15	0.08	0.18	0.90	0.01	0.90	-1035.88	-1150.40	-1032.86
20.9	0.08	-0.21	0.10	0.14	0.42	0.17	-1060.52	-926.44	-1043.74

Table B-2 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
FIRST DERIVATIVE

SYNC TIME MIN	ELEVATION ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	AZIMUTH ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	SLANT RANGE (METERS/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN
25.0	0.06	-0.09	0.19	1.07	0.79	1.08	-1238.78	-1024.25	-1228.17
25.1	0.03	0.32	0.06	1.46	1.01	1.47	-1138.24	-1265.10	-1133.81
25.2	0.11	0.09	-0.04	1.18	1.31	1.18	-963.04	-1038.39	-984.20
25.3	-0.08	-0.09	0.01	1.37	1.14	1.34	-1057.70	-1077.21	-1052.67
25.4	0.11	0.02	0.08	0.96	1.67	1.01	-1234.36	-998.53	-1223.67
25.5	0.06	-0.02	0.12	0.93	0.60	0.94	-1188.57	-1204.06	-1180.56
25.6	0.09	0.11	0.10	0.89	1.43	0.84	-1025.72	-857.25	-1035.12
25.7	0.08	0.06	0.05	0.59	0.77	0.70	-1027.04	-1300.34	-1032.01
25.8	0.10	0.09	0.16	0.91	0.64	0.75	-1069.46	-1022.95	-1068.81
25.9	0.18	0.26	0.06	0.76	0.63	0.86	-1001.54	-1071.43	-997.59
26.0	0.05	0.00	0.06	1.04	[illegible]	1.10	-928.20	-1070.74	-928.95
26.1	-0.03	-0.25	0.03	1.46	1.09	1.33	-1019.53	-934.94	-1015.04
26.2	0.03	0.10	0.03	0.81	1.51	0.95	-1005.62	-1040.86	-1012.51
26.3	0.11	0.00	0.13	1.25	0.74	1.19	-1183.99	-1023.10	-1177.09
26.4	0.14	-0.52	0.10	1.62	1.52	1.55	-1160.99	-1121.65	-1171.04
26.5	-0.06	0.96	0.12	1.15	1.48	1.38	-1252.95	-1282.98	-1236.68
26.6	0.22	0.61	0.09	1.73	0.88	1.53	-1143.07	-1219.04	-1158.46
26.7	0.09	-0.07	0.09	1.57	1.87	1.56	-1124.63	-1089.74	-1125.28
26.8	0.11	-0.16	0.05	1.35	1.88	1.43	-1207.08	-1087.94	-1187.10
26.9	0.09	0.70	0.07	1.51	1.40	1.49	-1106.15	-1321.70	-1132.48
27.0	0.11	-1.04	0.14	1.62	1.38	1.54	-1206.54	-1017.01	-1193.09
27.1	0.06	0.89	0.14	1.24	1.77	1.30	-1147.61	-1194.12	-1153.23
27.2	0.28	0.44	0.17	1.48	0.91	1.47	-1220.64	-1169.82	-1201.67
27.3	0.00	-0.79	0.03	1.49	1.46	1.48	-1020.90	-1159.42	-1038.20
27.4	0.25	0.29	0.10	1.42	1.47	1.39	-1013.72	-948.45	-1009.91
27.5	-0.03	0.11	0.15	1.09	0.94	1.14	-1000.51	-981.14	-1001.99
27.6	0.20	-0.50	0.18	1.32	1.48	1.16	-1070.81	-980.63	-1063.75
27.7	0.06	0.53	0.03	1.48	0.92	1.64	-1128.78	-1170.82	-1137.29
27.8	0.11	0.03	0.15	1.65	1.39	1.63	-1120.29	-941.80	-1128.95
27.9	0.16	-0.09	0.11	1.26	1.97	1.27	-1254.79	-1362.12	-1228.64
28.0	0.11	-0.09	0.12	1.43	1.28	1.47	-1154.76	-1257.84	-1164.55
28.1	0.17	0.47	0.16	1.57	1.56	1.57	-1106.00	-1042.92	-1119.98
28.2	0.31	0.55	0.22	1.54	1.47	1.50	-1115.38	-1133.89	-1092.37
28.3	-0.01	0.19	0.10	1.13	1.64	1.14	-1152.40	-1176.56	-1161.33
28.4	0.14	0.45	0.10	1.48	1.03	1.49	-1138.24	-1170.01	-1163.81
28.5	0.19	0.20	0.17	1.57	1.65	1.60	-1334.96	-1176.14	-1299.48
28.6	0.08	0.19	0.12	1.76	1.47	1.71	-1224.59	-1218.54	-1247.45
28.7	0.28	-0.07	0.23	2.06	1.48	2.03	-1265.81	-1213.96	-1263.90
28.8	-0.04	-0.07	0.16	2.03	2.01	2.07	-1134.14	-1222.55	-1120.52
28.9	0.12	-0.24	0.06	2.11	1.93	2.11	-1101.89	-1172.10	-1110.37
29.0	0.10	0.03	0.02	1.78	2.03	1.85	-1102.34	-1086.22	-1118.48
29.1	0.01	-0.05	0.10	2.01	2.12	1.92	-1315.44	-1040.08	-1294.84
29.2	0.20	-0.08	0.22	2.00	1.92	1.99	-1202.69	-1402.16	-1198.10
29.3	0.15	0.19	0.03	1.82	2.01	1.80	-1060.64	-1316.25	-1075.89
29.4	0.08	0.13	0.12	1.40	1.78	1.40	-1137.05	-990.63	-1135.44
29.5	0.11	0.20	0.12	1.43	1.24	1.48	-1190.57	-1166.39	-1179.31
29.6	0.16	0.20	0.06	1.43	1.33	1.40	-1161.20	-1167.58	-1179.61
29.7	0.03	-0.07	0.14	1.26	1.69	1.27	-1183.84	-1168.27	-1183.46
29.8	0.17	0.10	0.13	1.07	0.89	1.11	-1280.53	-1250.51	-1259.54
29.9	0.14	0.20	0.12	1.21	1.16	1.17	-1275.44	-1164.48	-1296.52
30.0	0.08	0.10	0.09	1.07	1.33	1.10	-1276.99	-1302.47	-1272.25
30.1	0.30	0.35	0.24	1.21	0.70	1.19	-1242.99	-1480.46	-1228.67
30.2	0.03	0.13	0.17	1.07	1.44	1.09	-1324.39	-983.77	-1335.01
30.3	0.52	0.20	0.39	1.21	1.07	1.23	-1458.92	-1254.05	-1465.04
30.4	0.16	0.63	0.31	1.48	0.97	1.44	-1481.27	-1488.41	-1475.21
30.5	0.39	0.54	0.32	1.35	1.50	1.33	-1476.62	-1494.27	-1473.97
30.6	0.36	0.19	0.31	1.42	1.60	1.38	-1494.59	-1443.74	-1487.01
30.7	0.08	0.72	0.19	1.07	1.41	1.15	-1353.04	-1541.18	-1372.04
30.8	0.25	-0.17	0.21	1.32	0.90	1.26	-1486.30	-1382.18	-1476.58
30.9	0.37	0.55	0.27	1.23	1.34	1.24	-1504.91	-1445.39	-1482.43
31.0	0.07	0.01	0.16	1.21	1.34	1.23	-1342.96	-1527.84	-1363.49
31.1	0.24	-0.62	0.25	1.10	0.99	1.10	-1418.05	-1467.12	-1418.03
31.2	0.28	16.72	0.25	1.21	1.14	1.26	-1440.26	-1418.36	-1433.86
31.3	0.22	-16.06	0.28	1.57	1.12	1.47	-1425.57	-1321.26	-1451.50
31.4	0.36	0.65	0.32	1.02	1.53	1.05	-1590.59	-1402.65	-1565.80
31.5	0.22	-0.09	0.29	1.32	0.81	1.33	-1545.55	-1655.92	-1553.05
31.6	0.33	0.47	0.28	1.46	1.36	1.48	-1435.16	-1351.47	-1439.88
31.7	0.39	0.65	0.31	1.48	1.53	1.48	-1485.97	-1493.42	-1478.94
31.8	0.22	0.19	0.28	1.48	1.53	1.41	-1481.06	-1577.32	-1477.35
31.9	0.14	0.11	0.14	1.02	1.54	1.08	-1398.82	-1436.58	-1399.88
32.0	0.25	0.23	0.33	1.46	1.83	1.39	-1431.07	-940.37	-1444.02
32.1	0.38	0.62	0.36	1.26	1.16	1.37	-1559.36	-1945.11	-1550.40
32.2	0.44	0.19	0.29	1.43	0.65	1.35	-1554.32	-1566.06	-1553.59
32.3	0.22	0.20	0.27	1.15	1.64	1.19	-1522.08	-1531.62	-1533.37
32.4	0.39	0.20	0.34	1.29	1.10	1.29	-1613.97	-1525.30	-1600.08
32.5	0.16	0.02	0.29	1.32	1.23	1.31	-1462.91	-1478.62	-1453.71
32.6	0.30	0.29	0.22	1.19	1.19	1.18	-1304.93	-1573.16	-1323.43
32.7	0.17	0.21	0.20	1.00	1.39	1.00	-1346.38	-1299.38	-1351.08
32.8	0.25	0.48	0.25	0.92	0.85	0.97	-1458.22	-1297.69	-1439.13
32.9	0.14	0.39	0.19	1.47	1.11	1.43	-1403.93	-1390.43	-1421.43

Table B-2 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
FIRST DERIVATIVE

SYNC TIME MIN	ELEVATION ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	AZIMUTH ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	SLANT RANGE (METERS/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN
33.0	0.30	0.12	0.26	1.43	1.65	1.46	-1490.31	-1483.08	-1479.22
33.1	0.39	0.39	0.29	0.96	0.85	0.99	-1403.59	-1295.93	-1396.45
33.2	0.03	0.02	0.17	1.37	1.02	1.34	-1288.84	-1657.57	-1307.86
33.3	0.22	0.13	0.21	1.35	1.85	1.29	-1440.45	-1210.13	-1429.26
33.4	0.22	0.31	0.21	1.24	0.50	1.37	-1467.36	-1153.50	-1466.52
33.5	0.33	0.38	0.30	1.62	1.83	1.53	-1527.55	-1716.60	-1524.42
33.6	0.17	0.39	0.17	1.26	1.93	1.26	-1378.49	-1580.03	-1400.36
33.7	0.30	0.30	0.29	1.29	0.67	1.33	-1529.23	-1474.87	-1497.85
33.8	0.22	0.12	0.21	1.54	1.40	1.39	-1371.05	-1433.11	-1406.37
33.9	0.19	0.40	0.21	0.99	1.49	1.09	-1508.85	-1437.97	-1494.11
34.0	0.25	0.48	0.25	1.18	0.68	1.20	-1443.95	-1477.43	-1435.50
34.1	0.14	0.13	0.20	1.37	1.50	1.22	-1367.87	-1387.71	-1379.49
34.2	0.25	0.22	0.18	0.71	1.32	0.90	-1462.58	-1387.29	-1446.83
34.3	0.25	0.13	0.23	1.06	0.42	1.01	-1430.25	-1332.08	-1433.46
34.4	0.17	0.03	0.21	1.11	1.05	1.12	-1463.50	-1427.60	-1478.60
34.5	0.14	0.31	0.17	1.00	1.32	0.99	-1595.65	-1434.02	-1570.32
34.6	0.22	0.11	0.22	0.95	0.86	1.01	-1389.94	-1747.12	-1405.83
34.7	0.25	0.14	0.21	1.18	1.06	1.12	-1458.49	-1245.86	-1472.27
34.8	0.17	0.31	0.25	0.99	1.41	1.05	-1572.05	-1388.62	-1543.29
34.9	0.27	0.21	0.12	1.50	1.23	1.44	-1509.56	-1568.36	-1503.11
35.0	0.06	0.21	0.13	1.42	0.69	1.43	-1362.17	-1700.97	-1393.68
35.1	0.19	0.09	0.15	1.62	1.76	1.57	-1517.67	-2622.15	-1488.50
35.2	0.19	0.08	0.15	1.48	1.26	1.51	-1339.65	-468.25	-1365.18
35.3	0.05	0.05	0.22	1.46	1.07	1.50	-1490.49	-1060.85	-1477.65
35.4	0.28	0.04	0.18	1.54	1.69	1.55	-1453.86	-1522.48	-1456.11
35.5	0.19	0.23	0.14	1.48	1.79	1.44	-1362.08	-1388.51	-1360.79
35.6	0.03	0.32	0.14	1.54	1.33	1.53	-1362.87	-1386.38	-1351.78
35.7	0.08	0.05	0.02	1.46	1.61	1.39	-1209.58	-1338.20	-1231.86
35.8	0.14	0.05	0.10	1.26	1.34	1.29	-1276.66	-1153.28	-1288.64
35.9	0.16	0.04	0.15	0.93	1.25	1.01	-1477.33	-1381.02	-1439.04
36.0	0.00	-0.05	0.08	0.89	1.16	0.87	-1264.35	-1470.29	-1299.34
36.1	0.06	0.33	0.08	1.04	0.53	1.0[illegible]	-1396.17	-1151.70	-1362.75
36.2	0.26	0.04	0.13	1.23	1.34	1.21	-1161.90	-1564.04	-1195.31
36.3	-0.02	0.06	0.10	1.16	1.35	1.18	-1444.14	-1106.80	-1436.08
36.4	0.17	0.04	0.13	1.15	1.16	1.36	-1399.30	-1562.58	-1409.17
36.5	0.11	0.05	0.11	1.51	1.26	1.35	-1517.31	-1288.74	-1479.42
36.6	0.08	0.04	0.14	1.43	1.16	1.40	-1358.63	-1608.00	-1396.52
36.7	0.14	0.24	0.15	1.43	1.53	1.42	-1622.33	-1109.91	-1598.25
36.8	0.17	0.22	0.09	1.26	1.62	1.30	-1552.66	-1704.35	-1546.73
36.9	0.05	0.13	0.14	1.29	1.26	1.25	-1446.61	-1517.94	-1474.42
37.0	0.31	0.05	0.24	1.29	1.35	1.30	-1680.89	-1379.75	-1649.23
37.1	0.16	0.12	0.10	1.79	1.07	1.59	-1465.00	-1836.63	-1486.79
37.2	0.06	0.13	0.14	1.35	1.72	1.49	-1627.36	-1611.11	-1640.60
37.3	0.14	-0.05	0.18	1.51	1.08	1.65	-1769.54	-1467.91	-1738.16
37.4	0.33	0.04	0.17	1.95	1.99	1.77	-1594.82	-1701.90	-1613.07
37.5	-0.03	0.22	0.13	1.40	1.90	1.48	-1668.94	-1749.56	-1676.88
37.6	0.27	0.32	0.25	1.51	1.26	1.51	-1832.75	-1702.18	-1805.69
37.7	0.09	0.41	0.09	1.52	1.63	1.49	-1560.25	-1704.87	-1581.17
37.8	0.16	0.13	0.16	1.39	1.27	1.40	-1704.45	-1653.34	-1701.57
37.9	0.30	0.05	0.27	1.62	1.27	1.64	-1765.40	-1423.26	-1750.13
38.0	0.30	-0.06	0.21	1.46	2.00	1.44	-1663.90	-1881.45	-1668.67
38.1	0.08	0.04	0.22	1.26	1.36	1.26	-1746.27	-1605.98	-1762.95
38.2	0.39	0.31	0.25	1.21	1.27	1.19	-1924.45	-1838.15	-1912.76
38.3	0.25	0.03	0.22	1.07	1.27	1.11	-1874.91	-1971.00	-1868.47
38.4	0.00	0.32	0.08	1.15	1.00	1.15	-1728.31	-1836.97	-1740.93
38.5	0.17	0.32	0.17	0.91	1.27	0.95	-1700.16	-1746.25	-1670.00
38.6	0.22	0.04	0.18	0.96	0.91	0.90	-1655.31	-1695.25	-1688.79
38.7	0.14	0.14	0.24	0.69	1.09	0.73	-1801.53	-1605.61	-1780.33
38.8	0.14	0.04	0.12	0.77	0.72	0.73	-1663.71	-1877.43	-1685.81
38.9	0.17	0.32	0.17	0.66	0.73	0.61	-1746.95	-1652.91	-1737.99
39.0	0.30	0.14	0.24	0.52	0.91	0.60	-1814.41	-1650.59	-1802.44
39.1	0.14	0.13	0.20	0.55	0.45	0.56	-1664.24	-1877.96	-1690.45
39.2	0.21	0.05	0.17	0.63	0.54	0.63	-1875.09	-1693.96	-1856.20
39.3	0.21	0.41	0.23	0.60	0.64	0.63	-1947.17	-1790.98	-1945.45
39.4	0.39	0.22	0.29	0.88	0.91	0.75	-1934.15	-2017.38	-1955.88
39.5	0.16	0.04	0.28	0.39	0.55	0.48	-2006.95	-1830.98	-1986.90
39.6	0.25	0.50	0.19	0.66	0.54	0.63	-1892.56	-2066.24	-1895.55
39.7	0.11	0.14	0.18	0.30	0.82	0.29	-1901.59	-1878.53	-1918.44
39.8	0.19	0.50	0.19	0.41	0.45	0.42	-1984.87	-2020.25	-1959.83
39.9	0.25	0.32	0.23	0.47	0.09	0.46	-1901.09	-1833.99	-1905.87
40.0	0.25	0.14	0.24	0.47	0.45	0.49	-1914.20	-1832.01	-1922.54
40.1	0.17	0.23	0.15	0.49	0.36	0.44	-1867.00	-1878.87	-1849.51
40.2	0.11	0.14	0.19	0.36	0.82	0.36	-1760.26	-1969.77	-1778.67
40.3	0.11	0.14	0.07	0.30	0.09	0.39	-1695.89	-1831.30	-1690.77
40.4	0.19	0.33	0.14	0.58	0.46	0.48	-1646.12	-1651.74	-1641.78
40.5	0.03	0.05	0.06	0.49	0.55	0.57	-1613.77	-1785.02	-1634.39
40.6	0.11	0.06	0.14	0.58	0.37	0.52	-1732.82	-1464.72	-1714.17
40.7	0.17	0.05	0.14	0.52	0.74	0.49	-1682.67	-1693.84	-1680.48
40.8	0.14	0.05	0.13	0.33	0.09	0.37	-1572.70	-1829.96	-1586.53
40.9	0.14	0.15	0.18	0.41	0.83	0.41	-1622.77	-1466.67	-1616.61

Table B-2 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
FIRST DERIVATIVE

SYNC TIME MIN	ELEVATION ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	AZIMUTH ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	SLANT RANGE (METERS/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN
41.0	0.25	0.43	0.17	0.55	0.09	0.60	-1723.75	-1652.38	-1717.14
41.1	0.14	-0.03	0.25	0.59	1.02	0.57	-1747.22	-1555.62	-1761.27
41.2	0.28	0.14	0.12	0.67	0.46	0.65	-1818.78	-1923.17	-1799.35
41.3	-0.11	0.15	0.06	0.60	0.83	0.66	-1719.14	-1740.74	-1741.44
41.4	0.19	0.24	0.14	0.60	0.65	0.48	-1792.33	-1696.06	-1793.29
41.5	0.25	0.14	0.15	0.33	0.55	0.40	-1755.06	-1923.17	-1730.22
41.6	0.08	-0.04	0.18	0.47	0.55	0.40	-1732.84	-1646.24	-1748.27
41.7	0.17	0.06	0.16	0.33	0.18	0.48	-1737.36	-1738.59	-1725.16
41.8	0.17	0.43	0.14	0.52	0.65	0.63	-1636.99	-1698.55	-1650.19
41.9	0.20	0.06	0.27	0.99	0.46	0.73	-1759.68	-1693.11	-1758.94
42.0	0.16	-0.04	0.10	0.41	0.93	0.59	-1658.17	-1829.29	-1646.35
42.1	0.11	0.44	0.13	0.71	0.37	0.62	-1574.55	-1515.35	-1580.47
42.2	0.19	0.06	0.22	0.63	0.83	0.64	-1792.08	-1556.13	-1775.95
42.3	0.22	0.15	0.18	0.47	0.56	0.49	-1714.73	-1831.49	-1730.59
42.4	0.39	0.24	0.22	0.69	0.46	0.58	-1773.49	-1832.71	-1778.75
42.5	0.11	0.06	0.15	0.77	0.56	0.71	-1841.62	-1738.70	-1840.56
42.6	0.28	-0.04	0.21	0.25	1.12	0.39	-1785.85	-1829.02	-1774.92
42.7	-0.03	0.34	0.12	0.52	0.19	0.53	-1607.13	-1742.38	-1629.77
42.8	0.15	0.16	0.17	0.50	0.65	0.37	-1661.48	-1511.35	-1654.57
42.9	0.21	-0.13	0.18	0.49	0.09	0.58	-1644.67	-1873.00	-1651.25
43.0	0.28	0.06	0.19	0.58	0.56	0.45	-1800.69	-1509.99	-1785.57
43.1	0.11	0.43	0.20	0.33	0.84	0.42	-1833.55	-1743.74	-1826.62
43.2	0.03	0.25	0.14	0.60	0.09	0.63	-1768.99	-1878.16	-1779.54
43.3	0.25	-0.03	0.16	0.63	0.65	0.63	-1806.55	-1645.76	-1807.22
43.4	0.08	0.06	0.15	0.80	0.93	0.85	-1764.51	-1875.57	-1746.07
43.5	0.25	0.34	0.17	0.82	0.56	0.71	-1769.08	-1833.67	-1799.53
43.6	0.13	0.25	0.19	0.71	0.84	0.83	-1988.98	-1786.58	-1959.44
43.7	0.18	0.43	0.20	0.85	0.93	0.85	-1892.59	-1880.47	-1902.09
43.8	0.36	0.25	0.21	0.85	0.65	0.78	-1791.28	-1969.34	-1799.20
43.9	0.19	0.34	0.17	0.52	0.84	0.61	-1838.55	-1787.63	-1824.54
44.0	0.17	0.25	0.20	0.66	0.84	0.52	-1732.88	-1877.70	-1750.79
44.1	0.05	0.63	0.12	0.49	0.37	0.60	-1673.67	-1700.11	-1665.20
44.2	0.11	0.07	0.09	0.49	0.75	0.49	-1636.45	-1600.83	-1631.84
44.3	0.11	-0.21	0.08	0.55	0.47	0.43	-1590.90	-1551.46	-1606.87
44.4	0.08	-0.03	0.05	0.52	0.36	0.68	-1627.95	-1736.89	-1625.01
44.5	0.03	0.16	0.16	0.65	0.84	0.66	-1729.56	-1647.61	-1707.51
44.6	0.19	0.16	0.14	0.40	0.66	0.43	-1676.57	-1693.42	-1706.70
44.7	0.08	0.07	0.11	0.60	0.47	0.46	-1856.25	-1692.29	-1844.35
44.8	0.06	0.06	0.08	0.41	0.47	0.47	-1869.59	-1829.41	-1851.11
44.9	0.14	0.06	0.08	0.63	0.47	0.64	-1595.86	-1783.67	-1621.06
45.0	0.06	0.16	0.11	0.63	0.66	0.57	-1672.85	-1830.42	-1662.84
45.1	0.14	0.07	0.07	0.47	0.66	0.53	-1701.52	-1554.83	-1707.54
45.2	0.14	0.07	0.17	0.63	0.28	0.58	-1837.50	-1646.67	-1832.01
45.3	0.17	-0.03	0.18	0.80	0.75	0.81	-1837.82	-1781.97	-1842.15
45.4	0.34	0.16	0.28	0.74	1.03	0.64	-1865.18	-1784.04	-1860.60
45.5	0.05	0.44	0.16	0.49	0.28	0.74	-1892.97	-2017.35	-1882.35
45.6	0.28	0.06	0.17	0.74	0.57	0.56	-1956.69	-1920.49	-1977.90
45.7	0.11	-0.03	0.16	0.77	0.66	0.76	-2030.15	-1827.63	-2015.00
45.8	0.06	-0.03	0.11	0.49	0.75	0.59	-1920.01	-2238.87	-1916.25
45.9	0.22	0.16	0.16	0.82	0.47	0.84	-1874.61	-1784.64	-1897.22
46.0	0.19	-0.03	0.23	0.88	1.04	0.85	-1986.69	-1826.85	-1950.54
46.1	0.11	0.06	0.11	0.80	1.13	0.77	-1739.24	-2010.68	-1777.40
46.2	0.19	0.54	0.17	0.73	0.57	0.74	-1858.89	-1652.17	-1851.79
46.3	0.17	0.16	0.21	0.78	1.13	0.75	-1880.90	-1966.01	-1861.08
46.4	0.19	0.07	0.14	0.71	0.85	0.64	-1787.87	-1828.09	-1808.04
46.5	0.05	0.35	0.10	0.41	0.47	0.56	-1858.91	-1969.72	-1859.31
46.6	0.22	0.45	0.18	0.77	1.04	0.74	-1967.75	-1741.06	-1932.58
46.7	0.22	0.35	0.18	0.69	0.95	0.62	-1846.80	-2014.22	-1883.36
46.8	0.17	0.16	0.10	0.49	0.48	0.51	-1884.02	-1875.67	-1873.74
46.9	0.03	-0.02	0.18	0.58	0.47	0.54	-1860.59	-1736.04	-1848.92
47.0	0.19	0.16	0.17	0.58	0.66	0.55	-1851.50	-1920.86	-1844.36
47.1	0.08	0.07	0.08	0.38	0.19	0.46	-1691.41	-1737.95	-1726.24
47.2	0.19	0.07	0.19	0.38	0.38	0.42	-1869.70	-1691.74	-1836.91
47.3	0.28	0.07	0.19	0.55	0.76	0.43	-1902.18	-1965.01	-1904.01
47.4	0.03	0.07	0.12	0.25	0.19	0.38	-1710.11	-1829.35	-1735.18
47.5	0.06	-0.02	0.10	0.30	0.19	0.27	-1778.63	-1736.69	-1762.33
47.6	0.22	0.07	0.21	0.55	0.57	0.52	-1775.08	-1736.87	-1749.68
47.7	0.03	-0.12	0.03	0.37	0.48	0.31	-1603.74	-1826.09	-1633.65
47.8	0.11	0.26	0.10	0.13	0.29	0.25	-1718.86	-1785.79	-1726.33
47.9	0.08	0.36	0.11	0.34	0.29	0.35	-1774.76	-1512.70	-1772.99
48.0	0.19	0.07	0.15	0.32	0.48	0.24	-1635.97	-1919.92	-1632.11
48.1	0.11	0.07	0.07	0.44	0.10	0.42	-1604.91	-1555.29	-1605.72
48.2	0.14	-0.02	0.11	0.38	0.29	0.41	-1581.54	-1553.51	-1572.66
48.3	-0.08	0.17	0.04	0.51	0.76	0.54	-1618.29	-1554.51	-1608.92
48.4	0.00	0.07	0.05	0.39	0.19	0.45	-1508.81	-1692.14	-1544.98
48.5	0.11	0.08	0.03	0.49	0.57	0.54	-1618.85	-1325.23	-1594.67
48.6	0.11	-0.02	0.08	0.85	0.85	0.65	-1627.81	-1825.95	-1604.39
48.7	-0.08	-0.21	-0.05	0.44	0.38	0.53	-1476.38	-1596.41	-1526.01
48.8	0.14	0.46	0.12	0.66	0.76	0.65	-1673.23	-1329.36	-1650.95
48.9	0.03	0.26	0.00	0.74	0.67	0.76	-1650.74	-1784.34	-1624.91

Table B-2 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
FIRST DERIVATIVE

SYNC TIME MIN	ELEVATION ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	AZIMUTH ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	SLANT RANGE (METERS/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN
49.0	0.03	-0.02	0.13	0.88	0.67	0.82	-1440.05	-1597.80	-1476.90
49.1	0.11	-0.02	0.04	0.63	0.76	0.72	-1614.27	-1597.42	-1625.47
49.2	0.22	-0.02	0.13	0.77	0.76	0.65	-1819.39	-1505.93	-1784.02
49.3	0.03	0.36	0.16	0.52	0.86	0.70	-1591.04	-1830.37	-1615.59
49.4	0.11	-0.02	0.07	0.88	0.29	0.62	-1709.45	-1553.30	-1701.98
49.5	0.14	-0.02	0.12	0.63	0.86	0.73	-1788.46	-1734.00	-1784.33
49.6	0.08	-0.02	0.10	0.63	0.67	0.75	-1781.37	-1780.38	-1782.09
49.7	0.22	0.07	0.13	0.44	0.57	0.41	-1652.06	-1827.64	-1680.67
49.8	0.00	-0.02	0.11	0.69	0.48	0.62	-1874.36	-1643.91	-1837.65
49.9	0.14	0.17	0.08	0.49	0.76	0.60	-1910.95	-1873.73	-1927.27
50.0	0.06	0.17	0.13	0.60	0.29	0.42	-1869.89	-1875.62	-1861.77
50.1	0.14	0.36	0.04	0.22	0.57	0.31	-1733.06	-1739.68	-1715.50
50.2	0.11	0.17	0.07	0.52	0.76	0.51	-1645.76	-1873.59	-1677.59
50.3	-0.03	0.17	0.18	0.60	0.20	0.62	-1773.86	-1738.82	-1746.04
50.4	0.19	-0.02	0.12	0.44	0.57	0.56	-1709.82	-1597.64	-1699.07
50.5	0.22	0.36	0.06	0.49	0.86	0.35	-1577.55	-1555.42	-1623.10
50.6	-0.01	0.08	0.14	0.49	0.48	0.46	-1709.87	-1736.32	-1686.42
50.7	0.01	0.08	0.05	0.38	0.48	0.40	-1700.73	-1690.58	-1664.94
50.8	0.09	0.74	0.03	0.28	0.39	0.46	-1518.12	-1836.45	-1564.78
50.9	0.06	-0.21	0.05	0.63	0.38	0.45	-1563.59	-1413.12	-1559.64
51.0	0.25	-0.21	0.08	0.44	0.38	0.40	-1622.81	-1550.25	-1602.83
51.1	0.00	0.17	-0.02	0.25	0.58	0.37	-1412.89	-1645.53	-1428.41
51.2	-0.22	0.08	0.03	0.41	0.29	0.43	-1312.04	-1508.50	-1325.94
51.3	0.13	-0.01	0.06	0.49	0.57	0.45	-1459.70	-1185.94	-1441.18
51.4	0.01	0.08	-0.01	0.42	0.48	0.43	-1411.68	-1553.28	-1407.25
51.5	-0.03	0.08	-0.01	0.36	0.29	0.37	-1330.52	-1325.59	-1346.61
51.6	0.06	0.08	0.02	0.49	0.57	0.48	-1453.86	-1461.35	-1445.04
51.7	0.00	-0.01	-0.01	0.38	0.38	0.34	-1453.91	-1278.20	-1436.69
51.8	-0.19	0.08	-0.01	0.36	0.29	0.30	-1390.10	-1599.86	-1391.75
51.9	0.11	-0.01	0.01	0.60	0.29	0.66	-1191.90	-1278.65	-1225.72
52.0	0.03	0.08	0.01	0.44	0.57	0.51	-1272.19	-1324.11	-1257.01
52.1	-0.03	-0.01	-0.04	0.52	0.57	0.44	-1325.95	-1140.03	-1319.[illegible]5
52.2	0.00	-0.11	0.03	0.58	0.58	0.54	-1216.33	-1413.11	-1219.87
52.3	0.08	0.08	0.00	0.49	0.38	0.53	-1261.76	-1096.41	-1287.59
52.4	-0.11	-0.11	-0.06	0.55	0.76	0.61	-1417.50	-1274.91	-1397.32
52.5	-0.06	-0.01	-0.02	0.41	0.48	0.41	-1417.25	-1414.70	-1412.02
52.6	0.03	0.08	-0.03	0.49	0.48	0.57	-1303.32	-1553.01	-1325.79
52.7	-0.06	0.08	0.05	0.74	0.48	0.60	-1499.54	-1552.99	-1440.81
52.8	0.05	-0.20	-0.03	0.30	0.76	0.45	-1485.99	-1136.41	-1514.46
52.9	-0.04	0.18	-0.04	0.58	0.20	0.54	-1572.82	-1464.25	-1574.75
53.0	0.06	0.08	0.07	0.53	1.05	0.50	-1404.48	-1549.73	-1430.47
53.1	-0.03	-0.20	-0.07	0.65	0.10	0.55	-1512.22	-1414.32	-1499.42
53.2	-0.08	0.08	-0.01	0.52	0.48	0.62	-1532.71	-1552.86	-1521.58
53.3	0.08	0.08	-0.04	0.66	0.96	0.66	-1544.44	-1504.39	-1553.70
53.4	-0.01	-0.40	0.07	0.66	0.77	0.56	-1600.45	-1590.94	-1602.95
53.5	-0.05	-0.02	0.05	0.38	0.48	0.55	-1700.59	-1688.72	-1673.19
53.6	0.03	0.27	-0.06	0.65	0.48	0.54	-1508.83	-1555.10	-1545.37
53.7	0.01	-0.30	0.04	0.56	0.86	0.51	-1645.99	-1545.70	-1641.42
53.8	0.02	0.37	0.01	0.36	0.29	0.40	-1673.24	-1694.52	-1650.34
53.9	-0.03	-0.11	0.00	0.27	0.29	0.40	-1646.38	-1460.02	-1657.97
54.0	0.08	0.18	0.01	0.49	0.48	0.38	-1604.79	-1645.25	-1614.08
54.1	0.06	0.08	-0.02	0.36	0.58	0.38	-1672.92	-1643.46	-1653.95
54.2	-0.14	-0.11	0.02	0.36	0.10	0.31	-1618.43	-1735.47	-1630.74
54.3	0.11	-0.11	0.01	0.30	0.77	0.44	-1648.46	-1548.44	-1648.01
54.4	0.00	0.18	0.01	0.49	0.01	0.35	-1611.95	-1648.16	-1606.90
54.5	0.19	0.18	0.08	0.27	0.29	0.21	-1604.75	-1692.08	-1616.16
54.6	-0.08	-0.01	0.01	0.19	0.58	0.30	-1599.81	-1596.47	-1586.39
54.7	0.14	0.18	-0.01	0.51	0.29	0.48	-1513.64	-1600.62	-1519.18
54.8	-0.17	0.08	0.00	0.18	0.48	0.20	-1504.37	-1323.90	-1492.89
54.9	-0.11	-0.21	-0.09	0.49	0.29	0.39	-1357.97	-1687.33	-1360.89
55.0	-0.06	-0.11	0.02	0.36	0.10	0.39	-1266.41	-1461.15	-1278.12
55.1	-0.05	0.08	-0.04	0.30	0.77	0.42	-1367.24	-1276.27	-1342.95
55.2	0.05	-0.11	-0.04	0.36	0.29	0.42	-1293.79	-1277.02	-1313.75
55.3	-0.16	-0.20	-0.02	0.44	0.39	0.37	-1376.51	-1183.76	-1354.24
55.4	0.09	-0.11	-0.02	0.66	0.48	0.48	-1312.20	-1412.87	-1331.46
55.5	-0.12	-0.68	-0.08	0.36	0.48	0.40	-1284.46	-1314.32	-1303.38
55.6	-0.03	0.18	-0.04	0.27	0.29	0.43	-1362.58	-1234.80	-1345.80
55.7	0.06	-0.11	0.02	0.63	0.86	0.55	-1444.89	-1410.21	-1432.85
55.8	0.03	-0.11	0.04	0.41	0.39	0.45	-1422.07	-1504.86	-1437.47
55.9	-0.03	-0.11	0.02	0.49	0.58	0.54	-1371.73	-1183.50	-1384.34
56.0	0.03	0.37	0.00	0.69	0.58	0.52	-1442.56	-1600.84	-1431.91
56.1	-0.03	0.08	-0.04	0.44	0.48	0.56	-1478.93	-1232.19	-1473.14
56.2	0.00	0.08	0.05	0.58	0.48	0.49	-1362.44	-1597.90	-1371.90
56.3	-0.03	-0.01	-0.04	0.60	0.39	0.55	-1403.30	-1414.51	-1402.79
56.4	0.08	-0.87	0.00	0.25	0.77	0.32	-1510.05	-1492.53	-1478.81
56.5	-0.05	0.37	0.02	0.32	0.39	0.39	-1311.41	-1464.93	-1351.56
56.6	-0.05	0.28	0.01	0.49	0.39	0.44	-1344.06	-1280.85	-1347.54
56.7	0.17	-0.01	0.03	0.41	0.48	0.39	-1293.93	-1459.46	-1285.59
56.8	-0.05	0.18	-0.05	0.49	0.29	0.46	-1275.41	-1188.90	-1262.83
56.9	-0.14	-0.01	0.02	0.49	0.67	0.55	-1170.75	-1183.70	-1182.94

Table B-2 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
FIRST DERIVATIVE

SYNC TIME MIN	ELEVATION ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	AZIMUTH ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	SLANT RANGE (METERS/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN
57.0	0.03	0.37	-0.07	0.63	0.48	0.53	-1248.12	-1281.23	-1237.85
57.1	0.06	-0.01	-0.03	0.27	0.48	0.51	-1266.62	-1322.21	-1266.31
57.2	0.00	0.09	-0.01	0.63	0.39	0.49	-1211.71	-1095.50	-1219.80
57.3	-0.19	0.28	-0.01	0.55	0.58	0.64	-1202.22	-1233.53	-1221.71
57.4	0.17	-0.11	-0.03	0.69	0.58	0.61	-1362.67	-1274.52	-1295.70
57.5	-0.09	-0.20	0.00	0.55	0.86	0.62	-1225.26	-1225.38	-1245.56
57.6	0.06	-0.20	-0.03	0.69	0.48	0.65	-1165.84	-1365.44	-1200.58
57.7	-0.08	-0.10	0.04	0.69	0.67	0.70	-1289.34	-1045.07	-1282.50
57.8	-0.04	-0.01	-0.04	0.58	0.77	0.60	-1367.17	-1365.46	-1325.67
57.9	-0.01	-0.11	-0.01	0.44	0.48	0.39	-1156.97	-1320.80	-1230.61
58.0	0.02	-0.01	0.04	0.69	0.67	0.49	-1325.67	-1091.83	-1288.44
58.1	0.00	0.09	-0.02	0.23	0.29	0.44	-1297.63	-1324.65	-1278.51
58.2	0.11	-0.01	0.02	0.38	0.58	0.38	-1291.29	-1321.13	-1293.05
58.3	-0.05	0.28	0.00	0.41	0.39	0.39	-1233.64	-1417.63	-1250.82
58.4	-0.08	0.37	0.02	0.33	0.20	0.38	-1257.07	-1100.33	-1272.15
58.5	-0.05	-0.78	-0.10	0.30	0.39	0.25	-1316.58	-1267.53	-1305.56
58.6	0.17	0.37	0.10	0.38	0.49	0.27	-1321.56	-1372.26	-1315.68
58.7	-0.08	0.37	-0.03	0.16	0.20	0.26	-1303.06	-1374.61	-1296.11
58.8	0.06	-0.49	0.01	0.27	0.29	0.23	-1263.68	-1226.10	-1277.54
58.9	-0.03	-0.01	0.02	0.14	0.20	0.22	-1246.58	-1187.04	-1208.02
59.0	0.08	0.57	0.03	0.25	0.29	0.26	-1156.57	-1193.27	-1185.87
59.1	-0.11	-0.20	-0.03	0.35	0.39	0.21	-1143.05	-1274.52	-1128.45
59.2	0.06	-0.01	0.01	-0.02	0.10	0.14	-1010.54	-1050.68	-1034.19
59.3	-0.28	-0.87	-0.11	0.52	0.29	0.33	-1015.11	-1129.91	-981.22
59.4	0.06	0.38	-0.03	0.27	0.10	0.34	-964.55	-918.24	-976.24
59.5	0.17	0.18	-0.06	0.16	0.29	0.30	-808.90	-1051.40	-812.86
59.6	-0.08	0.09	-0.04	0.44	0.39	0.48	-900.99	-820.82	-930.63
59.7	-0.08	-0.20	-0.01	0.52	0.67	0.38	-978.71	-814.81	-965.21
59.8	-0.10	-0.20	-0.06	0.62	0.29	0.44	-929.28	-955.23	-933.48
59.9	0.10	-0.01	-0.01	0.32	0.29	0.44	-872.14	-957.57	-869.41
60.0	0.00	0.28	0.04	0.38	0.77	0.49	-891.72	-865.49	-899.28
60.1	-0.08	0.09	-0.02	0.41	0.29	0.48	-1019.56	-913.00	-995.96
60.2	-0.08	-0.20	-0.01	0.54	0.58	0.46	-1024.38	-998.37	-1021.02
60.3	0.06	-0.10	-0.01	0.31	0.39	0.28	-950.99	-1046.93	-987.92
60.4	0.11	-0.01	-0.02	0.41	0.39	0.43	-1083.35	-1002.37	-1056.44
60.5	-0.02	0.09	0.05	0.41	0.39	0.38	-1142.89	-1003.53	-1127.43
60.6	-0.20	0.18	0.07	0.57	0.39	0.53	-951.65	-1278.99	-1038.17
60.7	0.30	-0.01	-0.01	0.33	0.39	0.46	-1233.74	-773.74	-1168.55
60.8	-0.08	-0.01	-0.02	0.47	0.77	0.49	-1168.72	-1318.86	-1145.19
60.9	0.03	0.37	-0.01	0.44	0.29	0.40	-1076.65	-1236.42	-1109.67
61.0	0.17	0.09	0.06	0.19	0.48	0.33	-1233.92	-1094.00	-1216.90
61.1	-0.25	0.09	-0.07	0.38	0.48	0.25	-1125.19	-1093.97	-1130.62
61.2	-0.08	-0.49	-0.08	0.30	0.01	0.27	-987.55	-1091.36	-991.07
61.3	-0.14	-0.10	-0.09	0.27	0.20	0.25	-978.28	-957.12	-983.02
61.4	-0.03	-0.20	-0.04	0.25	0.39	0.25	-937.28	-1045.60	-918.11
61.5	0.00	-0.10	-0.05	0.45	0.20	0.32	-860.09	-865.67	-859.77
61.6	-0.19	-0.29	-0.16	0.05	0.20	0.21	-786.71	-1000.46	-820.77
61.7	-0.16	0.19	-0.11	0.25	0.39	0.15	-927.69	-730.25	-890.33
61.8	0.00	-0.39	-0.06	0.19	0.20	0.19	-877.86	-907.83	-890.89
61.9	-0.14	-0.39	-0.16	0.30	0.29	0.21	-827.73	-906.92	-828.38
62.0	-0.02	-0.49	-0.12	0.03	0.10	0.15	-832.19	-816.08	-835.97
62.1	-0.28	0.47	-0.18	0.03	0.20	0.17	-874.59	-872.74	-876.99
62.2	0.11	-0.01	-0.10	0.47	0.10	0.18	-899.63	-1004.87	-863.18
62.3	-0.36	-0.58	-0.16	-0.08	0.10	0.13	-699.86	-769.17	-724.95
62.4	-0.14	0.09	-0.15	0.25	0.29	0.21	-665.40	-638.51	-669.37
62.5	-0.22	-0.29	-0.21	0.05	0.20	0.08	-701.78	-771.80	-685.39
62.6	-0.19	-0.87	-0.19	0.38	0.10	0.16	-672.08	-719.81	-672.91
62.7	-0.14	0.09	-0.16	-0.05	0.00	0.19	-694.85	-549.80	-712.50
62.8	-0.11	-0.01	-0.15	0.38	0.29	0.23	-768.56	-865.89	-752.02
62.9	-0.22	-0.48	-0.21	0.03	0.00	0.10	-653.65	-588.32	-658.83
63.0	-0.17	-0.68	-0.19	0.08	0.39	0.17	-736.40	-656.53	-745.82
63.1	-0.25	0.96	-0.11	0.25	0.00	0.09	-585.09	-560.64	-603.64
63.2	-0.19	-0.96	-0.20	0.11	0.10	0.28	-654.21	-627.08	-624.02
63.3	-0.08	-0.20	-0.23	0.22	0.39	0.11	-553.21	-588.23	-546.56
63.4	-0.17	0.67	-0.18	0.05	0.29	0.20	-425.48	-508.57	-448.32
63.5	-0.38	-0.68	-0.19	0.16	0.29	0.17	-475.26	-628.81	-475.93
63.6	-0.06	-0.77	-0.15	0.08	0.00	0.10	-443.50	-310.31	-430.21
63.7	-0.14	0.67	-0.26	0.38	0.20	0.24	-434.82	-509.53	-448.47
63.8	-0.25	0.09	-0.19	0.16	0.29	0.21	-457.43	-318.44	-449.10
63.9	-0.31	-0.96	-0.18	0.22	0.19	0.19	-360.92	-580.31	-369.16
64.0	-0.24	0.48	-0.19	0.25	0.00	0.25	-329.52	-234.67	-342.06
64.1	0.00	-0.10	-0.17	0.25	0.58	0.27	-457.20	-358.91	-443.73
64.2	-0.22	0.09	-0.17	0.19	0.29	0.22	-521.26	-409.85	-506.86
64.3	-0.19	-1.16	-0.18	0.14	0.29	0.27	-476.08	-531.14	-498.65
64.4	-0.16	1.53	-0.18	0.44	0.29	0.20	-543.93	-565.25	-549.46
64.5	-0.22	-0.68	-0.19	0.22	0.00	0.25	-608.22	-585.82	-550.34
64.6	-0.30	-0.29	-0.30	-0.24	0.00	-0.05	-389.60	-544.95	-417.12
64.7	-0.06	-0.48	-0.07	0.21	0.10	0.19	-463.58	-358.68	-483.57
64.8	-0.16	-0.20	-0.18	0.47	0.19	0.11	-454.75	-498.54	-429.48
64.9	-0.19	-0.58	-0.13	-0.25	-0.09	0.03	-356.69	-405.03	-366.13

Table B-2 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
FIRST DERIVATIVE

SYNC TIME MIN	ELEVATION ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	AZIMUTH ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	SLANT RANGE (METERS/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN
65.0	-0.05	-0.68	-0.19	0.03	0.38	0.09	-329.22	-399.01	-360.06
65.1	-0.27	1.53	-0.20	0.24	0.01	0.08	-287.68	-476.86	-272.54
65.2	-0.19	-1.06	-0.18	-0.38	0.09	-0.07	-211.03	-168.40	-203.23
65.3	-0.12	-0.77	-0.20	0.25	0.00	-0.05	-306.36	-172.97	-312.77
65.4	-0.18	1.44	-0.19	-0.03	0.10	0.02	-370.51	-337.57	-365.69
65.5	-0.16	-1.06	-0.17	-0.11	-0.10	-0.14	-360.92	-398.85	-359.52
65.6	-0.19	-1.64	-0.17	-0.05	0.00	0.01	-282.46	-390.29	-280.66
65.7	-0.33	1.25	-0.19	-0.08	-0.09	-0.10	-261.82	-382.89	-285.66
65.8	0.00	0.00	-0.13	-0.05	0.00	-0.03	-388.89	-137.15	-373.80
65.9	-0.25	-0.39	-0.17	-0.19	-0.09	-0.07	-429.84	-453.15	-354.47
66.0	-0.14	0.09	-0.13	0.14	-0.19	0.02	-264.12	-414.59	-335.30
66.1	-0.27	0.09	-0.29	0.05	-0.09	0.06	-393.58	-185.06	-407.42
66.2	0.03	-0.96	-0.24	0.22	0.00	0.04	-380.39	-353.26	-342.07
66.3	-0.30	-1.83	-0.11	0.08	0.09	0.17	-151.39	-340.84	-164.08
66.4	-0.30	1.53	-0.28	0.17	0.39	0.29	-141.87	-382.13	-156.21
66.5	-0.25	-0.77	-0.22	0.30	0.09	0.24	-182.31	11.02	-177.90
66.6	-0.25	-0.48	-0.16	0.08	0.38	0.14	-119.84	-172.73	-103.26
66.7	-0.17	0.96	-0.28	0.57	0.39	0.43	-36.31	-100.22	-83.12
66.8	-0.27	0.09	-0.26	0.20	0.29	0.26	-151.00	-226.96	-134.58
66.9	-0.36	-1.35	-0.28	0.27	0.29	0.30	-219.35	-70.87	-185.05
67.0	-0.19	0.19	-0.26	0.41	0.29	0.34	-128.71	-136.79	-164.97
67.1	-0.28	0.10	-0.21	0.00	0.19	0.13	-178.29	92.10	-173.04
67.2	-0.05	0.09	-0.20	0.30	0.19	0.26	-274.09	-365.06	-263.88
67.3	-0.22	-0.48	-0.25	0.16	0.29	0.18	-306.36	-402.20	-297.72
67.4	-0.39	-0.19	-0.21	0.33	0.10	0.18	-292.91	-270.79	-307.35
67.5	-0.19	-0.19	-0.19	0.05	0.19	0.21	-343.42	-269.81	-342.82
67.6	-0.25	-0.19	-0.20	0.14	0.10	0.12	-434.57	-316.49	-403.22
67.7	-0.16	-0.29	-0.25	0.27	0.10	0.14	-319.95	-360.93	-335.15
67.8	-0.17	-0.10	-0.22	0.14	0.10	0.16	-329.06	-317.76	-355.79
67.9	-0.22	-0.39	-0.27	0.00	0.19	0.09	-402.87	-450.09	-382.52
68.0	-0.30	-0.77	-0.20	0.10	0.10	0.14	-309.02	-354.47	-318.08
68.1	-0.33	0.09	-0.29	0.26	0.10	0.12	-202.99	-320.32	-243.08
68.2	-0.19	-0.87	-0.20	0.11	0.10	0.03	-347.90	-215.97	-293.64
68.3	-0.19	-0.48	-0.37	-0.19	0.00	-0.06	-233.17	-359.24	-241.66
68.4	-0.30	0.09	-0.20	0.19	0.00	0.09	-171.97	-184.17	-190.85
68.5	-0.41	0.09	-0.28	0.11	0.29	0.13	-244.21	-272.65	-228.97
68.6	0.05	-0.77	-0.21	0.19	0.10	0.22	-242.51	-217.18	-190.93
68.7	-0.41	-1.73	-0.29	0.11	0.00	0.21	49.77	-204.93	-24.44
68.8	-0.17	-0.19	-0.12	0.47	0.29	0.32	-237.19	-222.98	-217.43
68.9	-0.14	-0.19	-0.27	0.16	0.38	0.24	-238.37	-130.55	-237.19
69.0	-0.33	-0.19	-0.20	0.27	0.38	0.32	-279.32	-130.53	-270.81
69.1	-0.16	0.67	-0.22	0.26	0.48	0.33	-237.51	-232.87	-250.28
69.2	-0.22	0.19	-0.13	0.29	0.29	0.26	-333.36	-136.79	-329.25
69.3	-0.19	-0.10	-0.21	0.41	0.19	0.36	-434.41	-316.69	-399.82
69.4	-0.33	-0.48	-0.16	0.14	0.29	0.15	-370.99	-447.54	-406.88
69.5	-0.08	-0.10	-0.19	0.08	0.19	0.16	-456.90	-408.11	-455.55
69.6	0.00	0.38	-0.13	0.25	0.39	0.13	-507.44	-504.13	-488.35
69.7	-0.19	-0.39	-0.18	0.00	0.10	-0.03	-308.75	-450.86	-346.32
69.8	-0.03	-0.10	-0.26	-0.05	0.10	-0.03	-345.29	-363.39	-325.29
69.9	-0.45	0.38	-0.14	0.05	0.10	0.02	-311.02	-324.30	-299.93
70.0	-0.17	-0.48	-0.24	-0.22	0.10	-0.09	-233.35	-312.38	-247.72
70.1	-0.37	-0.10	-0.24	0.00	0.00	-0.12	-270.25	-272.97	-283.64
70.2	0.05	-0.19	-0.19	0.05	-0.19	0.04	-320.15	-90.80	-284.65
70.3	-0.25	0.00	-0.18	-0.16	-0.19	-0.03	-187.20	-367.75	-222.73
70.4	-0.33	-1.83	-0.22	-0.12	-0.19	-0.02	-247.23	-342.33	-250.42
70.5	-0.09	0.77	-0.24	0.22	-0.09	-0.01	-320.04	-194.62	-256.52
70.6	-0.13	-0.48	-0.14	-0.05	0.00	0.06	-59.61	-221.87	-113.80
70.7	-0.29	-0.10	-0.24	0.11	0.00	0.09	-169.15	-135.80	-135.16
70.8	-0.20	-0.19	-0.23	0.03	0.00	-0.03	-114.28	-88.74	-130.37
70.9	-0.25	-0.87	-0.21	0.19	0.00	0.19	-45.97	-124.99	-59.25
71.0	-0.44	1.25	-0.29	-0.05	0.29	0.18	-13.98	-105.94	-16.08
71.1	-0.30	-0.38	-0.26	0.11	0.19	0.02	-64.17	98.83	-49.88
71.2	0.08	-1.64	-0.13	0.47	0.09	0.16	-8.89	-113.11	6.07
71.3	-0.28	0.48	-0.22	0.11	0.19	0.31	18.04	40.94	-27.59
71.4	-0.13	0.48	-0.18	0.55	0.10	0.27	-93.30	-188.63	-59.86
71.5	-0.18	-1.44	-0.15	0.00	0.28	0.32	-108.03	23.44	-109.40
71.6	-0.30	1.44	-0.27	0.41	0.48	0.35	-32.15	-61.01	-76.84
71.7	-0.14	-0.58	-0.15	0.16	0.29	0.22	-246.89	-80.23	-198.54
71.8	-0.18	-0.87	-0.16	0.19	0.38	0.25	-128.28	-212.22	-143.12
71.9	-0.20	1.44	-0.19	0.19	0.10	0.39	-91.10	-202.22	-130.65
72.0	-0.14	-0.39	-0.13	0.69	0.38	0.32	-352.47	-173.32	-300.63
72.1	-0.16	-1.06	-0.25	0.30	0.29	0.36	-237.76	-119.08	-237.33
72.2	-0.18	0.57	-0.14	0.19	0.39	0.26	-123.39	-369.76	-149.81
72.3	-0.15	-0.48	-0.18	0.38	0.29	0.21	-237.99	-81.50	-192.27
72.4	-0.41	-0.58	-0.27	-0.08	0.10	0.23	-63.58	-310.77	-76.13
72.5	-0.06	0.00	-0.16	0.14	0.19	0.18	99.71	47.80	46.37
72.6	-0.25	-0.10	-0.23	0.36	0.19	0.25	-73.22	186.32	-40.36
72.7	-0.16	-0.29	-0.24	0.25	0.29	0.15	-123.32	-267.04	-106.77
72.8	-0.16	-0.39	-0.13	0.05	0.10	0.13	-91.37	-84.89	-107.22
72.9	-0.31	0.19	-0.29	0.22	0.10	0.17	-196.86	-230.28	-189.20

Table B-2 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
FIRST DERIVATIVE

SYNC TIME MIN	ELEVATION ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	AZIMUTH ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	SLANT RANGE (METERS/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN
73.0	-0.11	-0.48	-0.18	0.14	0.19	0.14	-173.93	-128.16	-170.20
73.1	-0.25	-0.10	-0.23	0.19	0.10	0.06	-137.57	-180.43	-162.32
73.2	-0.30	-0.39	-0.20	-0.11	0.29	0.02	-72.90	-37.03	-77.35
73.3	-0.15	-0.77	-0.20	0.00	0.09	0.05	-100.53	-125.00	-88.09
73.4	-0.18	0.00	-0.21	0.16	0.00	0.08	-100.82	0.00	-87.91
73.5	-0.27	0.10	-0.20	0.14	0.00	0.08	-54.83	-47.11	-61.99
73.6	-0.22	-1.73	-0.28	0.11	0.09	0.19	49.92	-110.93	39.89
73.7	-0.30	0.96	-0.15	0.25	0.10	0.21	13.75	169.91	40.76
73.8	-0.14	-0.39	-0.29	0.11	0.29	0.19	118.53	-311.24	111.87
73.9	-0.27	-1.06	-0.35	0.49	0.19	0.18	150.93	200.44	130.70
74.0	-0.33	0.29	-0.26	-0.25	0.19	0.12	123.41	180.76	126.96
74.1	-0.25	-1.06	-0.28	0.27	0.09	0.03	187.26	199.46	188.81
74.2	-0.36	0.58	-0.35	-0.05	0.10	0.07	260.23	84.01	242.73
74.3	-0.41	-0.48	-0.30	-0.08	0.19	-0.02	83.99	420.64	128.66
74.4	-0.20	-0.38	-0.30	-0.03	0.09	0.01	263.46	6.74	252.20
74.5	-0.47	0.20	-0.32	0.03	0.00	0.03	351.87	362.89	324.48
74.6	-0.31	0.10	-0.44	0.11	0.00	-0.02	292.93	455.74	322.78
74.7	0.04	-0.96	-0.16	-0.11	0.00	-0.09	242.26	105.64	277.04
74.8	-0.69	-1.35	-0.47	-0.02	0.09	-0.06	464.68	158.26	409.92
74.9	-0.41	1.16	-0.29	0.07	-0.10	0.05	371.39	621.76	387.02
75.0	-0.23	0.19	-0.30	-0.03	0.09	0.00	388.69	363.94	432.63
75.1	-0.15	-0.67	-0.27	-0.03	-0.10	-0.07	455.66	374.66	415.38
75.2	-0.47	-0.48	-0.42	0.08	0.00	0.20	421.70	464.33	435.28
75.3	-0.36	-0.09	-0.31	0.08	-0.10	0.10	544.03	366.10	519.67
75.4	-0.30	-1.05	-0.40	0.08	-0.01	0.10	511.97	518.74	502.31
75.5	-0.14	0.19	-0.24	-0.04	0.09	0.05	498.19	272.47	489.24
75.6	-0.58	-1.24	-0.43	0.31	0.09	0.03	361.24	705.66	374.16
75.7	-0.39	0.29	-0.37	0.03	0.00	0.16	388.41	361.36	387.19
75.8	-0.30	-0.09	-0.33	0.05	0.00	0.09	237.30	367.18	249.58
75.9	-0.36	-0.58	-0.27	0.22	0.00	0.06	251.23	191.61	229.65
76.0	-0.36	0.29	-0.40	-0.05	0.09	0.09	260.71	270.98	251.96
76.1	-0.19	-0.96	-0.31	0.00	0.09	0.13	109.59	335.70	144.34
76.2	-0.36	-0.38	-0.34	0.27	0.09	0.04	287.77	144.09	262.17
76.3	-0.47	0.10	-0.31	0.03	0.19	0.15	288.18	183.53	286.93
76.4	-0.30	-0.67	-0.36	-0.05	0.19	0.06	137.07	286.74	163.99
76.5	-0.30	-0.77	-0.33	0.36	0.00	0.07	283.64	57.55	258.44
76.6	-0.33	1.06	-0.33	0.16	0.19	0.22	99.94	168.75	120.32
76.7	-0.29	-2.50	-0.28	0.05	-0.01	0.12	255.32	84.30	247.82
76.8	-0.23	0.29	-0.29	0.33	0.29	0.24	151.75	318.74	143.41
76.9	-0.47	0.77	-0.32	0.11	0.48	0.21	86.30	176.33	101.55
77.0	-0.25	-1.15	-0.35	0.19	0.00	0.25	191.93	200.75	173.42
77.1	-0.22	0.39	-0.31	0.05	0.10	0.24	64.15	223.68	88.84
77.2	-0.39	-0.77	-0.27	0.52	0.48	0.19	36.42	108.80	23.11
77.3	-0.25	0.09	-0.32	0.22	0.29	0.34	209.69	-135.39	197.70
77.4	-0.28	0.29	-0.25	0.36	0.29	0.28	-31.22	364.49	-0.77
77.5	-0.33	-1.73	-0.30	0.21	0.19	0.37	-82.55	-16.48	-96.96
77.6	-0.28	0.19	-0.20	0.44	0.29	0.41	8.57	-228.33	-1.16
77.7	-0.14	-0.67	-0.32	0.22	0.38	0.15	-55.08	60.68	-33.22
77.8	-0.36	-1.06	-0.23	0.22	0.28	0.25	-22.61	157.16	-37.49
77.9	-0.25	0.38	-0.35	0.22	0.19	0.28	-32.45	-186.76	-30.33
78.0	-0.30	-0.48	-0.19	0.00	0.38	-0.02	-45.61	-79.41	-40.11
78.1	-0.27	-0.39	-0.30	0.08	0.10	0.06	55.24	-84.22	44.60
78.2	-0.36	0.48	-0.25	0.19	0.00	0.17	49.11	-99.07	46.40
78.3	-0.17	0.77	-0.29	0.11	0.00	0.08	64.31	216.41	86.69
78.4	-0.25	-0.67	-0.28	0.05	0.00	0.04	151.22	147.79	143.70
78.5	-0.29	-0.67	-0.22	0.25	0.38	0.19	22.32	15.11	17.13
78.6	-0.25	0.67	-0.30	-0.03	0.10	0.05	-36.34	-9.58	-35.66
78.7	-0.30	-1.73	-0.22	0.16	-0.10	0.10	-64.13	-19.25	-43.04
78.8	-0.14	-0.19	-0.20	0.05	0.09	0.10	-118.84	95.62	-115.23
78.9	-0.28	0.00	-0.30	0.03	0.19	0.01	63.40	-134.93	30.53
79.0	-0.38	-0.10	-0.23	-0.03	0.00	0.13	-82.37	47.26	-37.20
79.1	-0.19	-0.48	-0.32	0.30	0.00	0.14	145.43	-266.57	70.12
79.2	-0.16	0.00	-0.19	0.11	0.19	0.12	-85.73	230.79	-41.70
79.3	-0.14	-0.19	-0.24	-0.11	0.10	-0.01	72.72	-178.66	72.95
79.4	-0.44	-0.10	-0.30	0.05	0.09	-0.01	178.47	94.09	171.49
79.5	-0.38	-0.67	-0.37	0.16	0.00	-0.05	164.56	102.30	172.82
79.6	-0.22	0.20	-0.28	-0.11	0.00	0.06	264.60	408.33	251.68
79.7	-0.36	-0.77	-0.28	-0.27	0.00	-0.14	169.27	241.03	198.07
79.8	-0.25	-0.96	-0.31	0.11	0.09	-0.18	379.71	199.62	329.53
79.9	-0.15	0.00	-0.36	-0.52	-0.10	-0.14	288.20	364.61	315.71
80.0	-0.31	-0.38	-0.30	0.08	-0.10	-0.16	341.99	325.18	343.65
80.1	-0.39	0.29	-0.29	-0.17	-0.77	-0.10	364.83	306.45	350.07
80.2	-0.32	0.10	-0.34	-0.19	-0.19	-0.17	302.95	316.23	312.17
80.3	-0.41	-1.05	-0.31	-0.14	-0.20	-0.08	406.73	380.85	405.74
80.4	-0.19	-0.28	-0.32	0.00	-0.10	-0.14	351.72	506.51	363.38
80.5	-0.49	-0.09	-0.43	-0.16	0.09	-0.02	383.62	276.97	391.45
80.6	-0.28	-0.48	-0.25	0.08	-0.10	-0.07	429.95	372.55	414.18
80.7	-0.36	-0.86	-0.43	-0.09	-0.01	0.02	443.39	517.19	451.72
80.8	-0.30	1.35	-0.28	0.09	-1.91	0.03	324.86	275.99	324.66
80.9	-0.33	-0.96	-0.30	0.05	1.91	0.05	378.83	494.78	372.85

Table B-2 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
FIRST DERIVATIVE

SYNC	ELEVATION ANGLE (DEG/MIN)			AZIMUTH ANGLE (DEG/MIN)			SLANT RANGE (METERS/MIN)		
TIME	FPS-16	GMD-2	FPS-16	FPS-16	GMD-2	FPS-16	FPS-16	GMD-2	FPS-16
MIN	MEAS	TRANS	MEAN	MEAS	TRANS	MEAN	MEAS	TRANS	MEAN
81.0	-0.19	0.39	-0.29	0.11	0.00	0.07	324.58	405.07	314.25
81.1	-0.55	-1.63	-0.38	0.05	-0.01	0.05	343.53	118.57	345.48
81.2	-0.41	0.19	-0.28	0.00	0.00	0.15	214.49	271.08	221.38
81.3	-0.14	-0.19	-0.32	0.16	0.09	-0.03	228.28	324.31	242.70
81.4	-0.30	-0.29	-0.30	-0.22	0.29	0.00	406.98	190.97	376.91
81.5	-0.33	-1.44	-0.40	0.03	0.18	-0.10	324.47	849.26	356.83
81.6	-0.54	0.10	-0.38	-0.08	0.00	-0.04	444.00	-1.62	428.93
81.7	-0.32	0.20	-0.36	-0.03	0.00	-0.02	351.10	362.48	347.97
81.8	-0.32	-0.57	-0.38	-0.11	0.00	-0.04	311.20	329.72	333.50
81.9	-0.39	-0.57	-0.33	0.14	-0.10	-0.05	497.90	374.37	469.47
82.0	-0.41	0.20	-0.42	-0.05	-0.10	0.04	480.01	361.37	485.03
82.1	-0.27	-0.28	-0.40	-0.16	-0.10	-0.20	411.55	598.08	447.29
82.2	-0.50	-2.59	-0.37	0.00	-0.11	0.17	511.96	454.62	469.96
82.3	-0.28	2.22	-0.37	0.08	-0.09	-0.15	344.74	464.00	356.64
82.4	-0.38	-1.53	-0.33	-0.08	-0.01	0.00	359.78	437.66	357.92
82.5	-0.43	-1.44	-0.38	-0.14	-0.01	-0.03	286.86	253.36	273.19
82.6	-0.29	1.25	-0.31	0.00	0.00	-0.14	132.53	344.22	165.41
82.7	-0.30	-0.86	-0.33	-0.05	0.00	0.01	183.31	60.58	148.35
82.8	-0.19	-0.77	-0.28	0.08	0.00	0.03	-50.58	378.99	-29.11
82.9	-0.27	0.00	-0.20	-0.05	-0.09	0.02	4.46	-183.95	3.23
83.0	-0.33	0.10	-0.34	0.11	0.00	0.10	14.00	-47.38	5.35
83.1	-0.22	0.19	-0.21	0.03	0.00	0.02	-82.83	133.82	-75.92
83.2	-0.30	-1.15	-0.31	0.20	0.00	0.12	-4.77	-25.73	-13.95
83.3	-0.25	-0.10	-0.30	-0.34	0.00	-0.12	-72.85	-135.47	-66.52
83.4	-0.33	0.09	-0.27	0.20	0.10	0.06	91.15	-137.72	76.98
83.5	-0.11	0.19	-0.25	0.00	0.19	-0.12	-68.96	227.42	-44.60
83.6	-0.44	-0.87	-0.32	-0.16	0.00	-0.16	192.33	-122.09	175.59
83.7	-0.41	0.19	-0.41	-0.05	0.00	0.00	72.90	225.22	105.22
83.8	-0.33	-0.67	-0.32	-0.22	0.00	-0.09	278.80	103.18	251.22
83.9	-0.41	0.00	-0.30	0.00	-0.10	-0.14	292.34	227.48	298.43
84.0	-0.27	-0.77	-0.42	-0.11	-0.10	-0.15	297.11	332.39	309.44
84.1	-0.55	-0.48	-0.44	0.08	-0.10	-0.06	246.80	235.94	256.76
84.2	-0.21	0.58	-0.31	-0.25	-0.38	-0.18	329.24	259.80	297.30
84.3	-0.23	-1.25	-0.30	-0.25	-0.01	-0.08	324.75	342.02	331.00
84.4	-0.51	0.20	-0.41	-0.27	-0.10	-0.26	383.26	452.66	396.65
84.5	-0.48	-1.25	-0.41	-0.22	-0.20	-0.22	434.70	294.26	414.01
84.6	-0.33	0.58	-0.43	-0.22	-0.29	-0.24	447.91	352.24	449.79
84.7	-0.28	-1.92	-0.33	-0.16	-0.30	-0.19	553.10	579.60	543.79
84.8	-0.50	1.35	-0.49	-0.25	-0.09	-0.31	434.04	477.76	470.92
84.9	-0.69	-1.73	-0.44	-0.16	-0.39	-0.12	587.39	346.62	574.64
85.0	-0.19	0.78	-0.40	-0.32	-0.19	-0.25	615.63	669.80	576.75
85.1	-0.30	-2.97	-0.36	-0.29	-0.30	-0.22	438.09	599.07	470.56
85.2	-0.43	1.83	-0.36	-0.08	-0.09	-0.25	466.34	331.63	459.76
85.3	-0.40	-1.73	-0.41	-0.38	-0.39	-0.22	470.77	347.02	457.73
85.4	-0.36	-0.38	-0.36	-0.14	-0.20	-0.37	351.92	553.44	363.21
85.5	-0.36	-0.96	-0.41	-0.44	-0.20	-0.14	407.18	381.13	404.93
85.6	-0.36	1.25	-0.28	-0.08	-0.19	-0.21	255.34	477.97	266.75
85.7	-0.38	-1.73	-0.43	-0.36	-0.29	-0.31	324.83	-17.29	291.82
85.8	-0.33	-1.24	-0.23	0.03	-0.20	-0.17	173.88	432.32	208.40
85.9	-0.47	2.02	-0.43	-0.52	-0.19	-0.35	346.06	235.12	337.13
86.0	-0.14	-1.82	-0.29	-0.30	-0.29	-0.34	279.82	213.24	265.10
86.1	-0.52	0.29	-0.39	-0.38	-0.48	-0.47	160.22	446.62	189.44
86.2	-0.19	-0.09	-0.28	-0.25	-0.29	-0.24	306.15	181.51	292.26
86.3	-0.47	-0.38	-0.36	-0.44	-0.58	-0.38	297.14	366.60	302.21
86.4	-0.30	-1.84	-0.41	-0.19	5.64	-0.20	302.88	324.78	309.07
86.5	-0.36	1.46	-0.38	-0.49	-6.02	-0.49	319.49	226.78	307.95
86.6	-0.38	-2.01	-0.37	-0.19	-0.30	-0.21	420.12	354.48	413.32
86.7	-0.52	1.25	-0.45	-0.27	-0.38	-0.30	392.66	384.04	411.56
86.8	-0.27	-2.11	-0.48	-0.25	-0.20	-0.21	548.96	448.90	505.02
86.9	-0.47	0.97	-0.33	-0.19	-0.19	-0.12	369.74	437.09	415.98
87.0	-0.55	-0.86	-0.47	-0.14	-0.20	-0.24	626.24	471.32	598.56
87.1	-0.69	0.87	-0.54	-0.19	-0.19	-0.18	525.39	621.76	520.09
87.2	-0.27	-0.96	-0.47	-0.33	-0.10	-0.25	594.47	474.14	615.06
87.3	-0.44	-0.76	-0.45	-0.08	-0.20	-0.15	708.70	515.31	693.59
87.4	-0.52	-0.76	-0.56	-0.11	-0.39	-0.14	587.93	741.93	613.18
87.5	-0.61	-0.86	-0.19	-0.16	-0.10	-0.19	691.77	518.27	687.45
87.6	-0.44	-0.28	-0.70	-0.05	-0.01	-0.05	653.81	919.77	662.09
87.7	-0.39	0.97	-0.56	-0.22	-0.19	-0.12	694.87	482.58	693.94
87.8	-0.63	-1.24	-0.58	-0.08	-0.11	-0.13	773.17	845.61	742.64
87.9	-0.30	-1.24	-0.46	0.02	-0.01	-0.01	634.85	663.90	650.68
88.0	-0.69	-1.43	-0.50	-0.27	-0.20	-0.05	576.04	665.77	599.72
88.1	-0.41	-1.53	-0.45	0.25	-0.01	0.02	580.79	806.98	553.82
88.2	-0.41	2.02	-0.47	-0.08	-0.09	0.07	593.81	325.59	577.13
88.3	-0.55	-1.53	-0.45	0.30	-0.01	0.10	420.77	761.19	447.02
88.4	-0.37	-0.09	-0.48	-0.05	0.00	0.11	525.67	459.00	513.91
88.5	-0.51	-0.67	-0.45	0.11	-0.01	0.08	466.13	424.52	460.91
88.6	-0.30	-0.76	-0.36	-0.03	0.09	-0.16	516.39	518.87	512.58
88.7	-0.41	-0.76	-0.44	0.00	0.09	0.01	429.88	473.21	453.37
88.8	-0.62	-0.19	-0.52	-0.14	0.00	-0.08	672.66	278.06	643.32
88.9	-0.39	0.10	-0.51	0.00	0.09	-0.02	571.00	776.23	610.85

Table B-2 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
FIRST DERIVATIVE

SYNC TIME MIN	ELEVATION ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	AZIMUTH ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	SLANT RANGE (METERS/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN
89.0	-0.69	0.01	-0.51	-0.19	0.00	-0.20	685.46	457.13	673.03
89.1	-0.36	-1.72	-0.44	-0.14	-0.20	-0.13	530.05	672.15	526.78
89.2	-0.58	1.55	-0.52	-0.05	-0.29	-0.11	668.12	652.35	622.63
89.3	-0.44	-2.01	-0.42	-0.35	-0.30	-0.24	374.23	494.07	455.96
89.4	-0.50	0.49	-0.46	-0.23	-0.10	-0.32	694.96	446.61	667.58
89.5	-0.39	-1.72	-0.50	-0.14	-0.20	-0.10	653.46	718.17	636.41
89.6	-0.61	1.26	-0.56	-0.16	-0.29	-0.16	667.51	612.13	680.41
89.7	-0.47	-1.72	-0.50	-0.16	-0.20	-0.20	704.27	855.40	693.97
89.8	-0.55	-0.48	-0.55	-0.03	0.00	0.03	791.15	421.06	781.66
89.9	-0.36	0.30	-0.48	-0.19	-0.20	-0.09	703.89	815.09	718.76
90.0	-0.61	-0.95	-0.53	0.08	-0.10	-0.05	832.00	795.46	824.22
90.1	-0.58	-1.24	-0.61	-0.08	-0.01	0.05	742.18	893.79	741.15
90.2	-0.54	0.58	-0.54	0.36	0.00	0.14	734.25	582.60	745.60
90.3	-0.71	-0.28	-0.57	-0.16	-0.01	-0.03	680.67	737.24	684.02
90.4	-0.52	-0.85	-0.55	0.11	-0.01	0.06	653.87	794.66	640.79
90.5	-0.63	-0.86	-0.55	0.19	0.09	0.10	598.61	567.14	586.35
90.6	-0.38	0.10	-0.51	-0.18	0.00	-0.01	475.79	683.73	512.55
90.7	-0.58	-0.57	-0.53	-0.01	0.09	0.11	618.85	424.16	578.21
90.8	-0.36	-0.47	-0.45	0.25	-0.01	-0.01	414.03	741.24	428.49
90.9	-0.44	-1.63	-0.41	-0.08	0.09	0.01	388.82	400.27	407.22
91.0	-0.55	-0.28	-0.47	-0.11	0.00	-0.24	516.55	325.94	507.39
91.1	-0.36	-1.72	-0.47	-0.11	0.09	0.13	375.08	539.70	389.56
91.2	-0.61	1.64	-0.51	0.05	0.10	-0.10	483.95	332.78	453.73
91.3	-0.52	-2.01	-0.48	-0.33	-0.11	-0.16	452.86	635.20	478.25
91.4	-0.52	0.10	-0.58	0.10	-0.19	-0.01	579.55	316.04	555.89
91.5	-0.36	1.35	-0.41	-0.10	-0.19	-0.23	622.55	655.77	630.76
91.6	-0.66	-2.78	-0.57	-0.33	-0.11	-0.15	617.52	697.14	619.02
91.7	-0.39	1.16	-0.49	-0.05	-0.09	-0.10	694.53	523.44	686.73
91.8	-0.54	-0.95	-0.45	-0.14	-0.29	-0.14	484.02	702.90	509.93
91.9	-0.50	-0.57	-0.54	-0.16	-0.10	-0.12	635.19	559.69	610.75
92.0	-0.36	-0.09	-0.45	-0.05	-0.10	-0.07	503.76	458.18	497.76
92.1	-0.58	0.01	-0.42	0.16	0.00	0.03	439.30	411.41	458.79
92.2	-0.58	-0.95	-0.60	-0.27	-0.01	-0.12	539.12	431.67	532.20
92.3	-0.52	-1.15	-0.53	0.16	-0.01	0.04	489.04	481.55	485.75
92.4	-0.41	-0.86	-0.48	-0.05	-0.01	-0.02	424.89	521.23	437.49
92.5	-0.19	-1.05	-0.49	-0.19	-0.01	-0.17	384.19	616.84	385.41
92.6	-0.69	-0.86	-0.44	0.08	0.00	0.11	452.34	155.69	438.76
92.7	-0.41	-0.38	-0.44	-0.14	-0.10	-0.16	407.05	647.28	421.85
92.8	-0.61	-0.38	-0.50	0.05	-0.01	0.03	456.86	556.83	459.79
92.9	-0.42	1.25	-0.54	-0.11	0.00	0.01	562.23	384.54	523.01
93.0	-0.46	-1.34	-0.44	0.19	-0.10	-0.05	306.29	576.53	349.94
93.1	-0.52	-1.05	-0.42	0.01	0.09	0.01	429.80	206.66	398.78
93.2	-0.33	0.20	-0.46	-0.12	-0.10	0.06	292.55	360.57	285.66
93.3	-0.55	-1.24	-0.43	0.27	0.09	0.00	127.84	302.35	194.64
93.4	-0.47	-0.86	-0.45	-0.27	-0.10	-0.04	387.96	109.33	335.04
93.5	-0.33	-0.28	-0.43	0.16	0.00	0.20	256.62	417.71	272.45
93.6	-0.69	1.06	-0.56	-0.05	0.00	-0.02	443.20	342.62	416.84
93.7	-0.33	-1.91	-0.42	0.08	-0.01	-0.09	302.14	407.72	329.20
93.8	-0.58	1.25	-0.47	-0.14	0.00	0.03	456.63	201.20	429.90
93.9	-0.36	-0.09	-0.48	0.08	0.09	-0.07	297.73	551.59	324.98
94.0	-0.44	-1.05	-0.49	-0.30	0.00	-0.17	488.69	114.57	476.53
94.1	-0.50	-0.28	-0.43	0.00	-0.10	-0.08	392.94	599.63	388.59
94.2	-0.63	1.73	-0.47	0.03	0.00	-0.16	498.58	373.54	491.88
94.3	-0.41	-2.78	-0.59	-0.33	-0.39	-0.11	460.95	377.32	499.77
94.4	-0.66	0.39	-0.56	-0.19	0.00	-0.16	676.91	677.20	632.98
94.5	-0.52	-1.34	-0.56	-0.08	-0.01	-0.18	507.78	578.27	536.08
94.6	-0.69	-0.09	-0.59	-0.05	-0.10	-0.07	581.13	504.01	579.24
94.7	-0.50	-2.01	-0.59	-0.25	-0.20	-0.23	560.96	728.71	545.78
94.8	-0.63	-0.28	-0.65	-0.11	-0.10	-0.09	409.25	508.33	437.40
94.9	-0.39	-0.76	-0.42	-0.16	-0.20	-0.15	417.03	792.45	392.29
95.0	-0.44	-3.07	-0.46	-0.11	-0.11	-0.03	454.04	114.28	448.51
95.1	-0.41	1.35	-0.43	-0.19	-0.09	-0.30	342.95	425.66	353.54
95.2	-0.52	-1.14	-0.51	-0.30	-0.48	-0.14	343.10	432.87	358.57
95.3	-0.66	-0.28	-0.51	0.02	-0.29	-0.18	433.63	323.74	398.24
95.4	-0.58	-1.34	-0.48	-0.08	-0.01	0.05	283.70	304.97	289.80
95.5	-0.33	2.21	-0.50	-0.05	-0.09	-0.21	324.56	268.70	336.00
95.6	-0.47	-2.87	-0.43	-0.05	-0.11	0.09	269.27	384.62	263.03
95.7	-0.60	1.44	-0.52	0.00	-0.09	-0.05	361.46	286.07	351.96
95.8	-0.44	0.39	-0.56	-0.25	0.00	-0.19	228.12	265.50	278.86
95.9	-0.49	-1.53	-0.51	-0.19	-0.10	-0.13	585.73	217.05	511.01
96.0	-0.50	0.49	-0.58	-0.03	-0.19	-0.08	374.51	581.39	400.46
96.1	-0.60	-0.86	-0.56	-0.03	-0.10	-0.12	461.90	430.29	500.19
96.2	-0.60	-0.57	-0.55	-0.47	-0.10	-0.24	566.62	560.86	538.25
96.3	-0.36	-1.43	-0.40	0.14	-0.11	0.01	393.48	626.58	416.55
96.4	-0.69	0.58	-0.64	-0.33	0.00	-0.31	484.70	123.80	452.40
96.5	-0.41	8.55	-0.45	-0.09	[illegible]	-0.01	307.15	445.87	321.02
96.6	-0.50	-1.24	-0.49	0.08	-0.20	-0.21	314.41	300.34	310.54
96.7	-0.52	-10.64	-0.45	-0.33	-0.33	-0.10	246.48	561.58	277.87
96.8	-0.56	-1.25	-0.53	-0.05	-0.01	-0.06	566.95	166.44	513.59
96.9	-0.30	0.49	-0.50	-0.03	0.00	-0.12	333.42	720.08	393.51

Table B-2 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

FIRST DERIVATIVE

SYNC TIME MIN	ELEVATION ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	AZIMUTH ANGLE (DEG/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN	SLANT RANGE (METERS/MIN) FPS-16 MEAS	GMD-2 TRANS	FPS-16 MEAN
97.0	-0.69	-0.29	-0.62	-0.19	-0.10	-0.10	686.01	142.99	643.03
97.1	-0.55	-0.47	-0.58	0.00	-0.39	-0.08	548.71	739.03	550.89
97.2	-0.58	-0.28	-0.47	0.03	0.00	0.00	648.88	463.90	643.28
97.3	-0.69	-0.28	-0.59	-0.47	-0.01	-0.21	484.26	646.74	486.59
97.4	-0.46	-2.10	-0.61	0.14	-0.20	-0.02	457.02	459.68	459.74
97.5	-0.66	-0.47	-0.53	0.00	-0.48	-0.11	507.62	601.17	512.08
97.6	-0.52	-0.38	-0.59	-0.20	-0.01	-0.16	443.79	511.98	464.29
97.7	-0.58	0.20	-0.53	-0.32	-0.10	-0.18	529.94	360.20	499.66
97.8	-0.44	1.07	-0.50	-0.33	0.00	-0.33	357.19	797.61	398.66
97.9	-0.63	-2.11	-0.61	-0.05	-0.39	-0.27	634.31	46.86	589.72
98.0	-0.52	0.20	-0.55	-0.22	-0.19	-0.13	457.77	633.55	450.46
98.1	-0.60	0.01	-0.53	-0.03	-0.10	-0.10	429.95	501.92	458.06
98.2	-0.64	-2.01	-0.59	-0.49	-0.20	-0.23	396.12	412.40	408.50
98.3	-0.57	-1.14	-0.60	0.13	-0.01	-0.04	527.53	439.27	485.09
98.4	-0.30	0.01	-0.42	-0.25	0.00	-0.22	237.21	548.52	283.85
98.5	-0.72	-0.96	-0.56	-0.16	-0.20	-0.24	548.57	112.98	513.94
98.6	-0.52	0.01	-0.57	-0.19	-0.19	-0.14	315.00	546.75	312.51
98.7	-0.41	0.58	-0.53	-0.16	-0.10	-0.22	389.17	442.21	389.53
98.8	-0.52	-1.53	-0.50	-0.33	-0.48	-0.23	296.54	307.29	330.07
98.9	-0.60	-2.20	-0.66	0.03	-0.01	-0.02	659.01	282.73	572.45
99.0	-0.69	2.89	-0.56	-0.11	-0.28	-0.04	292.30	612.43	390.86
99.1	-0.60	-2.58	-0.67	0.16	-0.01	-0.08	649.74	383.46	620.76
99.2	-0.58	-0.18	-0.59	-0.10	-0.01	0.10	583.84	690.37	579.48
99.3	-0.74	0.68	-0.69	0.10	0.00	0.06	668.03	669.11	657.53
99.4	-0.86	-2.10	-0.74	-0.08	-0.01	0.04	590.02	646.32	608.37
99.5	-0.66	-0.47	-0.67	0.25	-0.01	0.15	757.83	697.53	739.40
99.6	-0.48	0.40	-0.61	0.01	0.09	0.11	458.06	768.41	494.63
99.7	-0.78	-2.49	-0.70	0.16	0.17	0.06	713.04	566.65	688.71
99.8	-0.55	-1.14	-0.60	0.11	0.09	0.08	557.52	532.52	529.91
99.9	-0.81	0.97	-0.70	0.00	0.19	-0.06	489.06	526.20	537.29
100.0	-0.45	-2.68	-0.70	-0.30	0.08	-0.26	567.11	525.51	546.49
100.1	-0.66	-0.95	-0.50	-0.11	-0.01	-0.07	534.78	435.66	512.57
100.2	-0.66	3.94	-0.61	-0.25	0.01	-0.22	374.64	632.32	415.18
100.3	-0.52	-3.74	-0.60	-0.22	-0.11	-0.22	612.68	276.12	591.49
100.4	-0.81	-0.95	-0.67	-0.19	-0.39	-0.22	466.15	615.09	475.42
100.5	-0.55	1.64	-0.57	-0.14	-0.28	-0.12	548.57	413.14	544.35
100.6	-0.83	-0.95	-0.60	-0.39	-0.20	-0.26	520.90	342.53	534.60
100.7	-0.60	-3.06	-0.70	0.19	-0.40	0.00	704.41	669.08	667.69
100.8	-0.55	3.75	-0.68	-0.16	-0.08	-0.22	607.92	635.15	647.42
100.9	-0.69	-3.92	-0.62	-0.27	-0.12	-0.09	800.26	785.02	789.46
101.0	-0.72	-0.18	-0.69	-0.16	-0.10	-0.25	808.89	781.11	786.48
101.1	-0.63	-0.95	-0.68	-0.16	-0.20	-0.16	740.52	754.31	758.16
101.2	-0.66	-1.33	-0.58	-0.50	-0.30	-0.20	541.39	672.06	547.80
101.3	-0.72	-2.77	-0.66	0.17	-0.11	-0.14	638.62	620.04	597.41
101.4	-0.44	-0.66	-0.58	-0.36	-0.10	-0.34	351.95	565.23	397.18
101.5	-0.66	-0.37	-0.62	-0.25	-0.29	-0.16	585.13	601.74	565.37
101.6	-0.63	2.31	-0.63	-0.06	-0.28	-0.22	580.61	485.78	585.96
101.7	-0.63	-1.62	-0.62	-0.07	-0.11	-0.01	681.32	635.95	685.40
101.8	-0.49	0.49	-0.63	-0.21	0.00	-0.23	568.45	673.07	586.62
101.9	-0.75	-2.29	-0.62	0.04	-0.11	0.12	724.57	470.96	691.28
102.0	-0.57	2.70	-0.58	-0.03	-0.18	-0.17	480.36	613.49	531.99
102.1	-0.64	-2.67	-0.72	-0.25	-0.02	-0.15	749.20	710.36	691.14
102.2	-0.67	-0.47	-0.62	-0.01	-0.29	-0.08	617.83	650.06	633.81
102.3	-0.86	0.40	-0.74	0.04	-0.10	0.02	720.23	720.37	715.74
102.4	-0.42	-2.96	-0.65	-0.33	-0.21	-0.24	651.38	625.62	660.94
102.5	-0.85	-1.33	-0.67	-0.11	-0.20	-0.16	735.75	719.80	709.35
102.6	-0.52	0.68	-0.65	-0.33	-0.38	-0.18	526.35	572.96	563.22
102.7	-0.77	-2.67	-0.67	-0.11	-0.11	-0.16	731.18	802.51	694.92
102.8	-0.69	-1.05	-0.62	0.11	-0.01	-0.12	525.35	531.25	558.97
102.9	-0.63	2.03	-0.67	-0.47	-0.28	-0.22	561.98	583.18	569.49
103.0	-0.66	-3.83	-0.68	0.03	-0.12	-0.05	754.29	559.94	716.65
103.1	-0.52	2.12	-0.65	-0.11	0.00	-0.08	535.19	765.54	558.68
103.2	-0.80	-0.18	-0.75	-0.38	-0.01	-0.38	625.95	553.66	639.21
103.3	-0.70	-2.38	-0.74	-0.19	-0.21	-0.30	845.64	657.62	769.50
103.4	-0.64	0.78	-0.70	-0.25	-0.38	-0.29	572.48	570.07	619.96
103.5	-0.96	0.30	-0.71	-0.46	-0.48	-0.19	691.35	765.[illegible]7	711.70
103.6	-0.61	-3.15	-0.77	-0.07	-0.02	-0.26	701.91	589.15	678.52
103.7	-0.72	0.69	-0.70	0.06	-0.29	0.08	678.66	664.80	686.38
103.8	-0.63	1.45	-0.72	-0.14	-0.09	-0.16	569.61	462.68	593.27
103.9	-0.77	-1.99	-0.73	-0.11	-0.11	-0.04	746.22	968.38	722.53
104.0	-0.63	-2.19	-0.67	0.03	-0.02	0.04	589.11	609.19	584.83
104.1	-0.74	-1.62	-0.66	-0.11	-0.01	-0.10	626.45	593.63	651.74
104.2	-0.85	-1.90	-0.81	-0.08	-0.11	-0.27	680.67	783.92	671.57
104.3	-0.63	-1.14	-0.74	0.00	-0.10	-0.04	810.24	534.18	789.65
104.4	-0.85	2.61	-0.77	-0.33	-0.47	-0.13	730.66	883.56	767.90
104.5	-0.96	-2.77	-0.87	-0.47	-0.11	-0.36	936.38	716.79	894.48
104.6	-0.80	0.40	-0.82	0.14	0.00	-0.02	819.12	766.24	850.61
104.7	-0.85	2.03	-0.87	-0.22	-0.19	-0.20	787.42	810.58	798.70
104.8	-0.85	-3.53	-0.87	-0.16	-0.12	-0.10	1018.81	921.28	977.59
104.9	-0.82	-0.08	-0.87	0.08	-0.10	0.01	896.63	778.91	942.59

Table B-2 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
FIRST DERIVATIVE

SYNC	ELEVATION ANGLE (DEG/MIN)			AZIMUTH ANGLE (DEG/MIN)			SLANT RANGE (METERS/MIN)		
TIME	FPS-16	GMD-2	FPS-16	FPS-16	GMD-2	FPS-16	FPS-16	GMD-2	FPS-16
MIN	MEAS	TRANS	MEAN	MEAS	TRANS	MEAN	MEAS	TRANS	MEAN
105.0	-1.10	-0.46	-1.00	-0.16	-0.11	-0.15	1125.41	1155.37	1095.89
105.1	-0.91	-4.67	-1.01	0.16	-0.04	0.14	1062.90	1321.87	1056.85
105.2	-0.98	-0.27	-0.96	0.03	-0.01	-0.01	1096.74	876.63	1095.24
105.3	-0.86	-1.60	-0.92	0.00	-0.21	0.05	988.73	1462.12	1006.70
105.4	-1.19	-0.56	-1.02	-0.16	-0.01	-0.07	1052.81	656.45	1039.02
105.5	-0.79	-0.65	-0.80	0.29	-0.01	0.20	903.38	796.36	909.50
105.6	-0.82	1.85	-0.90	-0.03	0.00	-0.01	819.25	1272.92	843.46
105.7	-0.85	-2.67	-0.89	0.03	0.08	0.08	1019.57	581.00	975.50
105.8	-0.80	1.26	-0.77	0.11	0.28	-0.02	681.10	834.65	692.25
105.9	-0.82	-1.90	-0.82	-0.19	0.17	-0.12	708.41	788.33	729.48
106.0	-0.85	-1.62	-0.85	0.00	-0.01	-0.02	870.34	641.59	841.47
106.1	-0.83	-0.84	-0.85	0.16	-0.01	0.03	802.51	847.88	814.87
106.2	-0.91	-1.60	-0.77	-0.16	-0.02	0.01	731.41	1236.08	749.92
106.3	-0.88	-2.77	-0.93	0.00	-0.21	-0.08	878.23	628.95	835.89
106.4	-0.82	-0.84	-0.91	0.16	-0.01	0.07	754.40	939.67	797.36
106.5	-0.91	2.51	-0.79	-0.33	-0.37	-0.05	804.03	517.30	785.89
106.6	-0.71	-2.86	-0.87	0.16	0.07	0.13	924.17	862.90	894.13
106.7	-0.80	3.28	-0.82	0.19	0.11	0.07	690.14	909.76	735.46
106.8	-0.91	-2.09	-0.93	-0.03	0.17	-0.04	828.19	749.40	812.22
106.9	-1.00	-1.33	-0.83	-0.35	0.08	-0.15	695.93	771.87	683.05
107.0	-0.74	-0.18	-0.80	0.02	0.18	-0.10	706.52	601.38	714.57
107.1	-0.63	-1.52	-0.73	-0.38	0.08	-0.34	528.37	640.66	552.03
107.2	-1.02	-3.05	-0.81	-0.19	-0.12	-0.28	687.94	776.90	649.65
107.3	-0.74	-0.75	-0.80	-0.03	-0.39	-0.10	557.21	797.05	585.53
107.4	-0.65	-0.46	-0.77	-0.34	-0.57	-0.39	608.59	512.68	590.13
107.5	-0.75	-1.23	-0.74	-0.37	-0.11	-0.19	562.64	676.88	570.70
107.6	-0.85	-0.37	-0.77	0.16	-0.29	0.04	597.99	466.42	608.06
107.7	-0.72	0.30	-0.79	-0.33	-0.19	-0.37	563.05	583.88	559.67
107.8	-0.73	-2.77	-0.74	-0.30	-0.49	-0.06	640.81	492.43	624.63
107.9	-0.78	2.13	-0.67	-0.19	-0.18	-0.33	298.14	665.31	339.46
108.0	-0.71	-1.43	-0.82	-0.47	-0.01	-0.36	523.53	272.40	530.12
108.1	-0.58	0.20	-0.54	-0.36	0.00	-0.57	338.76	496.86	316.73
108.2	-0.72	-0.76	-0.74	-0.66	-0.76	-0.54	457.61	291.77	460.98
108.3	-0.99	-2.19	-0.79	-0.47	-0.39	-0.50	538.34	476.15	489.06
108.4	-0.52	0.49	-0.67	-0.60	-0.38	-0.52	307.43	393.63	373.40
108.5	-0.93	-2.00	-0.84	-0.33	-1.05	-0.36	735.09	465.54	691.87
108.6	-0.68	-0.94	-0.84	-0.57	-0.01	-0.50	472.01	760.95	498.00
108.7	-0.84	-2.96	-0.79	-0.19	-0.96	-0.46	602.59	496.88	591.06
108.8	-0.77	1.74	-0.76	-0.56	0.01	-0.44	479.74	403.10	471.53
108.9	-0.80	-1.71	-0.87	-0.53	-0.96	-0.66	544.64	458.20	536.93
109.0	-0.87	-0.65	-0.75	-0.40	-0.10	-0.31	529.83	705.86	551.42
109.1	0.43	1.16	-0.82	-0.51	-0.65	-0.46	840.48	370.40	812.38
109.2	-2.39	-2.56	-1.14	-0.44	-0.31	-0.32	837.60	1084.62	866.12
109.3	-0.93	-0.08	-0.96	-0.22	-0.10	-0.41	859.07	687.84	846.71
109.4	-1.13	-2.75	-1.01	-0.80	-0.31	-0.59	887.52	1045.61	852.62
109.5	-0.80	-2.76	-0.98	-0.29	-1.06	-0.43	826.76	812.39	888.85
109.6	-1.13	3.19	-1.09	-0.62	-0.27	-0.56	1071.01	856.87	1040.51
109.7	-0.93	-3.04	-1.05	-0.60	-0.78	-0.77	950.46	1097.82	941.13
109.8	-1.16	-2.37	-1.07	-0.96	-1.15	-0.87	803.87	937.35	815.78
109.9	-0.91	-0.27	-0.95	-0.66	-0.29	-0.70	850.41	738.51	853.14
110.0	-1.15	-1.03	-1.11	-0.93	-0.77	-0.89	1010.91	988.57	992.72
110.1	-1.29	-0.64	-1.23	-0.82	-1.51	-0.84	1014.79	1062.63	1042.48
110.2	-0.96	1.56	-1.13	-0.71	-0.19	-0.68	1097.41	863.13	1065.69
110.3	-1.29	-0.74	-1.10	-0.71	-0.58	-0.81	915.24	1026.40	943.40
110.4	-1.02	-6.20	-1.17	-0.30	-1.45	-0.27	1073.72	970.81	1073.92
110.5	-1.18	2.23	-1.04	-0.69	-0.28	-0.49	1033.13	1068.37	1014.43
110.6	-1.07	-3.42	-1.10	-0.33	-0.69	-0.49	937.46	1114.46	952.80
110.7	-1.29	-1.99	-1.22	-0.30	-0.49	-0.26	991.18	886.15	1000.44
110.8	-1.21	3.00	-1.19	-0.66	-0.08	-0.65	1111.71	906.62	1091.48
110.9	-1.02	-4.47	-1.10	-0.19	-0.88	-0.23	914.31	1012.06	943.11
111.0	-1.21	2.62	-1.18	-0.52	-0.09	-0.61	1110.25	964.60	1078.70
111.1	-1.04	-3.13	-1.17	-0.47	-0.68	-0.39	932.60	1197.70	937.70
111.2	-1.24	-1.32	-1.22	-0.60	-0.58	-0.58	1024.22	818.22	1024.87
111.3	-1.21	-1.50	-1.13	-0.66	-0.20	-0.67	946.19	1009.90	952.45
111.4	-1.13	-1.98	-1.18	-0.52	-1.05	-0.55	1002.30	1112.59	992.26
111.5	-1.21	-0.45	-1.22	-0.93	-0.29	-0.88	886.09	928.45	912.09
111.6	-1.13	-0.55	-1.04	-0.36	-1.13	-0.41	873.77	881.06	828.43
111.7	-1.21	-1.13	-1.19	-0.76	-0.39	-0.74	895.79	813.65	924.05
111.8	-1.07	-1.31	-1.14	-0.58	-0.67	-0.64	873.50	864.36	878.23
111.9	-1.04	-0.16	-1.02	-0.66	-0.66	-0.50	951.15	916.71	1010.82

Table B-3

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
DIFFERENCES

SYNC TIME MIN	DIFFERENCES (TRANS GMD-2 LESS FPS-16) ELEV DEG	AZIMUTH DEG	S/R METERS	ONE MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	TWO MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	FOUR MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	RELATIVE DIFFERENCES ELEV PERCENT	S/R PERCENT
1.0	-0.04	-0.10	14.07	-0.04	-0.35	-21.53	0.01	-0.52	-23.18	0.03	-0.86	-21.69	-1.1	0.4
1.1	-0.03	-0.26	3.01	0.06	-0.01	-19.36	0.04	-0.58	-3.19	0.06	-0.60	-8.94	-0.7	0.1
1.2	-0.06	-0.09	8.63	0.03	-0.35	-24.90	-0.03	-0.64	1.72	0.11	-0.80	-1.32	-1.5	0.2
1.3	-0.03	-0.28	-4.46	-0.04	-0.15	-7.21	-0.04	-0.48	1.45	0.06	-0.75	11.78	-0.7	-0.1
1.4	-0.03	-0.21	1.32	0.00	-0.26	-14.10	0.03	-0.53	-2.50	0.09	-0.60	-10.38	-0.8	0.0
1.5	-0.10	-0.37	-2.59	0.02	-0.23	-23.16	0.12	-0.40	-3.84	0.16	-0.41	-4.96	-2.1	-0.1
1.6	-0.02	-0.17	-9.69	-0.03	-0.34	0.30	0.05	-0.61	-1.23	0.03	-0.77	-4.72	-0.3	-0.2
1.7	-0.01	-0.35	-1.48	0.00	-0.12	0.51	0.01	-0.47	1.69	0.00	-0.66	-13.01	-0.1	0.0
1.8	-0.09	-0.47	-25.15	0.03	-0.40	8.67	0.05	-0.18	20.37	0.09	-0.45	14.47	-1.6	-0.6
1.9	-0.01	-0.39	-15.30	0.05	-0.20	8.19	0.01	-0.52	7.11	0.03	-0.58	16.97	-0.2	-0.3
2.0	-0.07	-0.45	-7.46	0.05	-0.17	-1.65	0.11	-0.23	5.26	0.07	-0.43	17.00	-1.2	-0.2
2.1	0.03	-0.27	-16.35	-0.02	-0.57	16.18	0.01	-0.64	22.05	-0.03	-0.83	21.73	0.5	-0.4
2.2	-0.03	-0.44	-16.28	-0.05	-0.29	26.62	0.16	-0.35	11.56	-0.03	-0.55	22.75	-0.5	-0.4
2.3	-0.07	-0.42	-11.67	0.00	-0.34	8.66	0.11	-0.93	30.37	0.09	-0.60	18.47	-1.0	-0.3
2.4	-0.04	-0.46	-12.78	0.03	-0.28	11.60	0.11	-0.49	-0.39	0.02	-0.64	17.61	-0.5	-0.3
2.5	-0.08	-0.61	-25.76	0.10	-0.17	19.32	0.14	-0.18	30.83	0.10	-0.30	52.33	-1.1	-0.5
2.6	-0.05	-0.51	-9.39	0.08	-0.27	-1.53	0.10	-0.34	10.28	0.13	-0.56	18.99	-0.6	-0.2
2.7	-0.01	-0.47	-0.97	0.01	-0.35	1.18	0.11	-0.32	28.40	0.05	-0.66	6.35	-0.1	0.0
2.8	-0.06	-0.87	-16.48	0.01	0.22	11.70	0.06	0.05	22.44	0.11	-0.05	23.60	-0.7	-0.3
2.9	-0.06	-0.59	-7.11	0.06	-0.32	-1.08	0.10	-0.34	1.17	0.12	-0.49	13.32	-0.7	-0.1
3.0	-0.03	-0.62	-9.11	0.06	-0.07	6.92	0.02	-0.34	1.49	0.05	-0.50	23.17	-0.3	-0.2
3.1	0.01	-0.84	-0.17	0.03	-0.07	5.87	0.01	-0.01	-5.76	-0.03	-0.16	17.36	0.2	0.0
3.2	-0.09	-0.73	10.34	0.21	-0.06	-15.06	0.13	-0.16	-3.04	0.09	-0.50	-10.31	-1.0	0.2
3.3	-0.07	-0.76	-3.01	0.10	-0.60	21.71	0.10	-0.27	10.34	0.02	-0.42	16.56	-0.7	-0.1
3.4	-0.01	-0.74	-1.18	0.08	-0.21	-11.99	0.06	-0.07	-7.88	-0.09	-0.31	7.68	-0.1	0.0
3.5	0.01	-0.78	-6.44	0.05	-0.01	11.51	0.04	-0.01	-1.12	-0.09	-0.43	14.69	0.1	-0.1
3.6	0.03	-0.77	-10.92	0.02	-0.08	11.82	-0.02	-0.16	-3.49	-0.01	-0.24	-2.82	0.3	-0.2
3.7	0.00	-0.81	0.21	0.10	0.02	27.22	-0.01	-0.19	-14.70	0.11	-0.29	-2.46	0.0	0.0
3.8	-0.04	-0.65	-4.78	0.04	-0.17	10.74	0.04	-0.27	-5.91	0.09	-0.39	0.84	-0.4	-0.1
3.9	0.00	-0.91	-8.19	0.05	-0.01	2.25	0.02	-0.06	9.86	0.17	0.05	5.57	0.0	-0.2
4.0	0.04	-0.68	-2.19	-0.04	-0.28	-5.43	-0.04	-0.20	11.73	0.08	-0.27	-0.28	0.3	0.0
4.1	0.05	-0.91	5.70	-0.02	0.05	-11.63	-0.05	-0.19	-0.32	-0.01	-0.05	-38.08	0.4	0.1
4.2	0.12	-0.79	-4.72	-0.08	-0.10	12.03	-0.18	-0.20	11.19	0.00	-0.32	5.53	1.2	-0.1
4.3	0.04	-1.36	18.70	0.00	0.33	-11.37	-0.02	0.34	-11.90	0.01	0.30	-8.19	0.4	0.3
4.4	0.07	-0.95	-13.17	-0.01	0.14	4.11	-0.09	-0.15	18.00	0.08	-0.01	8.68	0.6	-0.2
4.5	0.06	-0.79	5.07	-0.01	0.00	-12.62	-0.05	-0.12	21.50	0.06	-0.31	-9.93	0.5	0.1
4.6	0.05	-0.85	0.89	-0.04	-0.08	-15.30	0.03	-0.21	8.71	-0.02	-0.15	10.13	0.5	0.0
4.7	0.10	-0.79	27.43	-0.12	-0.22	-41.91	-0.06	-0.34	-22.05	-0.05	-0.25	-20.17	0.9	0.5
4.8	0.00	-0.82	5.96	0.00	-0.10	-16.64	0.06	-0.10	1.16	0.06	-0.24	-5.83	0.0	0.1
4.9	0.04	-0.92	-5.94	-0.03	-0.05	7.61	0.02	-0.16	12.15	0.13	-0.04	-8.99	0.3	-0.1
5.0	-0.01	-0.96	-7.62	0.00	0.08	17.16	0.03	-0.16	21.67	0.05	-0.12	3.89	-0.1	-0.1
5.1	0.03	-0.85	-5.93	-0.03	-0.24	11.31	-0.05	-0.14	23.11	0.04	-0.26	-0.44	0.2	-0.1
5.2	0.05	-0.89	7.31	-0.11	-0.10	-0.83	-0.05	-0.35	-7.27	0.05	-0.09	-21.03	0.4	0.1
5.3	0.04	-1.03	7.33	-0.02	0.01	-0.53	-0.09	-0.15	6.22	0.04	-0.09	-15.70	0.3	0.1
5.4	0.06	-0.81	-9.06	-0.08	-0.29	13.89	-0.16	-0.24	15.57	0.09	-0.36	-10.21	0.5	-0.2
5.5	0.05	-0.79	-7.55	-0.04	-0.12	34.12	-0.13	-0.42	15.81	0.01	-0.26	-14.54	0.4	-0.1
5.6	0.01	-0.93	-14.41	0.07	-0.13	24.02	0.01	-0.08	0.66	0.03	-0.22	4.50	0.1	-0.2
5.7	-0.01	-1.01	-14.49	0.05	-0.12	19.87	0.12	-0.09	12.24	0.05	-0.06	29.16	-0.1	-0.2
5.8	0.00	-0.92	-10.69	0.06	0.00	17.80	0.05	-0.11	6.75	0.01	-0.25	-1.57	0.0	-0.2
5.9	0.01	-0.97	1.67	0.04	-0.11	4.54	0.16	0.11	-4.29	0.01	-0.17	-5.34	0.1	0.0
6.0	0.00	-0.88	9.54	0.03	-0.24	4.51	0.12	-0.07	-12.01	0.04	-0.17	-36.17	0.0	0.2
6.1	0.00	-1.10	5.38	-0.02	0.10	11.81	0.04	0.14	-37.75	0.04	-0.05	-26.46	0.0	0.1
6.2	-0.06	-0.99	6.48	0.06	-0.24	-6.44	0.18	-0.12	-5.66	0.02	-0.10	-7.00	-0.5	0.1
6.3	0.02	-1.02	6.80	-0.07	-0.16	6.75	0.03	-0.04	3.72	-0.03	-0.04	-25.76	0.1	0.1
6.4	-0.02	-1.10	4.83	-0.08	0.05	1.67	0.17	0.14	-9.32	0.09	0.00	-19.98	-0.2	0.1
6.5	0.01	-0.91	26.57	-0.09	-0.30	-18.32	0.10	-0.19	-31.43	0.00	-0.26	-23.43	0.1	0.4
6.6	0.09	-1.06	9.60	-0.07	0.05	-23.35	-0.05	0.06	1.41	-0.05	-0.13	-19.42	0.6	0.1
6.7	0.04	-1.13	5.38	0.07	0.02	-7.63	0.01	0.09	1.88	0.02	-0.09	-19.25	0.3	0.1
6.8	0.06	-0.92	7.12	-0.01	-0.12	-11.05	0.00	-0.14	-6.99	0.00	-0.22	-26.20	0.4	0.1
6.9	0.06	-1.08	6.21	0.11	0.22	-8.83	0.11	0.11	-21.14	0.05	-0.14	-11.25	0.4	0.1
7.0	0.03	-1.12	14.05	0.09	0.17	-16.53	0.02	0.03	-17.79	0.14	-0.08	-45.45	0.2	0.2
7.1	-0.02	-1.00	17.18	0.06	0.04	-49.56	0.09	-0.11	-23.56	0.18	-0.16	-40.39	-0.1	0.3
7.2	0.00	-1.23	0.04	0.12	0.13	0.77	0.10	0.26	-13.76	0.17	-0.12	-31.54	0.0	0.0
7.3	-0.05	-1.18	13.55	0.10	0.13	-3.03	0.12	0.06	-21.92	0.21	-0.05	-30.99	-0.3	0.2
7.4	-0.10	-1.05	6.50	0.26	0.09	-10.99	0.25	-0.12	-25.78	0.21	-0.29	-22.14	-0.7	0.1
7.5	-0.08	-1.21	8.25	0.20	0.11	-13.11	0.15	0.16	-30.35	0.21	-0.11	-24.72	-0.5	0.1
7.6	0.02	-1.01	-13.75	0.01	0.01	24.77	0.02	-0.14	3.84	0.10	-0.28	-2.48	0.1	-0.2
7.7	0.11	-1.10	-2.25	-0.06	0.06	9.51	-0.08	0.03	16.92	-0.08	-0.15	-24.72	0.8	0.0
7.8	0.05	-1.03	-3.94	0.01	-0.03	4.06	-0.03	-0.14	-8.32	-0.01	-0.24	-14.44	0.3	-0.1
7.9	0.17	-0.86	-2.62	0.00	-0.11	-12.32	-0.14	-0.28	-1.05	-0.08	-0.42	-20.52	1.1	0.0
8.0	0.11	-0.95	-2.47	-0.07	-0.13	-1.26	-0.08	-0.10	-24.16	-0.07	-0.25	-36.51	0.8	0.0
8.1	0.04	-0.96	-32.37	0.03	-0.15	26.00	0.00	-0.19	11.23	0.00	-0.37	11.80	0.3	-0.4
8.2	0.12	-1.11	0.81	-0.02	0.13	-14.53	-0.16	0.02	-1.34	-0.11	-0.11	-53.45	0.8	0.0
8.3	0.05	-1.06	10.51	0.02	-0.06	-18.89	-0.07	0.00	-29.48	0.06	-0.35	-46.56	0.4	0.1
8.4	0.15	-0.96	-4.49	-0.01	-0.21	-14.78	-0.09	-0.14	-10.66	-0.17	-0.45	-7.17	1.0	-0.1
8.5	0.12	-1.10	-4.86	-0.05	0.05	-17.23	-0.11	-0.07	8.00	-0.15	-0.18	-33.43	0.8	-0.1
8.6	0.03	-1.00	11.02	0.01	-0.16	-20.93	0.00	-0.19	-20.83	-0.02	-0.48	-32.95	0.2	0.1
8.7	0.05	-1.04	7.26	-0.01	-0.03	7.41	0.02	-0.17	-21.13	-0.08	-0.35	-4.85	0.3	0.1
8.8	0.06	-1.06	0.13	-0.04	-0.11	-12.38	0.00	-0.07	-19.21	-0.06	-0.18	-7.08	0.4	0.0
8.9	0.17	-0.97	-14.94	-0.14	-0.17	11.26	-0.06	-0.26	9.89	-0.12	-0.38	-0.61	1.1	-0.2

Table B-3 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
DIFFERENCES

SYNC TIME MIN	DIFFERENCES (TRANS GMD-2 LESS FPS-16) ELEV DEG	AZIMUTH DEG	S/R METERS	ONE MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	TWO MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	FOUR MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	RELATIVE DIFFERENCES ELEV PERCENT	S/R PERCENT
9.0	0.05	-1.08	-3.73	-0.01	0.03	-22.90	0.12	-0.12	-27.67	0.05	-0.30	7.94	0.3	0.0
9.1	0.07	-1.11	-6.37	-0.03	-0.04	-14.71	0.09	-0.04	-16.83	0.01	-0.17	-19.95	0.4	-0.1
9.2	0.10	-0.97	-13.72	-0.14	-0.11	13.20	0.07	-0.38	-17.78	0.10	-0.36	-26.08	0.6	-0.2
9.3	0.07	-1.12	-8.38	-0.09	0.06	-10.58	0.09	-0.11	-9.07	0.09	-0.10	-10.15	0.5	-0.1
9.4	0.15	-1.17	-19.27	-0.08	0.07	4.12	-0.04	-0.17	3.64	0.03	-0.34	-0.44	0.9	-0.2
9.5	0.07	-1.05	-22.09	-0.06	-0.12	25.24	0.06	-0.27	5.63	0.09	-0.35	-27.26	0.4	-0.3
9.6	0.04	-1.16	-9.91	-0.01	-0.03	0.10	0.08	-0.14	-6.32	0.09	-0.29	3.20	0.2	-0.1
9.7	0.03	-1.07	14.67	0.03	-0.14	-28.55	0.00	[illegible]	41.65	0.03	-0.47	-40.79	0.2	0.2
9.8	0.01	-1.17	-12.25	0.04	0.04	-6.83	0.02	[illegible]	-6.12	-0.02	-0.23	1.57	0.1	-0.1
9.9	0.03	-1.14	-3.67	0.08	-0.09	-1.37	0.06	-0.14	-19.47	-0.02	-0.41	-11.02	0.2	0.0
10.0	0.04	-1.05	-26.63	0.13	-0.15	-4.77	0.01	-0.15	-12.35	-0.03	-0.42	0.83	0.2	-0.3
10.1	0.04	-1.15	-21.08	0.12	-0.01	-2.12	0.00	-0.18	0.50	-0.07	-0.24	7.02	0.2	-0.2
10.2	-0.04	-1.09	-0.53	0.21	-0.26	-30.98	0.05	-0.13	-52.11	0.07	-0.34	-31.69	-0.2	0.0
10.3	-0.01	-1.06	-18.96	0.18	-0.17	1.51	0.12	-0.35	-17.08	0.08	-0.39	-14.24	-0.1	-0.2
10.4	0.07	-1.09	-15.15	0.04	-0.24	-0.48	-0.09	-0.31	3.49	-0.03	-0.37	-18.28	0.4	-0.2
10.5	0.01	-1.17	3.14	0.12	-0.15	-19.61	-0.04	-0.11	-41.43	0.08	-0.28	-52.19	0.1	0.0
10.6	0.03	-1.19	-9.81	0.09	-0.10	-6.41	-0.02	-0.29	-12.12	0.05	-0.24	-16.89	0.2	-0.1
10.7	0.07	-1.21	-13.87	-0.03	-0.04	-13.10	-0.09	-0.18	16.29	0.01	-0.24	-12.05	0.4	-0.2
10.8	0.05	-1.13	-19.08	-0.02	-0.14	0.70	-0.06	-0.10	12.13	0.02	-0.29	19.87	0.3	-0.2
10.9	0.11	-1.22	-5.05	-0.02	-0.05	-18.10	-0.06	-0.12	-10.50	-0.10	-0.11	-6.60	0.7	-0.1
11.0	0.16	-1.20	-31.40	-0.12	0.00	-7.58	-0.07	-0.18	35.61	-0.03	-0.28	11.78	1.0	-0.3
11.1	0.16	-1.15	-23.20	-0.12	-0.17	2.63	-0.08	-0.13	-3.11	-0.08	-0.17	0.39	1.0	-0.2
11.2	0.17	-1.35	-31.50	-0.16	0.14	-21.14	0.02	0.01	-8.30	-0.10	-0.12	19.04	1.0	-0.3
11.3	0.16	-1.23	-17.45	-0.05	-0.18	-18.60	0.00	0.01	-1.08	-0.06	-0.28	-8.42	1.0	-0.2
11.4	0.11	-1.34	-15.63	-0.13	-0.07	3.98	0.07	-0.17	-4.08	-0.05	-0.15	0.40	0.7	-0.2
11.5	0.13	-1.32	-16.46	-0.16	0.04	-21.82	0.03	-0.08	-32.89	-0.08	-0.14	7.06	0.8	-0.2
11.6	0.12	-1.29	-16.23	-0.11	-0.19	-5.71	0.01	-0.15	9.52	-0.05	-0.06	1.47	0.7	-0.2
11.7	0.03	-1.25	-26.97	-0.06	-0.14	29.39	0.03	-0.29	0.85	0.05	-0.21	25.54	0.2	-0.3
11.8	0.04	-1.27	-18.38	-0.04	0.04	11.42	-0.04	-0.13	7.69	0.01	-0.17	19.71	0.2	-0.2
11.9	0.09	-1.28	-23.14	-0.03	-0.07	7.59	-0.08	-0.27	8.45	0.00	-0.05	0.94	0.5	-0.2
12.0	0.05	-1.20	-38.98	0.05	-0.18	43.19	-0.04	-0.27	13.19	0.09	-0.29	10.60	0.3	-0.4
12.1	0.04	-1.33	-20.58	0.04	0.05	-5.74	-0.08	-0.06	6.52	-0.04	-0.08	-1.94	0.3	-0.2
12.2	0.01	-1.22	-52.64	0.19	-0.12	12.83	0.02	-0.21	20.42	0.07	-0.14	17.05	0.0	-0.5
12.3	0.11	-1.41	-36.04	0.06	0.19	17.51	-0.04	-0.04	2.84	-0.06	-0.14	0.23	0.7	-0.3
12.4	-0.02	-1.40	-11.66	0.20	-0.11	-8.06	0.06	-0.07	-21.75	0.06	-0.14	-8.29	-0.1	-0.1
12.5	-0.03	-1.28	-38.29	0.19	-0.12	-11.07	0.12	-0.17	-10.76	0.09	-0.17	2.45	-0.2	-0.4
12.6	0.01	-1.48	-21.93	0.11	0.04	15.22	0.07	0.06	-4.77	0.06	0.00	-10.03	0.1	-0.2
12.7	-0.03	-1.39	2.41	0.10	-0.15	-28.53	0.10	-0.06	-23.34	0.11	0.00	-20.14	-0.2	0.0
12.8	0.00	-1.24	-6.95	0.00	-0.16	-3.73	0.07	-0.19	7.74	0.10	-0.16	-38.09	0.0	-0.1
12.9	0.05	-1.34	-15.55	-0.04	-0.20	0.86	-0.04	0.01	3.91	0.10	-0.21	-7.79	0.3	-0.1
13.0	0.09	-1.38	4.21	-0.09	-0.09	-30.00	0.04	-0.10	-23.83	-0.02	-0.10	-27.25	0.6	0.0
13.1	0.08	-1.28	-26.32	-0.11	-0.10	12.26	0.00	-0.04	3.50	0.02	-0.37	2.06	0.5	-0.2
13.2	0.20	-1.34	-39.81	-0.17	-0.09	7.59	-0.12	-0.14	27.35	-0.11	-0.20	18.95	1.2	-0.4
13.3	0.17	-1.22	-18.53	-0.09	-0.23	-14.67	-0.06	-0.29	-7.34	-0.13	-0.25	-7.00	1.0	-0.2
13.4	0.18	-1.51	-19.71	-0.14	0.04	-13.70	-0.12	0.03	4.48	-0.08	0.10	-16.52	1.1	-0.2
13.5	0.16	-1.40	-49.36	-0.07	-0.05	0.31	-0.11	-0.06	39.96	-0.01	-0.06	5.18	0.9	-0.4
13.6	0.13	-1.44	-6.71	-0.04	0.02	-20.00	-0.06	0.09	-8.05	-0.01	-0.14	-30.69	0.8	-0.1
13.7	0.07	-1.54	-26.12	0.00	0.09	0.20	0.02	0.08	24.69	-0.02	-0.07	-17.80	0.4	-0.2
13.8	0.00	-1.40	-10.68	0.07	-0.02	11.47	0.06	-0.05	12.02	0.02	-0.12	16.75	0.0	-0.1
13.9	0.01	-1.55	-14.69	0.00	0.22	3.05	0.08	0.22	-7.51	0.03	0.11	-28.63	0.1	-0.1
14.0	0.01	-1.47	-25.80	0.12	-0.01	6.17	0.13	-0.03	-2.59	0.17	0.03	-6.99	0.0	-0.2
14.1	-0.04	-1.39	-14.06	0.12	0.07	-8.75	0.03	-0.03	-8.46	0.21	0.02	-31.89	-0.2	-0.1
14.2	0.03	-1.42	-32.22	0.05	-0.05	19.76	0.05	0.07	-3.37	0.11	-0.11	-20.72	0.2	-0.3
14.3	0.07	-1.45	-33.20	0.03	-0.06	7.33	-0.03	-0.10	-2.62	-0.05	-0.18	-5.30	0.4	-0.3
14.4	0.04	-1.47	-33.41	0.03	-0.01	18.18	0.00	-0.08	13.46	-0.01	-0.08	2.66	0.2	-0.3
14.5	0.09	-1.45	-49.05	-0.04	-0.01	39.65	-0.03	0.00	13.21	-0.04	0.05	7.80	0.5	-0.4
14.6	0.08	-1.43	-26.70	-0.01	0.07	11.94	-0.01	-0.06	-5.25	0.07	-0.13	-7.30	0.5	-0.2
14.7	0.07	-1.45	-25.92	0.02	-0.01	24.50	0.01	0.06	8.20	0.08	-0.13	-15.37	0.4	-0.2
14.8	0.07	-1.42	0.79	-0.02	-0.02	0.54	0.03	0.03	-45.84	0.08	-0.11	-32.52	0.4	0.0
14.9	0.01	-1.33	-11.64	0.07	0.01	-10.56	0.14	-0.23	-11.70	0.08	-0.23	-5.30	0.1	-0.1
15.0	0.13	-1.48	-19.62	0.01	-0.01	-8.76	-0.05	0.00	-3.42	-0.01	0.04	-11.90	0.8	-0.2
15.1	0.08	-1.32	-22.81	-0.08	-0.09	0.29	0.02	-0.34	-1.45	0.08	-0.24	-19.06	0.5	-0.2
15.2	0.08	-1.47	-12.46	0.00	0.12	-23.13	0.01	-0.06	-8.40	0.04	-0.16	-14.34	0.4	-0.1
15.3	0.10	-1.51	-25.87	-0.06	-0.04	-9.95	-0.07	0.04	0.34	-0.01	-0.02	0.18	0.6	-0.2
15.4	0.06	-1.48	-15.23	-0.02	-0.06	-4.71	0.04	0.07	-21.00	0.02	-0.10	-6.90	0.4	-0.1
15.5	0.05	-1.45	-9.40	0.01	0.00	-26.44	0.15	0.00	-34.78	0.07	-0.18	-28.77	0.3	-0.1
15.6	0.07	-1.35	-14.76	0.01	-0.14	-17.20	0.04	-0.23	-22.64	0.03	-0.24	-9.53	0.4	-0.1
15.7	0.09	-1.46	-1.43	-0.01	0.07	-16.30	-0.04	-0.15	-42.49	0.02	-0.14	-54.38	0.5	0.0
15.8	0.05	-1.44	1.33	0.05	0.05	-46.38	-0.04	-0.08	4.73	0.00	-0.09	-33.60	0.3	0.0
15.9	0.09	-1.33	-22.20	0.06	-0.23	-1.14	-0.04	-0.11	-21.12	-0.01	-0.25	-17.22	0.5	-0.2
16.0	0.14	-1.50	-28.39	-0.06	0.02	5.34	0.04	0.05	-4.40	-0.10	-0.08	-13.53	0.8	-0.2
16.1	0.00	-1.41	-22.52	0.10	-0.24	-1.74	0.17	0.05	-23.43	0.10	-0.20	-15.91	0.0	-0.2
16.2	0.07	-1.36	-35.58	0.01	-0.18	14.73	0.06	-0.18	-17.35	-0.02	-0.24	13.41	0.4	-0.3
16.3	0.04	-1.55	-35.81	-0.01	0.08	10.29	-0.02	-0.08	-2.68	0.04	0.04	2.32	0.3	-0.3
16.4	0.04	-1.54	-19.95	0.06	0.14	-16.28	-0.01	0.00	-10.80	0.05	-0.05	4.12	0.2	-0.1
16.5	0.06	-1.45	-35.84	0.09	0.00	-8.34	0.00	0.05	-5.41	0.02	-0.20	17.48	0.4	-0.3
16.6	0.08	-1.49	-31.96	0.04	-0.10	-5.44	0.08	-0.06	-2.04	-0.01	-0.06	10.25	0.5	-0.2
16.7	0.08	-1.39	-17.73	-0.03	-0.22	-26.19	0.07	-0.19	-23.57	0.00	-0.22	-38.96	0.5	-0.1
16.8	0.10	-1.39	-45.05	-0.09	-0.13	51.11	0.05	-0.14	13.32	-0.07	-0.25	8.78	0.6	-0.3
16.9	0.15	-1.56	-23.34	-0.10	0.12	-19.98	-0.06	0.00	6.40	-0.11	0.00	-1.47	0.9	-0.2

Table B-3 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
DIFFERENCES

SYNC TIME MIN	DIFFERENCES (TRANS GMD-2 LESS FPS-16) ELEV DEG	AZIMUTH DEG	S/R METERS	ONE MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	TWO MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	FOUR MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	RELATIVE DIFFERENCES ELEV PERCENT	S/R PERCENT
17.0	0.08	-1.48	-23.05	0.10	0.04	-9.75	0.04	0.03	-8.48	-0.01	-0.10	-15.17	0.5	-0.2
17.1	0.10	-1.66	-24.26	0.07	0.29	-21.69	0.06	0.10	-17.61	-0.03	0.04	22.34	0.6	-0.2
17.2	0.08	-1.54	-20.85	0.05	0.00	-32.08	0.03	-0.10	-5.95	0.00	0.01	1.37	0.5	-0.1
17.3	0.03	-1.47	-25.52	-0.01	-0.16	-12.97	0.06	-0.06	-0.16	0.06	-0.13	-12.05	0.2	-0.2
17.4	0.10	-1.41	-36.23	-0.07	-0.14	5.48	-0.01	-0.18	14.09	-0.04	-0.26	18.83	0.6	-0.2
17.5	0.15	-1.45	-44.18	-0.10	0.05	2.93	-0.03	-0.18	6.01	-0.12	-0.15	35.61	0.9	-0.3
17.6	0.11	-1.58	-37.40	0.05	0.03	3.40	-0.01	-0.01	13.10	-0.07	0.07	27.57	0.7	-0.2
17.7	0.05	-1.61	-43.92	0.10	0.02	2.63	0.06	0.01	-11.89	0.05	0.06	35.00	0.3	-0.3
17.8	0.01	-1.52	6.06	0.14	-0.01	-37.79	0.04	-0.01	-38.33	0.05	-0.12	-26.76	0.1	0.0
17.9	0.04	-1.44	-43.32	0.05	-0.12	26.38	0.03	-0.14	3.91	0.01	-0.25	40.28	0.3	-0.3
18.0	0.17	-1.44	-32.79	-0.05	0.00	1.27	-0.14	-0.14	-9.12	-0.13	-0.14	20.57	1.0	-0.2
18.1	0.17	-1.37	-45.95	-0.01	-0.19	4.08	-0.07	-0.25	7.52	-0.10	-0.16	23.69	1.0	-0.3
18.2	0.14	-1.54	-52.93	-0.02	-0.10	26.13	-0.08	-0.06	30.76	-0.03	-0.03	22.28	0.8	-0.3
18.3	0.02	-1.63	-38.49	0.07	0.10	12.81	0.06	0.12	5.00	0.02	0.05	39.18	0.1	-0.2
18.4	0.03	-1.54	-30.75	0.06	-0.04	8.61	0.06	-0.05	14.92	0.01	0.04	22.14	0.2	-0.2
18.5	0.05	-1.10	-41.25	0.06	-0.23	3.68	0.02	-0.25	22.89	0.00	-0.12	26.41	0.3	-0.3
18.6	0.16	-1.55	-34.00	-0.06	-0.05	9.71	-0.09	0.00	12.29	-0.11	-0.02	17.16	0.9	-0.2
18.7	0.15	-1.59	-41.29	-0.04	-0.01	-14.52	-0.06	-0.03	-15.39	-0.05	-0.01	4.98	0.9	-0.3
18.8	0.15	-1.53	-31.73	-0.09	0.00	-0.54	-0.12	-0.11	-4.53	-0.12	0.02	2.75	0.9	-0.2
18.9	0.09	-1.56	-16.94	-0.02	-0.02	-22.48	-0.05	0.00	-7.87	-0.07	0.01	8.61	0.6	-0.1
19.0	0.12	-1.45	-31.53	-0.08	-0.13	-10.39	-0.05	-0.14	-6.69	-0.07	-0.13	0.33	0.7	-0.2
19.1	0.16	-1.55	-41.87	-0.06	-0.06	3.44	-0.09	-0.06	39.95	-0.08	0.05	2.88	1.0	-0.2
19.2	0.12	-1.63	-26.80	-0.06	0.03	4.63	-0.04	0.11	7.31	-0.03	0.12	5.90	0.7	-0.2
19.3	0.10	-1.53	-25.69	-0.01	0.02	-7.81	0.00	-0.07	-11.89	0.01	-0.06	-13.62	0.6	-0.2
19.4	0.09	-1.59	-22.14	0.01	-0.01	6.31	-0.03	-0.08	4.73	0.01	-0.02	5.20	0.5	-0.1
19.5	0.12	-1.63	-38.17	-0.04	-0.02	19.82	-0.09	0.02	29.61	-0.02	0.08	15.49	0.7	-0.2
19.6	0.10	-1.60	-24.29	-0.03	0.05	2.59	-0.05	0.08	14.47	-0.01	0.00	-8.47	0.6	-0.1
19.7	0.11	-1.60	-55.81	-0.02	-0.01	-0.87	-0.01	0.05	46.89	0.00	0.07	40.80	0.6	-0.3
19.8	0.06	-1.53	-32.27	-0.02	-0.11	-3.99	0.01	-0.11	11.57	0.06	0.03	-8.09	0.3	-0.2
19.9	0.07	-1.58	-39.42	-0.04	0.02	14.60	-0.01	-0.11	36.37	0.09	0.03	-10.14	0.4	-0.2
20.0	0.04	-1.58	-41.91	0.03	0.00	3.70	0.01	0.00	29.70	0.07	0.03	12.84	0.2	-0.2
20.1	0.10	-1.61	-38.43	-0.03	-0.01	36.51	-0.03	0.09	16.17	0.01	0.07	14.37	0.6	-0.2
20.2	0.06	-1.60	-22.17	0.02	0.08	2.68	0.05	0.03	-8.49	0.05	0.07	-7.29	0.3	-0.1
20.3	0.09	-1.51	-33.49	0.01	-0.10	-4.09	-0.04	-0.08	34.18	0.02	0.01	4.50	0.5	-0.2
20.4	0.09	-1.60	-15.83	-0.03	-0.07	-1.57	-0.05	0.10	7.22	0.00	0.06	-39.91	0.6	-0.1
20.5	0.08	-1.65	-18.36	-0.05	0.04	9.79	-0.02	0.13	3.52	0.01	0.09	-6.09	0.5	-0.1
20.6	0.07	-1.55	-21.71	-0.02	0.03	11.88	-0.02	-0.02	4.87	-0.02	0.02	-17.32	0.4	-0.1
20.7	0.08	-1.61	-56.68	0.01	0.07	47.76	0.02	0.01	20.37	0.02	0.09	15.69	0.5	-0.3
20.8	0.03	-1.64	-36.26	0.04	0.01	15.56	-0.01	0.13	7.29	0.04	0.15	-4.05	0.2	-0.2
20.9	0.04	-1.55	-24.81	0.02	-0.13	21.77	-0.02	0.00	16.48	0.02	0.02	-12.83	0.2	-0.1
21.0	0.07	-1.58	-38.22	-0.02	0.00	26.00	-0.02	0.01	7.03	0.01	0.01	3.60	0.4	-0.2
21.1	0.07	-1.62	-1.92	0.00	0.09	-20.34	0.02	0.11	-37.08	0.02	0.08	-54.16	0.4	0.0
21.2	0.08	-1.52	-19.49	0.02	-0.04	-11.17	0.00	0.01	-1.41	-0.02	0.03	-23.90	0.5	-0.1
21.3	0.10	-1.60	-37.58	-0.05	0.02	38.27	0.01	0.01	-1.72	-0.03	0.09	1.72	0.6	-0.2
21.4	0.06	-1.66	-17.40	-0.02	0.16	8.79	0.04	0.05	0.46	0.01	0.18	-16.50	0.4	-0.1
21.5	0.03	-1.61	-8.57	0.02	0.09	-6.27	0.07	0.06	-14.11	0.05	0.05	-48.92	0.2	0.0
21.6	0.05	-1.52	-9.83	0.00	-0.06	-7.01	0.05	-0.08	-22.93	0.04	-0.01	-46.11	0.3	-0.1
21.7	0.09	-1.55	-8.92	0.01	-0.06	-27.39	0.01	0.02	-6.09	-0.01	-0.03	-63.86	0.6	0.0
21.8	0.07	-1.64	-20.70	-0.04	0.12	-8.27	0.05	0.13	-19.66	0.02	0.04	-24.75	0.4	-0.1
21.9	0.06	-1.68	-3.04	-0.04	0.13	-5.29	0.10	0.14	-46.51	0.03	0.12	-47.06	0.4	0.0
22.0	0.05	-1.58	-12.22	0.00	0.01	-18.97	0.06	0.04	-16.86	0.03	0.03	-30.90	0.3	-0.1
22.1	0.07	-1.52	-22.26	0.02	0.02	-16.74	0.04	-0.02	-1.81	0.01	-0.01	-6.60	0.4	-0.1
22.2	0.10	-1.57	-30.66	-0.02	0.05	9.75	0.00	0.04	1.20	0.00	0.07	-6.66	0.6	-0.2
22.3	0.05	-1.58	0.69	0.06	-0.01	-39.99	0.06	0.09	-29.68	0.05	0.02	-34.48	0.3	0.0
22.4	0.04	-1.50	-8.61	0.06	-0.11	-8.33	0.05	-0.04	-47.13	0.07	-0.01	-41.27	0.2	0.0
22.5	0.05	-1.52	-14.84	0.05	-0.03	-7.84	0.03	-0.04	-9.61	0.12	0.02	-38.98	0.3	-0.1
22.6	0.05	-1.57	-16.84	0.04	-0.02	-15.92	0.00	0.04	-22.19	0.02	0.04	-33.98	0.3	-0.1
22.7	0.10	-1.60	-36.31	0.00	0.08	21.31	0.00	0.08	-4.68	-0.07	0.15	-6.91	0.6	-0.2
22.8	0.03	-1.51	-28.97	0.09	0.01	-11.39	0.05	0.02	-11.34	0.02	0.03	-17.73	0.2	-0.1
22.9	0.02	-1.55	-8.33	0.14	0.01	-41.22	0.04	0.02	-29.31	0.06	0.02	-50.29	0.1	0.0
23.0	0.05	-1.57	-31.19	0.06	0.03	2.11	0.03	0.01	-3.43	-0.03	0.05	-5.88	0.3	-0.2
23.1	0.09	-1.51	-39.00	0.02	-0.03	14.93	0.01	-0.03	-17.08	0.04	0.01	-17.02	0.5	-0.2
23.2	0.08	-1.52	-20.90	0.02	-0.01	-8.55	-0.02	0.02	-22.49	-0.04	-0.04	-30.47	0.5	-0.1
23.3	0.10	-1.59	-39.30	0.00	0.09	10.31	-0.04	0.08	3.45	-0.07	0.09	-17.15	0.6	-0.2
23.4	0.10	-1.61	-16.94	-0.01	0.07	-38.80	-0.03	0.13	-16.96	0.01	0.12	-25.66	0.6	-0.1
23.5	0.10	-1.55	-22.68	-0.02	-0.01	-1.77	-0.02	-0.01	-34.81	0.00	0.05	-26.45	0.6	-0.1
23.6	0.09	-1.59	-32.76	-0.04	0.06	-6.26	-0.01	0.07	-23.18	0.00	0.11	-18.30	0.6	-0.2
23.7	0.10	-1.52	-15.01	0.00	0.00	-25.99	-0.02	-0.05	-57.78	0.06	0.03	-45.07	0.6	-0.1
23.8	0.12	-1.50	-40.36	-0.04	0.01	0.05	-0.03	-0.09	-5.09	0.00	0.06	-15.51	0.7	-0.2
23.9	0.16	-1.54	-49.55	-0.10	0.01	11.92	-0.08	-0.02	-0.55	-0.04	0.13	-24.17	1.0	-0.2
24.0	0.11	-1.54	-29.08	-0.03	-0.02	-5.55	-0.03	-0.01	-14.04	0.04	0.06	-33.92	0.7	-0.1
24.1	0.11	-1.54	-24.06	-0.02	0.00	-32.01	-0.03	0.01	-4.80	0.05	0.07	-28.62	0.7	-0.1
24.2	0.10	-1.53	-29.45	-0.04	0.03	-13.93	0.00	0.03	-7.86	0.03	0.06	-29.54	0.6	-0.1
24.3	0.10	-1.50	-28.99	-0.04	-0.01	-6.86	-0.01	-0.07	-4.80	0.01	0.03	-28.15	0.6	-0.1
24.4	0.09	-1.54	-55.74	-0.02	0.05	21.84	0.02	0.03	5.86	0.00	0.02	1.02	0.5	-0.3
24.5	0.09	-1.56	-24.45	-0.01	0.01	-33.04	0.09	0.06	-29.37	-0.03	0.09	-27.10	0.5	-0.1
24.6	0.05	-1.53	-39.02	0.03	0.01	-16.91	0.02	0.00	-11.79	0.01	0.05	-28.41	0.3	-0.2
24.7	0.10	-1.52	-40.99	-0.02	-0.05	-31.79	-0.07	0.07	-2.22	-0.05	0.07	-27.04	0.6	-0.2
24.8	0.07	-1.50	-40.31	0.01	-0.10	-5.14	-0.02	0.02	-6.40	0.01	0.11	-32.91	0.4	-0.2
24.9	0.06	-1.53	-37.64	0.02	-0.03	-12.47	0.02	0.00	-20.98	0.03	0.14	-26.74	0.4	-0.2

Table B-3 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
DIFFERENCES

SYNC TIME MIN	DIFFERENCES (TRANS GMD-2 LESS FPS-16) ELEV DEG	AZIMUTH DEG	S/R METERS	ONE MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	TWO MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	FOUR MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	RELATIVE DIFFERENCES ELEV PERCENT	S/R PERCENT
25.0	0.08	-1.57	-34.62	0.00	0.02	-8.49	-0.06	0.05	-2.44	0.05	0.20	-22.74	0.5	-0.2
25.1	0.09	-1.54	-56.08	-0.01	0.01	27.21	0.04	0.04	0.06	0.04	0.15	-2.90	0.6	-0.2
25.2	0.06	-1.50	-43.39	0.04	0.00	6.07	-0.02	-0.06	-7.98	0.07	0.09	-43.12	0.4	-0.2
25.3	0.07	-1.51	-35.85	0.03	-0.05	2.06	-0.04	0.01	-20.60	0.10	0.11	-30.71	0.4	-0.2
25.4	0.07	-1.48	-33.90	0.04	-0.03	-15.98	0.04	-0.01	-8.69	0.09	0.07	-7.10	0.4	-0.1
25.5	0.08	-1.56	-57.49	0.10	0.05	3.67	0.03	0.06	8.36	0.08	0.10	1.84	0.5	-0.2
25.6	0.08	-1.52	-55.94	-0.01	-0.01	5.12	0.01	0.04	4.87	0.06	0.09	-2.12	0.5	-0.2
25.7	0.08	-1.58	-72.78	-0.05	0.13	29.57	0.08	0.08	12.70	0.06	0.15	15.36	0.5	-0.3
25.8	0.08	-1.59	-45.45	-0.03	0.11	-1.25	0.02	0.15	-10.42	0.07	0.13	-13.52	0.5	-0.2
25.9	0.09	-1.57	-50.10	-0.01	0.03	-8.52	0.04	0.15	-23.62	0.08	0.12	-11.88	0.5	-0.2
26.0	0.08	-1.55	-43.12	-0.06	0.03	6.05	0.07	0.07	-19.88	0.08	0.11	-29.96	0.5	-0.2
26.1	0.08	-1.53	-29.86	0.05	0.03	-27.16	0.08	0.06	-23.82	0.07	0.06	-41.67	0.5	-0.1
26.2	0.10	-1.49	-37.32	-0.06	-0.06	-14.05	0.03	0.02	-21.67	0.04	0.07	-9.46	0.6	-0.2
26.3	0.10	-1.56	-33.80	-0.07	0.07	-22.66	0.01	0.10	-23.35	0.04	0.11	-47.05	0.6	-0.1
26.4	0.11	-1.51	-49.88	0.00	0.02	7.29	-0.02	0.00	-4.84	0.06	0.07	-51.45	0.7	-0.2
26.5	0.17	-1.50	-53.82	-0.07	0.01	4.69	-0.12	0.03	2.27	-0.05	0.11	-46.80	1.1	-0.2
26.6	0.07	-1.53	-50.82	0.02	0.05	-0.25	-0.01	0.06	-16.62	0.04	0.13	-48.04	0.4	-0.2
26.7	0.03	-1.45	-43.22	0.13	-0.05	-16.86	0.01	0.00	-24.82	0.09	0.02	-60.72	0.2	-0.2
26.8	0.05	-1.48	-46.71	0.06	0.04	-9.17	0.03	0.09	-26.52	0.01	0.02	-38.41	0.3	-0.2
26.9	0.08	-1.53	-58.62	0.04	0.12	-15.10	0.01	0.14	-5.76	0.03	0.12	-36.91	0.5	-0.2
27.0	0.01	-1.52	-37.07	0.13	0.04	-25.93	0.11	0.15	-20.29	0.07	0.10	-64.42	0.1	-0.2
27.1	0.13	-1.50	-56.02	0.03	0.03	3.33	0.00	0.10	-2.95	-0.04	0.06	-26.98	0.8	-0.2
27.2	0.05	-1.55	-51.37	0.09	0.08	-7.62	0.09	0.15	-35.14	0.13	0.12	-26.72	0.3	-0.2
27.3	0.03	-1.49	-56.45	0.08	0.03	-0.69	0.14	0.10	-10.11	-1.50	0.07	-23.63	0.2	-0.2
27.4	0.11	-1.49	-42.60	-0.02	-0.02	-12.13	0.05	0.07	1.60	0.05	0.11	-48.11	0.7	-0.2
27.5	0.10	-1.50	-49.13	-0.04	0.03	-2.43	0.05	0.04	-6.52	0.03	0.07	-60.38	0.6	-0.2
27.6	0.09	-1.48	-51.06	-0.03	0.00	-16.37	0.06	0.04	-7.00	0.07	0.10	-47.41	0.6	-0.2
27.7	0.16	-1.50	-60.08	-0.11	0.05	-7.96	-0.02	0.07	2.66	-0.01	0.13	-46.76	1.0	-0.2
27.8	0.11	-1.44	-55.88	-0.03	0.05	-17.35	0.04	-0.03	-3.10	0.01	0.07	-50.22	0.7	-0.2
27.9	0.12	-1.41	-73.73	-0.03	0.03	9.34	0.04	-0.04	11.75	0.01	0.04	-22.74	0.7	-0.3
28.0	0.15	-1.49	-62.99	-0.02	0.11	5.63	0.01	0.04	-10.08	-0.02	0.05	-29.50	0.9	-0.2
28.1	0.17	-1.47	-52.69	-0.03	0.08	-6.29	-0.01	0.00	-17.84	-0.03	0.00	-88.88	1.0	-0.2
28.2	0.14	-1.47	-58.99	0.00	0.06	-27.52	0.01	0.05	12.21	-0.03	0.01	-43.99	0.8	-0.2
28.3	0.11	-1.46	-57.14	0.05	0.06	-9.42	0.03	0.01	-23.70	0.02	0.08	-44.67	0.7	-0.2
28.4	0.09	-1.51	-54.73	0.07	0.10	13.73	0.08	0.07	-46.60	0.04	0.08	-46.13	0.6	-0.2
28.5	0.06	-1.47	-51.55	0.10	0.01	-4.09	0.07	0.08	-49.07	0.09	0.06	-58.17	0.4	-0.2
28.6	0.06	-1.48	-67.43	0.09	0.04	9.37	0.05	0.07	-31.42	0.11	0.07	-40.72	0.4	-0.3
28.7	0.05	-1.45	-68.04	0.10	0.02	10.62	0.08	0.03	-35.90	0.12	0.04	-13.29	0.3	-0.3
28.8	0.08	-1.39	-73.22	0.07	-0.08	14.24	-0.02	-0.07	-11.90	0.08	-0.05	-12.81	0.5	-0.3
28.9	0.09	-1.39	-64.38	0.07	-0.06	2.40	0.02	-0.03	-31.15	0.05	-0.05	-37.70	0.5	-0.2
29.0	0.12	-1.37	-57.36	0.03	-0.07	-15.72	-0.04	-0.06	-44.13	-0.01	-0.03	-46.07	0.8	-0.2
29.1	0.13	-1.40	-58.97	0.02	-0.08	-11.55	-0.04	-0.04	-24.03	0.00	-0.03	-45.18	0.8	-0.2
29.2	0.14	-1.41	-86.51	0.01	-0.01	39.73	0.04	-0.02	8.42	0.00	-0.01	-28.41	0.9	-0.3
29.3	0.17	-1.40	-66.56	-0.03	-0.06	-14.28	-1.63	-0.02	-13.72	-0.03	0.02	-11.49	1.0	-0.2
29.4	0.16	-1.42	-41.00	0.01	-0.03	-60.33	0.00	0.04	-49.71	-0.02	-0.01	-60.08	1.0	-0.1
29.5	0.16	-1.46	-55.64	-0.03	0.06	-44.97	-0.02	0.03	-53.86	-0.02	0.10	-76.83	1.0	-0.2
29.6	0.15	-1.44	-58.06	-0.04	0.03	-40.79	0.02	0.06	-40.41	-0.02	0.06	-55.50	0.9	-0.2
29.7	0.15	-1.43	-57.42	-0.02	0.00	-46.51	0.00	0.06	-49.42	-0.04	-0.02	-35.99	0.9	-0.2
29.8	0.15	-1.47	-58.98	-0.09	0.01	-26.14	-0.02	0.10	-47.12	-0.05	0.09	-39.87	1.0	-0.2
29.9	0.16	-1.45	-61.98	-0.06	0.03	-33.55	-0.03	0.07	-34.49	-0.04	0.08	-30.66	1.0	-0.2
30.0	0.16	-1.45	-73.08	-0.07	0.02	-28.41	-0.03	0.01	-19.42	-0.06	0.03	-26.65	1.0	-0.3
30.1	0.15	-1.47	-70.53	-0.06	0.03	-12.47	-0.02	0.00	-71.03	-0.08	0.10	-25.85	1.0	-0.2
30.2	0.15	-1.42	-46.78	0.03	-0.01	-31.31	-0.04	-0.04	-56.20	-0.07	0.04	-47.61	0.9	-0.2
30.3	0.14	-1.46	-80.84	-1.60	0.03	0.56	-0.01	0.08	-20.97	-0.06	0.02	-21.08	0.9	-0.3
30.4	0.17	-1.44	-101.33	-0.01	0.07	10.62	-0.04	0.01	0.47	-0.08	0.07	-10.41	1.1	-0.4
30.5	0.12	-1.39	-100.62	0.01	-0.04	-8.89	0.03	-0.02	-9.11	-0.02	0.02	-14.71	0.8	-0.3
30.6	0.11	-1.41	-98.85	0.06	0.03	0.38	0.06	0.00	-9.30	-0.02	0.00	-32.64	0.7	-0.3
30.7	0.13	-1.42	-103.94	0.02	0.06	-2.90	0.04	0.02	22.60	-0.03	0.03	8.16	0.8	-0.4
30.8	0.06	-1.46	-85.12	0.06	0.08	-20.97	0.10	0.01	-0.91	0.04	0.08	-31.92	0.4	-0.3
30.9	0.10	-1.42	-95.53	0.02	0.04	-0.93	0.04	-0.02	-6.55	-0.01	-0.01	-39.85	0.7	-0.3
31.0	0.09	-1.43	-101.49	0.04	0.00	9.00	0.03	0.02	-1.95	0.01	0.03	-28.01	0.5	-0.3
31.1	0.09	-1.44	-83.00	0.04	-0.03	-58.56	0.04	0.01	-21.16	-0.01	0.12	-12.62	0.6	-0.3
31.2	0.18	-1.43	-78.09	-0.07	-0.03	-24.89	-0.05	0.02	-36.83	-0.09	0.09	92.92	1.1	-0.3
31.3	-1.47	-1.42	-80.28	1.60	0.04	-21.53	1.60	0.04	2.23	1.57	0.11	7.97	-9.4	-0.3
31.4	0.16	-1.38	-90.71	-0.03	-0.05	-10.15	-0.02	-0.05	-10.37	-0.06	0.10	-24.56	1.0	-0.3
31.5	0.13	-1.43	-109.51	0.02	0.02	-0.22	0.00	0.07	-22.96	0.00	0.14	1.09	0.9	-0.4
31.6	0.16	-1.38	-98.47	0.00	-0.03	-9.68	-0.04	0.00	-15.09	-0.04	0.06	-7.30	1.1	-0.3
31.7	0.15	-1.37	-106.84	0.02	-0.04	25.51	-0.04	-0.08	13.43	-0.05	0.07	3.42	1.0	-0.3
31.8	0.12	-1.37	-106.09	0.04	-0.07	20.06	-0.02	-0.01	7.25	-0.02	0.06	15.54	0.8	-0.3
31.9	0.13	-1.38	-96.47	0.01	-0.06	-5.62	-0.01	0.01	3.83	-0.02	0.05	-6.43	0.8	-0.3
32.0	0.13	-1.43	-92.49	-0.01	0.03	-10.94	-0.03	0.01	-7.23	-0.01	0.08	-20.03	0.8	-0.3
32.1	0.13	-1.47	-141.56	0.00	0.04	37.40	-0.06	0.10	45.18	0.00	0.09	49.63	0.8	-0.5
32.2	0.11	-1.46	-102.99	0.03	0.04	-11.94	-0.03	0.08	8.59	-0.01	0.13	-13.39	0.7	-0.3
32.3	0.13	-1.38	-101.81	0.00	0.00	23.76	-0.06	-0.06	-0.11	-0.01	0.04	25.65	0.9	-0.3
32.4	0.13	-1.43	-100.86	0.01	0.00	-0.22	-0.05	0.05	-10.88	-0.02	0.07	-9.04	0.9	-0.3
32.5	0.15	-1.41	-109.73	-0.02	0.05	-22.74	-0.05	0.04	-5.61	-0.03	0.05	16.15	1.0	-0.3
32.6	0.17	-1.41	-108.15	-0.04	0.03	-5.41	-0.08	0.01	-23.34	-0.03	0.07	-8.27	1.1	-0.3
32.7	0.17	-1.41	-81.33	-0.06	-0.04	-12.08	-0.07	0.01	-14.44	-0.03	0.10	-10.16	1.1	-0.3
32.8	0.16	-1.45	-86.03	-0.06	0.06	-12.81	-0.06	0.07	-31.01	-0.04	0.12	-56.70	1.1	-0.3
32.9	0.14	-1.44	-102.09	-0.02	0.07	9.45	-0.05	0.02	-33.30	-0.02	0.08	-25.48	0.9	-0.3

Table B-3 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

DIFFERENCES

SYNC TIME MIN	DIFFERENCES (TRANS GMD-2 LESS FPS-16) ELEV DEG	AZIMUTH DEG	S/R METERS	ONE MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	TWO MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	FOUR MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	RELATIVE DIFFERENCES ELEV PERCENT	S/R PERCENT
33.0	0.12	-1.40	-103.44	-0.02	-0.02	3.71	-0.02	0.01	-26.07	0.00	0.05	-17.00	0.8	-0.3
33.1	0.13	-1.43	-104.16	-0.06	0.06	7.78	-0.05	0.10	8.54	0.01	0.07	-46.39	0.9	-0.3
33.2	0.13	-1.41	-114.92	-0.06	0.03	20.53	-0.04	0.08	129.75	0.01	0.13	1.54	0.9	-0.4
33.3	0.13	-1.38	-78.05	-0.06	-0.06	-23.87	-0.03	0.06	5.74	0.00	0.05	-36.96	0.9	-0.2
33.4	0.14	-1.43	-101.08	-0.05	0.05	-10.66	-0.04	0.15	-14.20	0.01	0.15	-44.09	0.9	-0.3
33.5	0.13	-1.36	-132.47	-0.03	-0.01	17.14	0.00	0.06	24.05	0.05	0.07	-2.00	0.9	-0.4
33.6	0.13	-1.38	-113.56	-0.04	-0.02	-17.93	0.00	0.06	7.79	0.03	0.04	-12.84	0.9	-0.3
33.7	0.11	-1.44	-93.41	-0.01	0.05	-2.37	-0.01	0.14	-10.01	0.05	0.13	-46.05	0.7	-0.3
33.8	0.11	-1.38	-98.85	0.00	0.00	-18.19	-0.01	0.07	8.29	0.02	0.06	-26.15	0.7	-0.3
33.9	0.12	-1.37	-92.64	-0.02	-0.05	-42.74	-0.01	0.04	-10.26	0.01	0.06	-37.47	0.8	-0.3
34.0	0.10	-1.42	-99.73	0.00	0.02	-29.78	0.03	0.06	-12.80	0.06	0.14	-64.60	0.6	-0.3
34.1	0.07	-1.37	-96.38	0.01	0.04	0.76	0.05	-0.01	4.45	0.11	0.04	-46.19	0.5	-0.3
34.2	0.07	-1.38	-94.39	0.02	0.04	109.22	0.03	0.05	-21.99	0.12	0.04	-62.20	0.5	-0.3
34.3	0.08	-1.44	-101.92	0.03	0.13	29.61	0.05	0.10	25.76	0.12	0.10	-63.31	0.5	-0.3
34.4	0.09	-1.38	-111.74	0.02	0.10	-3.54	0.03	0.01	1.84	0.13	0.01	-43.88	0.6	-0.3
34.5	0.10	-1.37	-115.33	0.03	0.08	6.92	0.03	0.01	21.76	0.09	0.02	-29.42	0.7	-0.3
34.6	0.08	-1.40	-131.49	0.04	0.08	25.72	0.05	0.06	15.06	0.09	0.02	-8.65	0.6	-0.4
34.7	0.10	-1.39	-95.78	0.00	0.09	-7.65	0.04	0.08	4.28	0.09	0.01	-40.37	0.6	-0.3
34.8	0.11	-1.38	-117.04	-0.01	0.06	26.48	0.02	0.06	-25.70	0.08	-0.04	-38.70	0.7	-0.3
34.9	0.09	-1.42	-135.38	0.02	0.10	32.49	0.03	0.07	7.82	0.11	0.01	1.01	0.6	-0.4
35.0	0.10	-1.40	-129.50	0.02	0.04	16.98	0.02	0.04	9.07	0.09	-0.03	-14.27	0.7	-0.4
35.1	0.08	-1.32	-95.62	0.04	-0.06	3.69	0.06	-0.04	-54.92	0.12	-0.14	-64.53	0.6	-0.3
35.2	0.09	-1.34	14.83	0.01	0.00	-131.21	0.05	0.05	-128.21	0.11	-0.12	-153.61	0.6	0.0
35.3	0.11	-1.32	-72.31	0.02	-0.03	-3.85	0.03	-0.01	-42.70	0.11	-0.13	-84.58	0.7	-0.2
35.4	0.11	-1.28	-115.28	0.01	-0.09	5.38	0.05	-0.01	-29.90	0.09	-0.17	-57.24	0.7	-0.3
35.5	0.13	-1.29	-108.42	0.00	-0.07	14.84	0.06	0.01	-26.05	0.08	-0.16	-55.78	0.9	-0.3
35.6	0.13	-1.32	-105.77	0.01	-0.02	-10.66	0.03	-0.01	-20.63	0.10	-0.14	-76.02	0.9	-0.3
35.7	0.10	-1.30	-103.42	0.04	-0.01	11.93	0.06	-0.01	-36.04	0.10	-0.15	-61.00	0.7	-0.3
35.8	0.10	-1.32	-90.56	0.03	0.00	-52.18	0.02	-0.01	-34.44	0.10	-0.19	-76.17	0.7	-0.2
35.9	0.11	-1.33	-102.90	0.01	-0.03	-24.67	0.02	0.02	-27.21	0.06	-0.19	-60.30	0.7	-0.3
36.0	0.12	-1.36	-112.53	-0.01	0.00	-7.91	0.03	0.08	-51.80	0.04	-0.12	-57.38	0.8	-0.3
36.1	0.13	-1.38	-91.93	0.01	0.02	-58.61	0.06	0.05	-50.64	0.04	-0.09	-86.19	0.9	-0.2
36.2	0.10	-1.33	-116.38	0.04	0.04	3.00	0.09	-0.01	-40.22	0.06	-0.13	-60.55	0.7	-0.3
36.3	0.12	-1.34	-76.17	0.01	0.02	-38.84	0.08	0.00	-89.06	0.04	-0.16	-79.82	0.8	-0.2
36.4	0.11	-1.36	-109.90	0.04	0.08	-35.27	0.10	0.00	-45.72	0.04	-0.12	-32.54	0.8	-0.3
36.5	0.13	-1.36	-93.57	0.06	0.08	-40.89	0.06	0.01	-51.18	0.01	-0.11	-48.31	0.9	-0.2
36.6	0.13	-1.34	-116.43	0.03	0.00	-9.97	0.04	-0.05	-23.71	0.01	-0.14	-8.33	0.9	-0.3
36.7	0.14	-1.31	-91.49	0.02	0.00	-47.97	0.05	-0.07	-44.66	0.01	-0.15	-60.07	1.0	-0.2
36.8	0.13	-1.32	-142.73	0.00	0.00	17.74	0.06	-0.10	-13.01	0.03	-0.16	-7.72	0.9	-0.4
36.9	0.12	-1.36	-127.57	0.00	0.05	-2.54	0.08	-0.06	-6.80	0.04	-0.10	2.84	0.8	-0.3
37.0	0.11	-1.35	-120.43	0.04	0.08	-43.89	0.07	-0.07	-23.34	0.05	-0.14	-19.90	0.8	-0.3
37.1	0.14	-1.36	-150.55	0.05	0.03	7.98	0.06	-0.10	-9.61	0.00	-0.09	3.08	1.0	-0.4
37.2	0.14	-1.29	-113.38	0.05	-0.05	-43.21	0.06	-0.16	-25.40	0.02	-0.20	-53.25	1.0	-0.3
37.3	0.14	-1.33	-115.01	0.06	-0.02	-50.22	0.08	-0.12	-41.89	0.04	-0.15	-41.18	0.9	-0.3
37.4	0.16	-1.28	-145.17	0.06	-0.08	-10.45	0.04	-0.17	-27.34	0.00	-0.21	-8.86	1.1	-0.4
37.5	0.18	-1.29	-134.47	0.00	-0.06	-10.29	0.03	-0.16	-29.73	-0.04	-0.21	-29.19	1.3	-0.3
37.6	0.16	-1.34	-126.40	0.01	-0.05	-13.74	0.07	-0.13	-55.39	0.00	-0.18	-20.45	1.1	-0.3
37.7	0.16	-1.31	-139.46	0.03	-0.07	3.31	0.04	-0.14	-24.96	0.01	-0.22	-16.05	1.1	-0.4
37.8	0.12	-1.32	-125.00	0.07	-0.10	-30.74	0.07	-0.18	-41.73	0.06	-0.19	-30.39	0.9	-0.3
37.9	0.13	-1.31	-130.11	0.07	-0.11	-4.26	0.04	-0.20	-33.08	0.03	-0.22	-19.12	0.9	-0.3
38.0	0.15	-1.27	-164.32	0.03	-0.15	20.55	0.01	-0.20	-5.58	0.02	-0.20	8.44	1.1	-0.4
38.1	0.19	-1.33	-142.57	0.01	-0.13	-17.59	-0.02	-0.14	-35.55	0.00	-0.20	3.79	1.3	-0.4
38.2	0.19	-1.34	-156.60	0.01	-0.11	17.81	-0.03	-0.12	-20.34	-0.04	-0.15	11.90	1.3	-0.4
38.3	0.20	-1.35	-165.23	0.02	-0.10	8.33	-0.04	-0.16	9.24	-0.03	-0.17	-3.06	1.4	-0.4
38.4	0.22	-1.37	-155.62	-0.02	-0.08	-16.90	-0.06	-0.12	13.18	-0.04	-0.15	-0.99	1.5	-0.4
38.5	0.19	-1.35	-144.75	0.02	-0.10	-19.44	-0.05	-0.12	2.87	0.00	-0.15	-5.94	1.3	-0.4
38.6	0.17	-1.39	-140.14	0.05	-0.08	-41.65	-0.03	-0.09	15.39	0.02	-0.09	-20.84	1.2	-0.3
38.7	0.19	-1.38	-136.15	0.01	-0.07	-28.27	-0.04	-0.08	-15.42	0.04	-0.18	-20.52	1.3	-0.3
38.8	0.19	-1.42	-155.74	0.01	-0.09	-10.99	-0.03	-0.06	5.29	0.00	-0.11	12.60	1.3	-0.4
38.9	0.20	-1.42	-134.37	-0.03	-0.09	-28.82	-0.03	-0.04	9.64	-0.01	-0.13	-23.79	1.4	-0.3
39.0	0.18	-1.42	-143.77	-0.03	-0.05	-26.13	-0.02	-0.07	3.44	0.04	-0.08	8.45	1.3	-0.3
39.1	0.20	-1.46	-160.16	-0.03	-0.01	-17.97	-0.05	0.01	12.68	0.04	-0.04	-4.24	1.4	-0.4
39.2	0.20	-1.45	-138.78	-0.04	-0.01	-38.15	-0.04	-0.04	-27.85	0.01	-0.10	-34.59	1.4	-0.3
39.3	0.22	-1.44	-156.90	-0.06	-0.06	0.91	-0.04	-0.03	0.70	-0.03	-0.06	-5.56	1.5	-0.4
39.4	0.20	-1.45	-172.52	-0.04	-0.04	30.07	-0.05	-0.05	18.48	0.02	-0.06	-6.02	1.4	-0.4
39.5	0.21	-1.45	-164.19	-0.07	-0.02	22.31	-0.07	-0.05	0.53	0.01	-0.07	-3.24	1.5	-0.4
39.6	0.22	-1.47	-181.79	-0.08	-0.01	57.03	-0.07	-0.05	34.94	-0.01	-0.02	20.82	1.6	-0.4
39.7	0.20	-1.45	-164.42	-0.05	0.00	12.86	-0.03	-0.07	8.91	0.00	-0.05	-16.79	1.4	-0.4
39.8	0.20	-1.51	-166.73	-0.04	0.03	16.28	-0.02	-0.01	11.34	-0.02	-0.01	-15.69	1.4	-0.4
39.9	0.17	-1.51	-163.19	0.00	0.06	38.47	-0.01	-0.01	13.96	0.02	0.02	-1.43	1.2	-0.4
40.0	0.16	-1.47	-169.90	0.01	-0.02	29.57	0.01	0.00	14.02	0.01	-0.05	0.19	1.1	-0.4
40.1	0.17	-1.47	-178.12	-0.02	0.02	30.65	0.02	-0.05	39.35	-0.01	-0.07	22.90	1.2	-0.4
40.2	0.16	-1.46	-176.93	0.00	-0.03	10.30	-0.01	-0.03	32.24	-0.06	-0.07	24.35	1.2	-0.4
40.3	0.16	-1.51	-155.98	0.02	0.04	-0.21	0.01	0.00	-12.31	-0.05	-0.05	-0.16	1.2	-0.4
40.4	0.16	-1.48	-142.44	-0.01	-0.01	-11.59	0.02	-0.04	-14.17	-0.02	-0.06	-17.65	1.1	-0.3
40.5	0.14	-1.47	-141.88	0.00	-0.03	-21.78	0.05	-0.03	-8.81	0.01	-0.06	-7.31	1.0	-0.3
40.6	0.14	-1.48	-124.76	0.02	-0.04	-22.09	0.05	0.00	-36.23	0.00	-0.08	-32.63	1.0	-0.3
40.7	0.15	-1.46	-151.57	0.02	-0.07	-3.94	0.08	-0.11	-5.10	0.00	-0.12	-4.14	1.1	-0.3
40.8	0.16	-1.48	-150.45	0.02	-0.04	-4.93	0.03	-0.05	7.31	-0.01	-0.09	-21.65	1.1	-0.3
40.9	0.17	-1.45	-124.72	-0.01	-0.07	-24.50	0.02	-0.09	-33.43	-0.02	-0.12	-51.39	1.2	-0.3

Table B-3 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
DIFFERENCES

SYNC TIME MIN	DIFFERENCES (TRANS GHD-2 LESS FPS-16) ELEV DEG	AZIMUTH DEG	S/R METERS	ONE MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	TWO MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	FOUR MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	RELATIVE DIFFERENCES ELEV PERCENT	S/R PERCENT
41.0	0.16	-1.50	-140.33	0.00	0.02	-15.55	0.06	-0.01	5.01	-0.01	-0.06	-17.00	1.2	-0.3
41.1	0.15	-1.45	-147.47	0.04	-0.08	8.70	0.10	-0.05	-16.92	-0.01	-0.11	5.89	1.1	-0.3
41.2	0.16	-1.49	-166.63	-0.01	0.00	21.94	0.05	-0.06	-6.74	-0.02	-0.09	10.38	1.2	-0.4
41.3	0.18	-1.47	-156.19	-0.01	-0.04	-12.10	0.01	-0.03	-6.27	-0.02	-0.07	-19.14	1.3	-0.3
41.4	0.15	-1.49	-154.03	0.02	-0.03	-2.58	0.07	-0.01	-24.50	0.02	-0.04	-26.88	1.1	-0.3
41.5	0.15	-1.50	-163.66	0.04	0.00	12.97	0.07	-0.02	-3.77	0.05	-0.07	-25.37	1.1	-0.4
41.6	0.16	-1.52	-146.85	0.04	0.04	-14.14	0.05	0.03	-14.12	0.00	-0.03	-29.74	1.1	-0.3
41.7	0.17	-1.53	-155.51	0.06	-0.03	-1.16	0.03	0.02	-25.70	0.01	0.00	-24.70	1.2	-0.3
41.8	0.18	-1.51	-155.39	0.01	-0.02	12.24	-0.01	0.00	-27.04	0.01	0.00	-45.08	1.3	-0.3
41.9	0.15	-1.53	-149.23	0.03	-0.02	-8.93	0.03	0.03	-15.39	0.04	-0.02	-19.35	1.1	-0.3
42.0	0.17	-1.47	-155.89	0.05	-0.03	20.56	0.00	-0.05	-13.82	0.03	-0.04	-21.69	1.2	-0.3
42.1	0.19	-1.52	-138.77	0.06	0.02	-25.62	-0.03	-0.02	-16.45	0.04	0.00	-54.79	1.4	-0.3
42.2	0.15	-1.49	-144.70	0.06	-0.06	-28.68	-0.05	-0.04	-7.89	0.07	-0.07	-21.72	1.1	-0.3
42.3	0.17	-1.51	-168.29	0.02	0.01	5.83	-0.06	-0.05	12.14	0.03	-0.03	-18.80	1.2	-0.4
42.4	0.17	-1.52	-156.61	0.04	0.02	-21.92	-0.03	-0.03	-3.47	0.02	-0.06	-21.96	1.3	-0.3
42.5	0.19	-1.50	-150.69	0.03	-0.02	-16.74	-0.04	-0.04	1.50	0.02	-0.09	-23.86	1.4	-0.3
42.6	0.19	-1.48	-160.99	0.02	-0.02	0.01	-0.06	-0.08	3.60	-0.02	-0.12	-2.49	1.4	-0.3
42.7	0.23	-1.56	-156.67	-0.03	0.06	-24.54	-0.08	-0.02	0.96	-0.07	-0.06	-29.47	1.7	-0.3
42.8	0.19	-1.53	-143.14	-0.02	0.02	-39.28	-0.05	-0.04	-28.96	-0.05	-0.12	-26.26	1.4	-0.3
42.9	0.19	-1.54	-158.16	0.00	0.05	-6.46	-0.05	-0.03	-17.96	-0.04	-0.10	-12.08	1.4	-0.3
43.0	0.22	-1.50	-135.32	-0.05	-0.02	-34.39	-0.07	-0.05	-22.01	-0.07	-0.13	-47.37	1.7	-0.3
43.1	0.24	-1.50	-164.39	-0.08	-0.04	9.17	-0.10	-0.06	22.81	-0.09	-0.14	-11.36	1.8	-0.3
43.2	0.21	-1.55	-173.37	-0.11	0.02	20.79	-0.06	-0.02	17.13	-0.06	-0.07	2.27	1.6	-0.4
43.3	0.19	-1.50	-162.46	-0.08	-0.05	6.31	-0.04	-0.04	-12.87	-0.02	-0.12	-26.44	1.4	-0.3
43.4	0.22	-1.50	-178.54	-0.08	-0.04	18.45	-0.04	-0.03	-2.38	-0.03	-0.14	-4.08	1.6	-0.4
43.5	0.22	-1.52	-167.43	-0.07	-0.02	18.23	-0.03	-0.05	-21.60	-0.04	-0.12	-3.26	1.6	-0.3
43.6	0.21	-1.49	-160.97	-0.07	-0.06	3.58	-0.06	-0.05	-15.62	-0.02	-0.14	-13.91	1.6	-0.3
43.7	0.20	-1.50	-181.21	-0.06	-0.08	25.51	-0.02	-0.02	1.00	0.01	-0.13	2.51	1.5	-0.4
43.8	0.17	-1.51	-182.42	-0.03	-0.05	10.32	0.01	-0.01	-18.04	0.05	-0.13	29.95	1.3	-0.4
43.9	0.18	-1.49	-164.62	-0.04	-0.08	-11.50	0.01	-0.05	-3.96	0.02	-0.17	14.84	1.4	-0.3
44.0	0.17	-1.52	-169.71	-0.02	-0.03	12.37	0.03	0.02	-7.87	0.01	-0.13	-6.27	1.3	-0.3
44.1	0.16	-1.54	-155.23	-0.02	-0.02	13.65	0.06	0.02	-38.33	0.03	-0.13	7.64	1.2	-0.3
44.2	0.10	-1.53	-152.58	0.04	-0.05	-3.67	0.13	-0.03	-13.83	0.09	-0.11	0.03	0.8	-0.3
44.3	0.11	-1.56	-156.15	0.05	0.01	-19.19	0.09	0.02	-30.94	0.10	-0.07	0.79	0.8	-0.3
44.4	0.14	-1.55	-160.09	0.03	0.01	-20.83	0.05	-0.03	-18.49	0.04	-0.10	-1.64	1.1	-0.3
44.5	0.15	-1.53	-149.20	0.04	-0.03	-39.84	0.06	-0.06	-25.36	0.03	-0.10	5.80	1.1	-0.3
44.6	0.14	-1.55	-157.39	0.01	0.01	-19.20	0.04	-0.04	-6.08	0.04	-0.09	-15.37	1.0	-0.3
44.7	0.14	-1.56	-155.70	0.03	0.05	-24.51	0.01	-0.04	-30.44	0.05	-0.06	2.76	1.1	-0.3
44.8	0.14	-1.57	-172.10	0.04	0.05	-28.36	0.00	-0.08	2.70	0.06	-0.07	31.16	1.1	-0.3
44.9	0.14	-1.57	-176.12	0.05	0.03	7.54	0.00	-0.08	5.88	0.03	-0.07	0.79	1.1	-0.3
45.0	0.15	-1.56	-157.34	0.05	0.05	-20.24	0.00	-0.08	-25.35	0.00	-0.08	-4.63	1.1	-0.3
45.1	0.14	-1.56	-141.58	0.08	0.03	-51.98	0.01	-0.09	-34.17	0.02	-0.06	-4.61	1.1	-0.3
45.2	0.15	-1.58	-156.25	0.08	0.02	-10.17	0.01	-0.05	-14.85	0.02	-0.05	8.37	1.1	-0.3
45.3	0.15	-1.54	-175.33	0.04	0.00	-11.76	0.01	-0.08	-13.56	0.04	-0.08	-3.89	1.2	-0.3
45.4	0.17	-1.54	-180.92	0.02	-0.04	2.34	0.01	-0.11	-1.70	-0.01	-0.12	25.62	1.3	-0.3
45.5	0.19	-1.57	-189.03	0.02	-0.02	14.48	-0.01	-0.07	18.34	-0.02	-0.03	18.12	1.5	-0.4
45.6	0.15	-1.55	-176.59	0.03	-0.05	13.12	0.04	-0.08	1.71	0.04	-0.08	0.24	1.2	-0.3
45.7	0.17	-1.53	-180.21	-0.02	-0.09	-5.93	0.03	-0.10	1.51	0.03	-0.10	3.76	1.3	-0.3
45.8	0.19	-1.52	-200.46	-0.04	-0.13	31.06	0.02	-0.13	44.00	0.03	-0.12	41.57	1.4	-0.4
45.9	0.20	-1.54	-168.58	-0.05	-0.10	-1.66	0.01	-0.12	18.80	0.02	-0.08	-13.36	1.5	-0.3
46.0	0.20	-1.51	-177.58	-0.05	-0.13	-5.11	-0.02	-0.15	1.60	0.01	-0.14	-8.09	1.6	-0.3
46.1	0.22	-1.52	-193.56	-0.07	-0.12	17.81	-0.03	-0.15	45.97	-0.02	-0.09	8.47	1.7	-0.4
46.2	0.23	-1.56	-166.42	-0.08	-0.07	-4.68	-0.04	-0.08	13.87	-0.05	-0.09	-18.01	1.8	-0.3
46.3	0.19	-1.54	-187.09	-0.03	-0.09	-1.81	0.01	-0.09	31.74	-0.02	-0.13	25.45	1.5	-0.3
46.4	0.20	-1.58	-178.58	-0.01	-0.07	-4.04	-0.01	-0.07	16.85	-0.04	-0.06	13.43	1.5	-0.3
46.5	0.21	-1.59	-174.55	-0.03	-0.05	3.87	-0.03	-0.04	31.16	-0.03	-0.06	-1.81	1.6	-0.3
46.6	0.18	-1.60	-163.47	0.01	-0.03	-11.41	0.00	-0.04	-9.29	-0.02	-0.09	-15.11	1.4	-0.3
46.7	0.16	-1.62	-186.14	0.05	-0.01	7.44	0.04	-0.02	33.20	0.00	-0.06	10.21	1.2	-0.3
46.8	0.14	-1.65	-169.40	0.08	0.01	12.93	0.06	0.02	28.46	0.00	-0.04	-7.55	1.1	-0.3
46.9	0.14	-1.65	-170.24	0.06	-0.01	20.46	0.03	0.00	-5.09	-0.06	-0.06	25.12	1.1	-0.3
47.0	0.15	-1.64	-182.69	0.03	-0.02	6.71	0.00	0.00	20.72	-0.04	-0.04	22.53	1.2	-0.3
47.1	0.15	-1.65	-175.75	0.04	-0.02	28.17	0.00	0.03	29.56	0.00	-0.03	8.33	1.2	-0.3
47.2	0.15	-1.63	-171.10	0.04	-0.01	18.55	0.02	0.00	23.22	-0.02	-0.06	26.94	1.2	-0.3
47.3	0.17	-1.63	-188.90	0.04	0.00	33.55	0.03	0.00	9.67	-0.06	-0.07	64.39	1.3	-0.3
47.4	0.19	-1.65	-182.61	0.00	0.00	20.88	-0.03	-0.01	27.32	-0.07	-0.06	30.73	1.5	-0.3
47.5	0.18	-1.64	-170.69	-0.01	0.01	27.29	-0.01	0.04	-0.22	-0.07	-0.07	32.96	1.4	-0.3
47.6	0.19	-1.63	-174.88	-0.01	-0.01	2.12	0.00	0.01	-1.47	-0.09	-0.07	36.67	1.5	-0.3
47.7	0.21	-1.63	-178.70	-0.01	-0.01	25.76	-0.01	0.01	2.25	-0.11	-0.08	41.23	1.6	-0.3
47.8	0.22	-1.64	-156.47	-0.01	0.01	15.53	-0.01	0.00	-2.43	-0.12	-0.07	1.43	1.7	-0.3
47.9	0.20	-1.66	-149.77	-0.03	0.02	-25.55	0.01	0.04	-32.16	-0.13	-0.04	15.71	1.6	-0.3
48.0	0.18	-1.65	-175.98	-0.03	0.02	14.01	0.04	0.01	-9.68	-0.09	-0.02	50.59	1.4	-0.3
48.1	0.19	-1.67	-147.59	-0.03	0.06	1.39	0.01	0.05	-37.50	-0.11	-0.02	27.39	1.5	-0.3
48.2	0.19	-1.64	-152.55	-0.02	0.01	4.67	-0.01	-0.01	-31.88	-0.11	-0.05	13.76	1.5	-0.3
48.3	0.21	-1.63	-155.35	-0.02	0.00	-23.88	-0.04	-0.05	-6.29	-0.12	-0.06	36.24	1.7	-0.3
48.4	0.18	-1.65	-161.73	-0.02	-0.01	6.44	-0.03	0.02	-3.42	-0.09	-0.03	26.08	1.5	-0.3
48.5	0.18	-1.63	-143.40	0.00	0.03	-27.51	0.00	-0.02	-32.97	-0.09	-0.07	-6.51	1.4	-0.2
48.6	0.18	-1.64	-172.76	0.01	0.02	-3.59	-0.02	-0.05	-5.82	-0.09	-0.07	22.60	1.4	-0.3
48.7	0.19	-1.64	-152.94	0.01	0.01	-23.51	-0.04	-0.04	-22.99	-0.11	-0.07	27.75	1.5	-0.3
48.8	0.21	-1.63	-140.94	0.01	-0.01	-17.95	-0.06	-0.06	-36.01	-0.14	-0.05	21.09	1.6	-0.2
48.9	0.17	-1.64	-175.33	0.04	0.02	-6.61	-0.09	-0.06	30.21	-0.08	-0.08	20.52	1.4	-0.3

Table B-3 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
DIFFERENCES

SYNC TIME MIN	DIFFERENCES (TRANS GMD-2 LESS FPS-16) ELEV DEG	AZIMUTH DEG	S/R METERS	ONE MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	TWO MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	FOUR MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	RELATIVE DIFFERENCES ELEV PERCENT	S/R PERCENT
49.0	0.15	-1.64	-161.97	0.06	-0.01	-23.69	-0.04	-0.04	1.81	-0.08	-0.05	-3.70	1.2	-0.3
49.1	0.16	-1.61	-146.19	0.05	0.00	-38.89	0.00	-0.06	-21.22	-0.09	-0.13	-4.95	1.2	-0.2
49.2	0.17	-1.63	-147.88	0.01	-0.02	-36.55	-0.03	-0.08	3.72	-0.08	-0.06	-13.05	1.3	-0.2
49.3	0.19	-1.63	-179.23	-0.02	-0.05	17.58	-0.09	-0.07	54.72	-0.12	-0.06	20.31	1.5	-0.3
49.4	0.16	-1.66	-155.29	-0.01	0.03	-9.86	-0.04	-0.04	3.41	-0.09	-0.05	-7.63	1.3	-0.3
49.5	0.17	-1.60	-170.91	0.00	-0.05	-5.46	-0.06	-0.11	33.18	-0.06	-0.12	7.04	1.4	-0.3
49.6	0.19	-1.62	-176.35	-0.03	-0.06	-2.23	-0.09	-0.08	38.14	-0.08	-0.11	11.30	1.5	-0.3
49.7	0.20	-1.63	-176.45	-0.05	-0.06	0.52	-0.10	-0.08	38.98	-0.12	-0.09	16.02	1.6	-0.3
49.8	0.21	-1.64	-158.89	-0.07	-0.05	-18.05	-0.11	-0.07	3.85	-0.10	-0.11	-11.57	1.7	-0.3
49.9	0.22	-1.62	-181.94	-0.14	-0.08	36.82	-0.14	-0.08	47.87	-0.14	-0.12	13.61	1.7	-0.3
50.0	0.21	-1.65	-185.66	-0.11	-0.03	25.50	-0.13	-0.03	60.27	-0.13	-0.09	-1.31	1.7	-0.3
50.1	0.20	-1.62	-185.09	-0.05	-0.06	17.67	-0.12	-0.07	64.89	-0.13	-0.12	2.17	1.6	-0.3
50.2	0.18	-1.65	-184.43	-0.04	-0.06	40.27	-0.10	-0.04	45.64	-0.11	-0.11	-1.44	1.4	-0.3
50.3	0.17	-1.68	-161.64	-0.07	-0.02	37.13	-0.08	-0.02	42.53	-0.10	-0.06	-12.52	1.4	-0.3
50.4	0.15	-1.63	-165.15	-0.04	-0.07	13.26	-0.06	-0.05	29.50	-0.06	-0.15	-19.02	1.2	-0.3
50.5	0.18	-1.65	-176.37	-0.06	-0.06	38.64	-0.09	-0.05	26.46	-0.10	-0.09	-4.18	1.4	-0.3
50.6	0.16	-1.68	-178.58	-0.06	-0.02	40.36	-0.08	-0.02	28.42	-0.08	-0.05	6.76	1.3	-0.3
50.7	0.15	-1.68	-175.93	-0.05	-0.03	38.47	-0.07	-0.02	50.74	-0.08	-0.09	3.78	1.2	-0.3
50.8	0.15	-1.69	-176.95	-0.05	-0.02	21.91	-0.08	0.01	57.10	-0.08	-0.06	13.50	1.2	-0.3
50.9	0.08	-1.70	-145.12	-0.01	0.00	11.05	0.01	-0.02	-9.69	-0.04	-0.08	-36.38	0.6	-0.8
51.0	0.11	-1.68	-160.16	-0.02	0.01	34.77	-0.04	-0.01	-5.50	-0.05	-0.09	11.60	0.9	-0.3
51.1	0.15	-1.67	-167.42	-0.07	-0.01	47.22	-0.08	-0.07	16.28	-0.09	-0.07	38.33	1.2	-0.3
51.2	0.13	-1.71	-144.16	-0.06	0.02	5.36	-0.05	0.02	-16.77	-0.09	-0.08	5.97	1.1	-0.2
51.3	0.10	-1.69	-124.51	-0.01	0.00	5.40	-0.04	0.01	-34.41	-0.05	-0.08	-15.35	0.8	-0.2
51.4	0.12	-1.70	-151.88	-0.03	0.02	16.24	-0.05	-0.01	-11.04	-0.06	-0.07	-7.25	1.0	-0.2
51.5	0.11	-1.71	-137.72	-0.02	0.01	-12.18	0.00	-0.01	-26.15	-0.03	-0.05	-11.35	0.9	-0.2
51.6	0.10	-1.70	-138.22	-0.02	-0.01	-11.94	0.00	-0.03	-26.84	0.04	-0.07	-7.87	0.8	-0.2
51.7	0.10	-1.71	-137.47	-0.02	0.00	12.28	-0.02	-0.01	-22.96	0.02	-0.06	-21.39	0.8	-0.2
51.8	0.10	-1.71	-155.04	-0.03	0.03	35.19	0.01	-0.04	-15.42	0.03	-0.08	-7.29	0.8	-0.2
51.9	0.07	-1.70	-134.06	0.02	-0.02	-20.74	0.00	-0.04	-34.27	0.08	-0.09	-19.99	0.6	-0.2
52.0	0.09	-1.67	-125.39	-0.02	-0.02	-40.28	0.00	-0.07	-61.58	0.07	-0.13	-47.49	0.7	-0.2
52.1	0.08	-1.69	-120.20	-0.01	-0.06	-30.94	0.00	-0.05	-62.73	0.04	-0.10	-36.85	0.6	-0.2
52.2	0.08	-1.69	-138.79	0.01	0.00	-22.14	0.00	-0.07	-47.08	0.03	-0.10	-42.93	0.6	-0.2
52.3	0.09	-1.69	-119.11	-0.02	0.01	-39.80	-0.02	-0.05	-55.05	0.01	-0.09	-39.06	0.7	-0.2
52.4	0.09	-1.68	-135.85	-0.02	-0.03	-27.27	0.00	-0.10	-48.52	0.01	-0.08	-21.41	0.7	-0.2
52.5	0.09	-1.70	-149.91	0.02	-0.02	-13.96	-0.01	-0.03	-36.64	0.11	-0.11	-8.90	0.7	-0.2
52.6	0.09	-1.71	-150.16	0.02	-0.02	-14.90	-0.01	-0.03	-21.65	0.07	-0.11	6.71	0.7	-0.2
52.7	0.08	-1.71	-125.19	0.00	-0.01	-35.24	-0.01	-0.07	-46.96	0.04	-0.10	-24.58	0.6	-0.2
52.8	0.07	-1.68	-119.85	0.05	-0.07	-50.61	0.00	-0.07	-43.60	0.07	-0.14	-13.37	0.5	-0.2
52.9	0.09	-1.73	-154.81	-0.01	-0.01	-13.53	-0.05	-0.06	-26.69	0.02	-0.07	12.94	0.7	-0.2
53.0	0.07	-1.69	-165.66	0.02	-0.05	-21.31	-0.02	-0.08	17.10	0.03	-0.13	25.09	0.6	-0.3
53.1	0.07	-1.74	-151.14	0.01	0.00	-31.78	-0.01	0.00	22.05	0.00	-0.06	13.87	0.5	-0.2
53.2	0.09	-1.69	-160.93	-0.01	-0.08	-24.94	-0.04	-0.10	22.74	-0.01	-0.13	29.22	0.7	-0.2
53.3	0.07	-1.68	-158.91	0.00	-0.05	-15.25	-0.01	-0.10	19.05	0.00	-0.11	15.59	0.6	-0.2
53.4	0.07	-1.71	-162.92	0.02	-0.07	-21.25	-0.01	-0.06	3.78	-0.05	-0.09	22.72	0.6	-0.2
53.5	0.11	-1.72	-163.87	-0.03	-0.01	-16.68	-0.03	-0.03	14.80	-0.06	-0.07	14.86	0.9	-0.2
53.6	0.11	-1.73	-165.06	-0.03	0.00	-6.76	0.03	-0.04	18.97	-0.05	-0.09	16.06	0.8	-0.2
53.7	0.08	-1.72	-160.43	-0.01	-0.06	-11.72	0.04	-0.05	1.57	0.00	-0.08	31.39	0.7	-0.2
53.8	0.11	-1.75	-170.46	-0.04	-0.01	7.01	0.02	-0.05	8.13	-0.02	-0.05	16.99	0.9	-0.3
53.9	0.08	-1.74	-168.33	-0.04	-0.04	-13.16	0.07	-0.05	14.28	0.01	-0.08	14.70	0.6	-0.3
54.0	0.09	-1.74	-186.97	-0.03	-0.02	38.41	0.07	-0.06	14.10	0.01	-0.08	49.72	0.7	-0.3
54.1	0.08	-1.74	-182.92	-0.02	0.00	53.84	0.05	-0.05	25.88	0.02	-0.08	22.29	0.6	-0.3
54.2	0.07	-1.76	-185.87	-0.03	-0.02	47.68	0.04	-0.03	4.15	0.02	-0.06	27.93	0.6	-0.3
54.3	0.07	-1.74	-174.17	-0.01	-0.04	34.30	0.03	-0.05	15.99	0.03	-0.11	19.22	0.6	-0.3
54.4	0.09	-1.78	-184.17	-0.03	0.01	25.03	0.01	0.02	27.12	-0.02	-0.06	47.62	0.8	-0.3
54.5	0.08	-1.73	-180.55	0.01	-0.02	31.48	0.12	-0.08	21.74	-0.05	-0.10	28.32	0.6	-0.3
54.6	0.08	-1.74	-171.82	0.06	-0.03	25.73	0.08	-0.08	28.36	0.02	-0.10	14.69	0.6	-0.3
54.7	0.07	-1.78	-172.15	0.05	0.01	13.29	0.05	-0.03	22.38	0.00	-0.08	20.09	0.6	-0.3
54.8	0.07	-1.75	-163.45	0.07	-0.04	1.12	0.07	-0.06	30.23	-0.04	-0.10	18.55	0.5	-0.2
54.9	0.04	-1.78	-181.50	0.11	-0.01	27.45	0.07	-0.01	39.63	0.04	-0.07	32.84	0.3	-0.3
55.0	0.05	-1.76	-148.56	0.10	-0.03	-24.31	0.05	-0.05	7.98	0.03	-0.10	-6.05	0.4	-0.2
55.1	0.06	-1.74	-129.09	0.07	-0.05	-27.96	0.01	-0.06	-8.18	-0.02	-0.13	-21.86	0.5	-0.2
55.2	0.04	-1.78	-138.19	0.07	-0.01	-43.54	0.03	-0.04	6.48	0.00	-0.09	0.39	0.3	-0.2
55.3	0.06	-1.78	-139.86	0.04	0.00	-18.31	0.01	-0.02	-3.47	-0.01	-0.10	6.08	0.5	-0.2
55.4	0.06	-1.77	-159.14	0.04	0.01	2.08	-0.04	-0.03	18.94	0.05	-0.09	36.83	0.5	-0.2
55.5	0.08	-1.76	-149.07	0.11	-0.06	-9.74	-0.03	-0.03	0.06	-0.01	-0.09	22.13	0.7	-0.2
55.6	0.14	-1.77	-146.08	0.02	-0.05	2.63	-0.08	-0.05	-2.92	-0.06	-0.09	43.40	1.1	-0.2
55.7	0.12	-1.77	-158.86	0.00	-0.04	9.09	-0.03	-0.03	29.82	-0.06	-0.08	48.16	1.0	-0.2
55.8	0.14	-1.79	-162.33	0.00	-0.02	29.11	-0.05	0.00	8.86	-0.07	-0.07	35.24	1.1	-0.2
55.9	0.15	-1.79	-154.05	-0.03	-0.01	12.18	-0.06	-0.03	0.41	-0.07	-0.04	29.56	1.2	-0.2
56.0	0.16	-1.80	-172.87	-0.05	-0.02	32.30	-0.06	-0.02	35.62	-0.07	-0.03	56.92	1.3	-0.2
56.1	0.12	-1.79	-157.05	-0.05	-0.01	19.78	-0.02	-0.03	-3.59	-0.06	-0.08	38.47	1.0	-0.2
56.2	0.11	-1.79	-181.72	-0.04	-0.03	50.01	-0.02	-0.03	23.79	-0.07	-0.06	52.49	0.9	-0.3
56.3	0.10	-1.78	-158.17	-0.04	-0.01	14.85	0.00	-0.06	3.22	-0.05	-0.08	26.34	0.8	-0.2
56.4	0.10	-1.76	-157.05	-0.08	-0.04	16.86	-0.03	-0.08	20.50	-0.03	-0.11	34.81	0.8	-0.2
56.5	0.20	-1.81	-158.80	-0.15	0.03	9.79	-0.17	-0.02	6.58	-0.11	-0.05	28.47	1.6	-0.2
56.6	0.16	-1.82	-143.45	-0.10	0.00	-5.55	-0.06	-0.02	-13.68	-0.08	-0.04	-0.82	1.2	-0.2
56.7	0.12	-1.81	-149.77	-0.04	0.01	20.73	-0.05	-0.04	-2.29	-0.09	-0.04	38.23	1.0	-0.2
56.8	0.14	-1.82	-133.22	-0.05	0.02	-20.25	-0.11	-0.04	-11.68	-0.07	-0.03	-24.32	1.1	-0.2
56.9	0.12	-1.80	-141.87	-0.03	-0.02	-11.77	-0.03	-0.06	-6.79	-0.06	-0.08	-0.65	0.9	-0.2

Table B-3 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
DIFFERENCES

SYNC TIME MIN	DIFFERENCES (TRANS GMD-2 LESS FPS-16) ELEV DEG	AZIMUTH DEG	S/R METERS	ONE MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	TWO MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	FOUR MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	RELATIVE DIFFERENCES ELEV PERCENT	S/R PERCENT
57.0	0.10	-1.81	-140.58	-0.01	-0.01	3.32	-0.02	-0.05	-14.04	-0.08	-0.05	14.03	0.8	-0.2
57.1	0.07	-1.80	-137.27	0.03	-0.02	-23.37	-0.04	-0.07	-13.68	-0.04	-0.10	-3.28	0.6	-0.2
57.2	0.08	-1.82	-131.71	0.01	-0.01	-26.23	-0.03	-0.05	-6.09	-0.08	-0.09	-11.96	0.6	-0.2
57.3	0.07	-1.80	-143.33	0.03	-0.05	-11.62	-0.02	-0.09	9.54	-0.03	-0.08	10.04	0.5	-0.2
57.4	0.02	-1.80	-140.20	0.05	-0.05	3.65	0.09	-0.06	17.89	0.01	-0.07	4.80	0.2	-0.2
57.5	0.05	-1.79	-149.01	-0.03	-0.04	-3.21	0.03	-0.05	22.08	0.00	-0.09	24.44	0.4	-0.2
57.6	0.06	-1.82	-149.00	0.04	-0.02	-8.13	0.01	-0.04	46.32	0.00	-0.04	24.99	0.5	-0.2
57.7	0.09	-1.80	-129.04	-0.01	-0.05	-23.02	-0.03	-0.05	18.34	-0.01	-0.07	26.41	0.7	-0.2
57.8	0.09	-1.80	-153.47	-0.06	-0.06	8.56	-0.02	-0.07	26.38	-0.05	-0.09	31.09	0.7	-0.2
57.9	0.09	-1.82	-153.64	0.00	-0.04	4.98	-0.01	-0.02	29.14	-0.01	-0.07	34.26	0.7	-0.2
58.0	0.09	-1.82	-137.25	-0.01	-0.04	-17.36	-0.01	-0.01	21.30	0.01	-0.06	25.79	0.8	-0.2
58.1	0.10	-1.82	-160.64	-0.06	-0.05	9.69	-0.04	-0.05	42.06	0.05	-0.07	47.56	0.8	-0.2
58.2	0.09	-1.83	-157.94	-0.05	-0.04	20.14	-0.04	-0.03	28.70	-0.02	-0.08	44.68	0.7	-0.2
58.3	0.10	-1.85	-154.95	-0.05	-0.04	21.17	-0.05	-0.01	23.12	-0.02	-0.03	52.22	0.8	-0.2
58.4	0.07	-1.85	-136.55	0.04	-0.01	14.25	0.00	-0.02	14.31	0.04	-0.05	40.75	0.6	-0.2
58.5	0.02	-1.83	-152.23	0.05	-0.01	25.29	0.06	-0.03	21.89	0.06	-0.06	53.73	0.2	-0.2
58.6	0.10	-1.84	-157.13	-0.02	-0.01	54.44	-0.02	-0.02	12.86	0.00	-0.07	65.64	0.8	-0.2
58.7	0.07	-1.85	-152.06	-0.02	0.00	41.36	-0.04	0.01	40.52	0.09	-0.03	65.34	0.6	-0.2
58.8	0.03	-1.85	-144.90	0.04	-0.01	17.81	0.04	0.00	-12.64	0.11	-0.03	43.68	0.2	-0.2
58.9	0.08	-1.86	-148.66	0.00	0.02	24.16	-0.02	-0.02	6.13	0.04	-0.02	57.17	0.7	-0.2
59.0	0.08	-1.86	-154.62	0.01	0.03	38.66	-0.06	0.00	28.07	0.07	-0.01	56.59	0.7	-0.2
59.1	0.03	-1.87	-150.95	0.03	0.00	32.37	0.00	-0.03	10.40	0.17	-0.04	64.93	0.3	-0.2
59.2	0.04	-1.87	-137.80	0.00	0.01	8.57	-0.04	-0.03	-5.87	0.04	-0.01	49.34	0.3	-0.2
59.3	0.05	-1.88	-133.78	0.01	0.02	1.95	-0.01	0.01	0.50	0.11	0.00	42.61	0.4	-0.2
59.4	0.11	-1.86	-122.30	-0.04	-0.01	0.06	-0.07	-0.01	-13.10	0.06	-0.04	34.64	0.9	-0.2
59.5	0.08	-1.84	-126.93	0.01	-0.02	-3.40	-0.02	-0.04	2.37	0.01	-0.08	47.58	0.6	-0.2
59.6	0.07	-1.85	-102.68	0.00	-0.01	-41.59	-0.01	0.00	-21.33	0.04	-0.08	38.68	0.6	-0.1
59.7	0.06	-1.85	-110.70	-0.02	0.01	-0.84	0.02	-0.02	8.07	0.13	-0.07	33.38	0.5	-0.1
59.8	0.07	-1.86	-127.09	0.00	0.01	-30.45	-0.03	-0.02	4.71	0.04	-0.04	57.24	0.6	-0.2
59.9	0.08	-1.83	-124.50	-0.02	-0.05	-18.03	0.00	-0.05	5.12	0.00	-0.09	40.74	0.6	-0.2
60.0	0.09	-1.83	-115.95	-0.07	-0.04	-10.60	0.01	-0.06	4.49	0.05	-0.09	54.14	0.7	-0.2
60.1	0.06	-1.87	-118.58	-0.03	-0.03	-21.97	0.09	-0.02	5.50	0.01	-0.02	47.28	0.5	-0.2
60.2	0.04	-1.86	-129.23	-0.05	-0.05	-14.43	0.03	-0.05	15.97	0.03	-0.07	46.11	0.4	-0.2
60.3	0.06	-1.86	-131.83	-0.02	-0.02	-1.45	0.03	-0.01	29.10	-0.01	-0.07	39.56	0.5	-0.2
60.4	0.07	-1.87	-122.24	-0.04	0.00	-13.16	0.04	-0.02	26.44	0.07	-0.08	35.48	0.6	-0.2
60.5	0.08	-1.87	-130.34	-0.03	-0.02	5.77	0.00	-0.03	31.84	-0.11	-0.07	45.71	0.7	-0.2
60.6	0.07	-1.86	-144.27	-0.01	0.01	20.26	0.02	-0.05	52.78	-0.05	-0.05	57.41	0.6	-0.2
60.7	0.04	-1.84	-111.54	0.04	-0.03	8.91	0.12	-0.04	24.82	-0.02	-0.09	40.21	0.3	-0.1
60.8	0.07	-1.85	-157.54	-0.03	-0.04	35.16	0.07	-0.04	56.32	-0.01	-0.07	75.72	0.5	-0.2
60.9	0.06	-1.88	-142.53	0.02	-0.01	23.15	0.07	0.00	51.03	0.01	-0.02	65.08	0.5	-0.2
61.0	0.02	-1.87	-126.55	0.08	-0.02	15.09	0.13	-0.01	28.52	0.08	-0.05	53.94	0.2	-0.2
61.1	0.03	-1.90	-140.54	0.12	0.00	27.47	0.17	-0.01	54.53	0.13	-0.05	74.91	0.3	-0.2
61.2	0.00	-1.91	-143.66	0.08	0.00	30.41	0.09	0.02	55.21	-0.01	-0.02	96.95	0.0	-0.2
61.3	0.04	-1.88	-133.28	0.05	0.00	30.55	0.12	0.00	42.11	0.03	-0.10	82.31	0.3	-0.2
61.4	0.04	-1.87	-135.40	0.07	-0.02	39.60	0.14	-0.03	47.73	0.10	-0.08	71.08	0.3	-0.2
61.5	0.05	-1.88	-124.57	0.03	-0.01	26.07	0.04	-0.04	45.21	-0.08	-0.08	56.96	0.4	-0.2
61.6	0.06	-1.86	-124.01	0.03	-0.05	32.52	0.06	-0.08	60.01	0.00	-0.10	60.19	0.5	-0.2
61.7	0.07	-1.87	-102.63	0.09	-0.01	15.92	0.12	-0.05	25.31	0.13	-0.10	49.60	0.6	-0.1
61.8	0.04	-1.89	-122.38	0.10	0.00	21.15	0.07	-0.02	52.53	0.01	-0.08	81.45	0.3	-0.2
61.9	0.08	-1.89	-119.38	0.05	0.01	27.89	0.00	-0.03	35.63	-0.03	-0.09	53.28	0.6	-0.2
62.0	0.10	-1.88	-111.46	0.05	0.01	13.44	0.04	-0.03	49.65	-0.04	-0.10	47.69	0.8	-0.1
62.1	0.15	-1.89	-113.07	0.06	-0.01	27.06	-0.08	0.00	41.78	-0.11	-0.06	64.35	1.2	-0.1
62.2	0.07	-1.91	-113.26	0.01	0.03	24.80	0.00	-0.01	32.13	-0.07	-0.02	43.68	0.6	-0.1
62.3	0.09	-1.87	-102.73	0.08	-0.01	11.57	-0.04	-0.06	10.47	0.02	-0.04	30.45	0.7	-0.1
62.4	0.11	-1.89	-95.80	0.06	-0.01	8.14	0.04	-0.06	9.04	0.15	-0.02	42.46	0.9	-0.1
62.5	0.08	-1.89	-98.49	0.00	-0.02	19.13	-0.11	-0.04	13.86	-0.01	-0.04	69.18	0.7	-0.1
62.6	0.09	-1.91	-91.49	0.03	-0.02	27.49	-0.07	0.00	4.62	0.03	-0.01	42.84	0.7	-0.1
62.7	0.16	-1.88	-86.72	0.03	-0.04	9.40	-0.14	-0.06	15.38	-0.01	-0.06	43.36	1.3	-0.1
62.8	0.14	-1.89	-101.22	-0.03	-0.02	31.37	-0.08	-0.04	19.40	-0.10	-0.04	64.25	1.1	-0.1
62.9	0.13	-1.88	-91.49	-0.05	-0.04	7.74	-0.06	-0.02	14.05	-0.13	-0.06	62.12	1.0	-0.1
63.0	0.15	-1.87	-98.03	-0.01	-0.04	36.21	-0.05	-0.04	25.41	-0.06	-0.06	53.80	1.2	-0.1
63.1	0.20	-1.90	-86.01	-0.14	0.01	14.71	-0.04	-0.04	20.38	-0.15	-0.02	42.60	1.6	-0.1
63.2	0.08	-1.88	-88.46	-0.01	-0.04	7.33	-0.10	-0.04	41.74	-0.06	-0.06	18.00	0.7	-0.1
63.3	0.16	-1.88	-91.17	-0.11	-0.05	-1.10	-0.09	-0.09	40.19	-0.15	-0.05	29.81	1.3	-0.1
63.4	0.17	-1.90	-87.67	-0.03	-0.05	0.91	-0.04	-0.05	23.35	-0.14	-0.05	35.90	1.3	-0.1
63.5	0.09	-1.92	-79.36	-0.12	-0.01	-5.27	-0.12	-0.04	11.75	-0.08	0.00	25.38	0.7	-0.1
63.6	0.12	-1.93	-64.00	-0.10	0.02	-22.86	-0.06	-0.03	0.19	-0.10	0.00	2.66	0.9	-0.1
63.7	0.19	-1.92	-77.32	-0.17	-0.01	5.99	0.02	-0.04	24.29	-0.18	-0.01	4.17	1.5	-0.1
63.8	0.11	-1.91	-69.85	-0.05	-0.02	-11.97	-0.06	-0.06	28.93	-0.09	-0.01	0.80	0.8	-0.1
63.9	0.08	-1.92	-83.75	-0.01	0.02	6.31	-0.03	-0.05	17.65	-0.06	0.01	13.57	0.6	-0.1
64.0	0.14	-1.91	-61.81	-0.04	0.00	-10.80	-0.08	-0.07	-1.96	-0.11	-0.01	-3.65	1.1	-0.1
64.1	0.07	-1.89	-71.30	0.10	-0.06	5.67	-0.03	-0.06	22.58	0.01	-0.04	10.38	0.5	-0.1
64.2	0.08	-1.92	-81.13	-0.09	0.00	34.41	-0.08	-0.01	11.55	-0.04	0.01	31.94	0.6	-0.1
64.3	0.05	-1.93	-92.27	0.02	-0.04	41.29	0.06	0.02	19.98	0.06	0.02	29.89	0.4	-0.1
64.4	0.14	-1.95	-86.76	-0.01	0.00	22.45	0.11	0.03	33.42	-0.01	0.02	36.99	1.1	-0.1
64.5	-0.03	-1.93	-84.63	0.00	-0.03	17.02	0.10	0.00	55.31	0.12	0.02	36.08	-0.2	-0.1
64.6	0.02	-1.91	-86.87	0.04	-0.05	23.05	0.10	0.00	38.22	0.02	-0.02	41.16	0.2	-0.1
64.7	0.02	-1.94	-71.33	0.19	-0.03	18.30	0.13	-0.01	27.97	0.11	0.02	23.09	0.1	-0.1
64.8	0.06	-1.92	-81.82	-0.01	-0.04	40.90	-0.03	0.00	44.85	0.19	0.02	59.05	0.5	-0.1
64.9	0.06	-1.90	-77.45	-0.01	-0.07	11.35	-0.07	-0.04	48.07	0.19	0.01	53.25	0.5	-0.1

Table B-3 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
DIFFERENCES

SYNC TIME MIN	DIFFERENCES (TRANS GMD-2 LESS FPS-16) ELEV DEG	AZIMUTH DEG	S/R METERS	ONE MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	TWO MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	FOUR MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	RELATIVE DIFFERENCES ELEV PERCENT	S/R PERCENT
65.0	0.10	-1.91	-72.61	-0.04	-0.07	8.84	-0.01	-0.02	28.39	0.16	0.00	37.64	0.8	-0.1
65.1	0.17	-1.95	-65.63	-0.12	0.00	16.91	-0.11	0.02	22.22	0.09	0.02	15.78	1.3	-0.1
65.2	-0.02	-1.92	-46.71	0.02	-0.01	-22.86	0.04	-0.02	-23.74	0.18	-0.02	-3.60	-0.1	-0.1
65.3	0.07	-1.97	-50.98	0.03	0.06	-21.31	-0.06	0.04	-10.38	0.06	0.03	-19.00	0.5	-0.1
65.4	0.14	-1.95	-64.32	0.12	0.03	10.97	-0.10	0.00	12.54	-0.02	0.02	-17.43	1.0	-0.1
65.5	-0.03	-1.96	-67.61	0.10	0.02	38.29	0.04	0.04	13.63	0.16	0.02	-6.48	-0.2	-0.1
65.6	0.06	-1.96	-63.82	0.06	0.05	15.17	-0.05	0.03	2.47	0.07	0.01	-15.15	0.5	-0.1
65.7	0.21	-1.97	-53.03	-0.06	0.02	9.67	-0.20	0.04	-20.12	-0.11	0.00	-26.27	1.6	-0.1
65.8	0.05	-1.97	-40.93	-0.01	0.04	3.96	-0.02	0.05	-28.13	0.07	-0.01	-24.16	0.4	-0.1
65.9	0.05	-1.97	-66.10	-0.05	0.04	36.73	-0.04	0.06	-4.08	0.07	-0.02	2.82	0.4	-0.1
66.0	0.06	-1.98	-63.77	0.03	0.05	19.55	-0.03	0.05	-1.69	-0.02	-0.01	1.82	0.5	-0.1
66.1	0.04	-1.95	-48.72	0.02	0.02	5.31	0.04	0.02	-12.20	0.03	-0.08	-5.33	0.3	-0.1
66.2	0.00	-1.93	-69.58	0.02	-0.01	-0.88	0.03	0.02	20.39	0.04	-0.09	15.80	0.0	-0.1
66.3	0.10	-1.91	-72.29	-0.10	-0.02	10.93	0.00	0.00	9.91	-0.03	-0.09	-4.42	0.8	-0.1
66.4	0.26	-1.91	-53.34	-0.22	-0.03	1.57	-0.12	-0.02	3.57	-0.21	-0.08	-5.31	1.9	-0.1
66.5	0.07	-1.94	-29.32	-0.06	0.01	-24.67	0.02	0.02	-19.23	0.12	-0.05	-19.83	0.5	0.0
66.6	0.12	-1.91	-48.65	-0.11	-0.02	-12.69	-0.08	-0.01	2.94	-0.02	-0.04	-13.04	0.9	-0.1
66.7	0.15	-1.94	-43.36	-0.14	0.01	-29.79	-0.02	0.03	-4.88	0.00	-0.02	-2.10	1.1	-0.1
66.8	0.03	-1.93	-36.97	-0.01	0.01	-32.09	0.22	0.02	14.20	0.09	-0.03	-11.83	0.3	0.0
66.9	0.00	-1.94	-29.37	0.02	0.03	-40.81	0.26	0.04	5.18	0.12	-0.02	-21.98	0.0	0.0
67.0	0.10	-1.94	-44.22	-0.07	0.01	-21.24	0.17	0.02	9.25	0.09	0.01	0.77	0.7	-0.1
67.1	0.06	-1.92	-43.41	0.02	0.00	-17.50	0.19	0.00	-6.44	-0.04	-0.04	9.16	0.4	-0.1
67.2	0.02	-1.94	-70.45	0.01	0.03	21.27	0.15	0.00	20.14	0.00	-0.03	19.90	0.2	-0.1
67.3	0.01	-1.93	-61.36	0.10	0.02	-1.02	0.12	-0.01	-8.62	0.19	0.00	21.22	0.0	-0.1
67.4	0.03	-1.94	-51.77	0.10	0.01	2.00	0.08	0.02	-29.97	0.09	0.00	9.35	0.2	-0.1
67.5	0.01	-1.92	-53.98	0.08	0.01	5.43	0.12	-0.02	-20.11	0.05	0.02	21.09	0.1	-0.1
67.6	0.01	-1.94	-61.35	0.03	0.01	15.64	0.12	-0.01	-17.63	0.17	0.01	15.31	0.1	-0.1
67.7	0.01	-1.93	-73.15	0.12	0.01	24.91	0.09	-0.03	-6.15	0.00	0.00	30.00	0.1	-0.1
67.8	0.02	-1.91	-69.06	0.24	0.01	46.29	0.09	-0.06	3.97	0.03	-0.03	9.24	0.2	-0.1
67.9	0.01	-1.91	-70.19	0.24	0.02	45.99	0.11	-0.08	6.91	0.11	-0.06	18.76	0.1	-0.1
68.0	0.03	-1.93	-65.46	0.23	0.02	30.49	0.01	-0.06	3.51	-0.07	-0.03	25.15	0.2	-0.1
68.1	0.08	-1.93	-60.92	0.17	0.01	11.07	-0.01	-0.10	6.87	-0.09	0.00	2.69	0.6	-0.1
68.2	0.04	-1.91	-49.18	0.13	-0.03	-1.13	0.01	-0.11	-4.59	0.04	-0.01	-20.91	0.3	-0.1
68.3	0.10	-1.91	-62.38	0.02	-0.03	-7.60	-0.03	-0.09	-14.33	-0.10	-0.03	16.92	0.7	-0.1
68.4	0.13	-1.93	-49.77	-0.02	0.01	-31.98	-0.09	-0.07	-8.89	-0.10	0.00	-11.34	1.0	-0.1
68.5	0.09	-1.91	-48.55	0.04	-0.03	-25.54	0.10	-0.08	-0.60	-0.04	-0.04	12.16	0.7	-0.1
68.6	0.04	-1.93	-45.71	0.09	-0.02	-33.26	0.07	-0.03	-15.98	0.00	-0.03	14.51	0.3	-0.1
68.7	0.12	-1.92	-48.24	-0.03	-0.04	-31.06	0.02	-0.04	2.78	-0.10	-0.02	-8.91	0.9	-0.1
68.8	0.26	-1.91	-22.77	-0.14	-0.07	-42.32	-0.13	-0.04	-26.03	-0.22	-0.04	-20.01	1.8	0.0
68.9	0.26	-1.89	-24.19	-0.14	-0.10	-39.09	-0.14	-0.06	-27.16	-0.20	-0.06	-19.24	1.9	0.0
69.0	0.26	-1.91	-34.97	-0.22	-0.08	-26.98	-0.08	-0.02	-8.48	-0.25	-0.03	-5.11	1.9	0.0
69.1	0.25	-1.92	-49.85	-0.18	-0.10	-4.20	-0.24	-0.04	15.60	-0.20	-0.02	5.19	1.8	-0.1
69.2	0.17	-1.95	-50.32	-0.12	-0.08	-3.46	-0.14	-0.03	-0.24	-0.13	0.01	9.94	1.2	-0.1
69.3	0.13	-1.95	-69.97	-0.06	-0.06	-6.74	0.07	0.01	29.84	-0.08	-0.03	26.01	0.9	-0.1
69.4	0.12	-1.92	-81.75	-0.07	-0.07	23.09	0.00	-0.02	39.32	-0.01	-0.06	40.23	0.8	-0.1
69.5	0.13	-1.94	-74.09	0.06	-0.05	24.95	-0.07	0.04	41.20	-0.04	-0.03	22.49	0.9	-0.1
69.6	0.13	-1.95	-78.97	-0.03	-0.01	17.28	0.05	0.02	32.93	-0.08	0.00	26.60	0.9	-0.1
69.7	0.10	-1.96	-79.30	0.05	0.00	33.84	-0.08	0.03	36.15	0.11	0.01	43.01	0.7	-0.1
69.8	0.12	-1.97	-65.09	0.01	0.02	16.29	-0.06	0.03	5.27	-0.04	0.04	13.19	0.8	-0.1
69.9	0.12	-1.99	-63.28	0.00	0.04	11.93	0.00	0.02	11.86	-0.02	0.04	54.36	0.9	-0.1
70.0	0.04	-1.99	-61.95	0.14	0.06	18.50	-0.08	0.04	21.64	0.14	0.07	48.08	0.3	-0.1
70.1	0.07	-2.02	-54.05	-0.06	0.06	19.80	-0.09	0.10	-4.18	0.05	0.06	34.44	0.5	-0.1
70.2	0.04	-2.03	-53.78	-0.02	0.05	3.22	0.03	0.10	-16.32	0.15	0.08	32.95	0.3	-0.1
70.3	0.07	-2.00	-76.71	0.13	0.06	36.58	-0.07	0.06	31.25	0.04	0.04	73.50	0.5	-0.1
70.4	0.04	-2.00	-58.66	0.08	0.05	16.23	-0.01	0.06	-2.45	0.07	0.01	21.78	0.3	-0.1
70.5	0.19	-1.99	-49.15	-0.13	0.09	16.26	-0.14	0.04	12.76	-0.06	-0.01	37.94	1.4	-0.1
70.6	0.11	-1.96	-61.69	0.08	0.03	15.65	-0.06	0.00	30.49	-0.04	-0.04	49.38	0.8	-0.1
70.7	0.14	-1.96	-45.46	-0.13	0.03	2.31	-0.12	0.02	-11.69	-0.12	-0.02	16.88	1.0	-0.1
70.8	0.12	-1.95	-48.80	-0.07	0.01	-11.02	-0.08	0.01	6.02	0.00	-0.05	33.87	0.9	-0.1
70.9	0.12	-1.95	-51.35	0.00	-0.02	-0.07	-0.06	0.00	7.92	0.06	-0.06	67.07	0.9	-0.1
71.0	0.18	-1.93	-43.45	-0.22	-0.03	3.14	-0.17	-0.01	3.36	-0.15	-0.06	34.13	1.3	-0.1
71.1	0.02	-1.97	-34.25	-0.03	0.04	-23.97	0.03	0.02	-10.41	-0.03	-0.04	27.41	0.1	0.0
71.2	0.02	-1.97	-50.55	0.05	0.05	-19.54	0.01	0.04	10.18	0.02	-0.02	51.81	0.2	-0.1
71.3	0.20	-1.94	-40.13	-0.20	-0.01	-5.33	-0.15	-0.04	-3.83	-0.16	-0.05	37.12	1.4	-0.1
71.4	0.12	-1.94	-42.42	-0.09	0.01	-18.68	-0.01	-0.04	0.90	-0.11	-0.03	57.21	0.8	-0.1
71.5	0.06	-1.90	-32.89	-0.01	-0.05	-3.50	0.03	-0.07	-18.71	0.03	-0.06	47.00	0.4	0.0
71.6	0.19	-1.93	-46.04	-0.14	-0.03	14.84	-0.14	-0.02	-6.34	-0.13	-0.05	82.72	1.3	-0.1
71.7	0.01	-1.93	-43.15	0.02	-0.01	-14.00	0.19	-0.02	6.86	0.11	-0.02	45.39	0.1	-0.1
71.8	0.06	-1.95	-59.82	-0.02	0.00	17.04	0.02	0.01	7.91	0.00	0.00	64.76	0.4	-0.1
71.9	0.12	-1.97	-51.42	-0.06	0.02	7.99	-0.02	0.01	42.50	-0.09	0.02	43.38	0.9	-0.1
72.0	-0.04	-1.96	-40.31	0.05	0.02	0.22	0.22	0.03	26.44	0.10	0.03	38.23	-0.3	-0.1
72.1	-0.02	-1.93	-58.23	0.07	-0.02	13.56	0.13	-0.04	38.61	0.01	-0.01	55.12	-0.1	-0.1
72.2	0.07	-1.92	-70.09	-0.04	-0.01	29.72	0.12	-0.02	49.26	-0.01	-0.02	44.37	0.5	-0.1
72.3	0.00	-1.94	-45.46	0.04	-0.03	1.49	0.10	-0.02	42.25	0.07	0.02	34.11	0.0	-0.1
72.4	0.03	-1.93	-61.11	0.07	-0.05	19.59	0.08	-0.06	24.23	-0.02	-0.01	60.22	0.2	-0.1
72.5	0.05	-1.95	-36.39	0.04	-0.01	-15.21	0.08	-0.05	25.19	0.00	-0.02	20.53	0.3	0.0
72.6	0.04	-1.96	-31.20	0.01	0.01	-21.17	0.02	-0.04	18.89	0.05	0.02	37.95	0.3	0.0
72.7	0.03	-1.94	-57.15	0.17	-0.01	20.87	-0.01	-0.05	28.57	-0.07	0.00	57.03	0.2	-0.1
72.8	0.04	-1.95	-42.78	0.03	0.01	-9.12	0.08	-0.05	27.86	0.14	0.02	59.76	0.3	-0.1
72.9	0.06	-1.95	-43.43	0.04	0.00	34.50	0.12	-0.06	59.15	0.06	0.02	43.71	0.4	-0.1

Table B-3 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
DIFFERENCES

SYNC TIME MIN	DIFFERENCES (TRANS CMD-2 LESS FPS-16) ELEV DEG	AZIMUTH DEG	S/R METERS	ONE MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	TWO MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	FOUR MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	RELATIVE DIFFERENCES ELEV PERCENT	S/R PERCENT
73.0	0.01	-1.94	-40.09	0.17	0.01	26.21	0.02	-0.06	30.77	-0.01	-0.03	31.56	0.1	0.0
73.1	0.05	-1.94	-44.66	0.07	-0.02	25.05	-0.06	-0.06	37.82	0.04	0.00	35.06	0.3	-0.1
73.2	0.04	-1.93	-40.38	0.16	-0.02	19.55	0.00	-0.07	41.63	0.00	-0.01	14.82	0.2	-0.1
73.3	0.04	-1.97	-43.96	0.06	0.01	40.76	0.00	-0.02	40.96	0.03	0.03	11.17	0.3	-0.1
73.4	0.11	-1.98	-41.52	0.00	-0.01	4.64	-0.09	0.01	56.30	-0.07	0.03	43.23	0.7	-0.1
73.5	0.09	-1.97	-51.60	0.04	-0.04	40.40	0.00	0.00	65.71	-0.11	0.02	13.74	0.6	-0.1
73.6	0.05	-1.95	-52.37	0.01	-0.05	40.07	0.00	-0.02	89.05	0.07	0.01	7.90	0.3	-0.1
73.7	0.20	-1.95	-36.29	-0.18	-0.04	7.70	-0.08	0.00	38.53	-0.13	0.03	15.51	1.4	0.0
73.8	0.07	-1.94	-51.90	0.05	-0.06	36.98	-0.02	-0.02	56.85	0.05	0.00	19.58	0.5	-0.1
73.9	0.10	-1.95	-8.92	0.09	-0.06	24.64	-0.07	0.01	0.88	0.10	0.01	-41.41	0.7	0.0
74.0	0.18	-1.92	-13.88	-0.15	-0.07	4.56	-0.12	0.00	11.79	-0.04	-0.02	-21.03	1.2	0.0
74.1	0.12	-1.97	-19.61	-0.13	-0.04	12.77	-0.13	0.03	16.50	0.04	-0.02	-11.91	0.8	0.0
74.2	0.20	-1.95	-20.83	-0.16	-0.05	22.09	-0.13	0.00	-4.89	-0.03	-0.04	3.26	1.3	0.0
74.3	0.10	-1.96	-3.21	-0.06	-0.03	0.20	-0.03	0.03	-8.14	-0.02	0.00	0.45	0.7	0.0
74.4	0.11	-1.99	-36.87	-0.10	0.02	51.66	-0.10	0.04	35.99	-0.13	0.04	18.91	0.7	0.0
74.5	0.13	-2.00	-11.20	-0.04	0.04	25.31	-0.08	0.03	-4.65	-0.10	0.05	-6.42	0.9	0.0
74.6	0.08	-2.00	-12.30	-0.01	0.02	48.99	0.03	0.07	19.06	0.00	0.04	-4.60	0.4	0.0
74.7	0.02	-1.99	-28.59	0.10	0.04	30.83	-0.06	0.05	28.46	-0.05	0.01	9.01	0.1	0.0
74.8	0.12	-2.00	-14.92	-0.07	0.05	19.87	0.06	0.07	31.90	-0.01	0.05	-9.14	0.8	0.0
74.9	0.19	-2.01	15.72	-0.15	0.07	-23.76	-0.06	0.08	-15.44	-0.07	0.06	-61.23	1.2	0.0
75.0	0.03	-1.99	-9.32	0.03	0.07	7.24	-0.03	0.03	0.59	0.06	0.03	-16.38	0.2	0.0
75.1	-0.01	-2.01	-6.84	0.00	0.07	3.73	0.11	0.06	-2.76	0.08	0.03	-31.80	-0.1	0.0
75.2	0.04	-2.00	1.26	0.03	0.05	-26.98	-0.01	0.05	-26.82	0.06	0.06	1.30	0.3	0.0
75.3	0.04	-1.99	-3.01	0.03	0.06	-8.35	0.03	0.05	-29.79	0.04	0.04	-26.09	0.3	0.0
75.4	0.01	-1.97	14.79	0.00	0.03	-15.67	0.02	0.02	-13.08	0.07	0.00	-18.74	0.1	0.0
75.5	0.09	-1.96	14.11	-0.04	-0.01	-29.96	-0.11	0.02	-51.97	-0.04	-0.01	-9.63	0.6	0.0
75.6	0.06	-1.98	36.68	0.04	0.04	-29.93	0.06	0.04	-81.15	0.02	0.02	-25.97	0.4	0.0
75.7	0.12	-1.95	2.24	-0.16	0.02	-2.37	-0.05	0.03	-23.02	-0.09	-0.01	-5.90	0.8	0.0
75.8	0.05	-1.95	4.94	0.12	0.02	12.03	0.07	0.01	-37.30	0.02	-0.04	-15.79	0.3	0.0
75.9	0.03	-1.94	-8.04	0.09	0.02	8.32	0.16	0.00	-42.29	0.11	-0.05	15.21	0.2	0.0
76.0	0.05	-1.92	-2.08	-0.05	-0.04	-6.64	0.08	-0.02	-32.82	0.07	-0.11	1.61	0.4	0.0
76.1	-0.01	-1.94	-3.11	0.10	-0.01	-6.50	0.16	-0.04	-28.41	0.15	-0.08	4.32	-0.1	0.0
76.2	0.07	-1.95	-25.72	-0.03	0.00	0.16	0.10	-0.04	8.14	0.00	-0.01	32.77	0.4	0.0
76.3	0.07	-1.93	-11.35	0.00	-0.01	-21.45	0.01	-0.04	8.59	-0.04	-0.03	17.07	0.4	0.0
76.4	0.01	-1.95	-0.89	0.02	0.00	2.60	-0.03	-0.01	-17.08	0.08	-0.01	9.19	0.1	0.0
76.5	0.05	-1.97	-15.85	-0.07	0.03	-22.01	-0.02	0.02	-1.77	0.05	0.03	8.68	0.3	0.0
76.6	0.10	-1.93	6.76	0.02	-0.01	-51.23	-0.03	-0.03	-23.66	-0.04	-0.03	-3.26	0.6	0.0
76.7	-0.04	-1.94	-0.13	0.12	0.01	-20.65	0.02	-0.04	-19.45	0.12	-0.01	9.36	-0.3	0.0
76.8	0.18	-1.93	16.98	-0.05	-0.01	-49.33	-0.06	-0.02	-41.04	-0.05	-0.03	-15.13	1.1	0.0
76.9	0.13	-1.93	0.28	0.07	-0.02	-50.61	0.00	-0.03	-45.79	-0.16	0.17	6.46	0.8	0.0
77.0	0.00	-1.96	-8.73	0.13	0.02	-26.17	0.09	-0.01	-16.95	0.02	0.02	3.87	0.0	0.0
77.1	0.09	-1.94	-9.61	0.06	-0.04	-21.91	-0.03	-0.03	-29.03	-0.12	0.01	-3.30	0.6	0.0
77.2	0.03	-1.95	-25.56	0.13	-0.04	7.98	0.06	0.01	28.12	0.04	0.02	35.15	0.2	0.0
77.3	0.07	-1.94	-32.80	0.01	-0.02	30.04	0.01	-0.01	3.70	-0.05	0.02	36.73	0.4	0.0
77.4	0.04	-1.95	1.71	-0.05	0.00	-19.68	0.05	-0.02	-5.67	-0.02	0.03	-7.38	0.2	0.0
77.5	-0.02	-1.94	-37.86	0.05	-0.01	20.24	0.07	-0.03	42.34	0.04	-0.03	53.79	-0.1	0.0
77.6	0.12	-1.94	-44.47	-0.05	-0.02	27.57	-0.04	-0.02	55.16	0.01	-0.04	7.92	0.7	-0.1
77.7	0.07	-1.92	-20.78	-0.10	-0.05	1.20	-0.04	-0.04	17.11	-0.01	-0.07	28.79	0.5	0.0
77.8	0.13	-1.94	-32.35	-0.01	-0.01	8.29	-0.05	-0.05	21.51	-0.11	-0.05	39.23	0.8	0.0
77.9	0.20	-1.95	-50.33	-0.08	0.00	4.82	-0.05	-0.05	57.50	-0.16	-0.06	55.35	1.2	-0.1
78.0	0.13	-1.94	-34.90	-0.04	-0.02	9.22	0.00	-0.09	34.43	-0.08	-0.04	52.28	0.8	0.0
78.1	0.15	-1.98	-31.52	-0.09	0.01	-7.12	-0.02	-0.03	32.73	-0.15	0.01	60.76	0.9	0.0
78.2	0.16	-1.98	-17.58	-0.07	0.04	20.13	-0.10	0.03	24.62	-0.16	0.00	28.16	1.0	0.0
78.3	0.08	-1.96	-2.76	0.00	0.02	-26.34	-0.05	0.01	8.47	0.13	-0.01	19.08	0.5	0.0
78.4	-0.02	-1.95	-17.97	0.10	-0.02	14.01	0.10	0.00	26.27	-0.03	0.00	22.36	-0.1	0.0
78.5	0.03	-1.95	-17.62	0.02	-0.03	22.11	0.07	0.01	10.45	0.05	-0.01	14.23	0.2	0.0
78.6	0.07	-1.96	-16.90	0.01	0.01	27.61	-0.01	0.00	20.39	0.11	-0.01	16.86	0.4	0.0
78.7	-0.03	-1.97	-19.58	0.06	0.01	15.91	0.11	0.03	28.81	0.05	0.00	-1.63	-0.2	0.0
78.8	0.12	-1.95	-24.07	-0.04	-0.05	13.23	0.01	-0.01	25.92	-0.04	-0.03	15.13	0.7	0.0
78.9	0.12	-1.95	-45.51	0.02	-0.04	52.68	-0.16	0.20	52.25	0.01	-0.02	-6.39	0.7	-0.1
79.0	0.09	-1.97	-25.68	0.04	-0.07	25.21	-0.07	0.03	20.82	0.01	0.00	-7.38	0.6	0.0
79.1	0.07	-1.97	-38.64	0.07	-0.05	39.85	-0.10	0.04	25.74	0.00	0.01	11.72	0.4	0.0
79.2	0.09	-1.94	2.56	-0.03	-0.02	4.49	-0.02	0.02	7.03	-0.07	-0.01	-51.14	0.6	0.0
79.3	0.08	-1.95	-29.09	-0.05	-0.01	34.81	-0.06	0.02	33.02	0.03	0.01	-17.39	0.5	0.0
79.4	0.08	-1.97	-3.96	0.01	0.02	12.26	-0.06	0.05	-1.72	0.01	0.00	-36.27	0.5	0.0
79.5	0.05	-1.97	4.48	0.05	0.03	-11.65	-0.03	0.01	11.45	0.00	0.01	-21.82	0.3	0.0
79.6	0.08	-1.96	10.71	-0.02	-0.01	-7.22	0.05	-0.03	-47.26	-0.06	-0.02	-57.68	0.5	0.0
79.7	0.04	-1.97	-3.66	0.04	0.02	12.90	0.03	-0.02	11.68	0.03	-0.03	-11.87	0.2	0.0
79.8	0.08	-1.99	-10.84	0.05	0.04	12.69	-0.06	0.00	17.71	-0.07	0.00	-19.92	0.5	0.0
79.9	0.15	-1.99	7.17	-0.18	0.24	-0.43	-0.10	-0.01	-2.15	-0.11	-0.03	-20.37	0.9	0.0
80.0	0.13	-2.03	-0.47	-0.10	0.09	-4.38	-0.07	0.05	17.85	-0.13	0.02	-6.24	0.8	0.0
80.1	0.14	-2.02	1.21	-0.17	0.09	-14.11	-0.14	0.04	28.03	-0.09	0.00	-11.45	0.8	0.0
80.2	0.07	-1.96	7.05	0.01	0.03	2.54	-0.07	-0.03	3.54	-0.03	-0.04	-16.20	0.4	0.0
80.3	0.03	-1.96	5.72	-0.01	0.03	-1.79	0.18	-0.02	10.60	-0.07	-0.02	-7.93	0.2	0.0
80.4	0.09	-1.95	8.31	-0.07	0.03	-13.98	-0.13	0.00	-3.91	-0.03	-0.05	-12.25	0.5	0.0
80.5	0.10	-1.94	-7.17	-0.08	-0.03	23.10	-0.02	-0.02	3.78	-0.11	-0.08	-3.71	0.6	0.0
80.6	0.06	-1.97	3.49	0.07	-0.02	-40.04	0.12	-0.01	-3.54	0.01	-0.06	-0.33	0.3	0.0
80.7	0.08	-1.95	9.23	-0.01	-0.04	-1.22	-0.06	-0.03	-30.44	-0.10	-0.07	3.50	0.5	0.0
80.8	0.13	-1.96	1.85	-0.11	-0.04	5.02	-0.05	-0.02	-10.79	0.01	-0.05	8.23	0.8	0.0
80.9	-0.04	-1.76	6.74	0.08	-0.25	-1.72	0.17	-0.22	-58.64	-0.01	-0.26	-1.03	-0.2	0.0

Table B-3 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

DIFFERENCES

SYNC TIME MIN	DIFFERENCES (TRANS GMD-2 LESS FPS-16) ELEV DEG	AZIMUTH DEG	S/R METERS	ONE MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	TWO MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	FOUR MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	RELATIVE DIFFERENCES ELEV PERCENT	S/R PERCENT
81.0	0.03	-1.94	-4.86	0.03	-0.04	22.23	0.08	-0.03	-28.20	0.03	-0.06	34.64	0.2	0.0
81.1	-0.03	-1.93	-12.91	0.03	-0.05	42.15	0.10	-0.03	-14.01	-0.01	-0.08	37.28	-0.2	0.0
81.2	0.08	-1.92	9.59	-0.08	-0.06	1.00	-0.05	-0.03	-58.17	0.15	-0.08	-1.32	0.4	0.0
81.3	0.02	-1.92	3.93	0.19	-0.05	12.39	0.09	-0.01	-50.42	-0.01	-0.08	17.81	0.1	0.0
81.4	0.02	-1.92	-5.67	-0.06	-0.04	10.07	0.07	-0.05	-34.55	0.11	-0.09	39.79	0.1	0.0
81.5	0.02	-1.97	15.93	0.05	0.01	-19.32	0.03	0.01	-33.27	0.12	-0.03	-1.96	0.1	0.0
81.6	0.13	-1.98	-36.55	0.05	0.01	36.51	-0.11	0.01	-10.42	0.07	-0.04	53.12	0.8	0.0
81.7	0.07	-1.99	8.01	-0.04	0.02	-29.23	0.00	0.00	-23.55	-0.03	-0.02	-13.71	0.4	0.0
81.8	0.02	-1.99	6.87	0.06	0.01	-15.81	-0.01	-0.01	-37.64	0.16	-0.03	21.64	0.1	0.0
81.9	0.04	-2.00	5.02	0.09	0.03	-56.92	0.00	-0.02	-18.22	0.22	0.01	-2.35	0.2	0.0
82.0	0.06	-1.98	17.37	0.05	0.01	-50.43	-0.06	-0.03	-24.09	-0.05	-0.05	-3.61	0.3	0.0
82.1	0.00	-1.98	29.24	0.07	0.02	-56.16	0.05	-0.04	-39.48	0.18	-0.06	-8.81	0.0	0.0
82.2	0.00	-1.98	10.59	0.02	0.03	-59.17	0.04	-0.01	-19.74	0.10	-0.04	-18.80	0.0	0.0
82.3	0.21	-1.97	16.32	-0.10	0.04	-62.81	-0.25	-0.01	-18.53	-0.12	-0.05	-12.07	1.2	0.0
82.4	-0.04	-1.95	4.39	0.13	-0.01	-44.62	0.10	-0.05	-8.33	0.12	-0.05	-7.09	-0.2	0.0
82.5	0.07	-1.96	-3.39	-0.02	0.00	-13.94	-0.08	-0.06	-7.49	0.16	-0.63	-1.49	0.4	0.0
82.6	0.18	-1.98	-0.05	-0.15	0.00	-46.93	-0.11	-0.05	3.21	-0.12	-0.06	4.43	1.0	0.0
82.7	0.02	-1.98	-21.21	0.04	-0.02	5.68	-0.05	-0.04	33.94	0.19	-0.05	32.16	0.1	0.0
82.8	0.08	-1.98	-8.94	-0.07	-0.02	-21.82	0.06	-0.02	19.02	-0.04	-0.03	20.75	0.4	0.0
82.9	0.13	-1.97	-51.90	-0.10	-0.05	38.70	-0.18	-0.05	57.61	0.09	-0.05	73.71	0.8	-0.1
83.0	0.11	-1.97	-33.06	-0.11	-0.04	26.34	-0.05	-0.03	62.84	-0.03	-0.05	48.14	0.6	0.0
83.1	0.07	-1.96	-26.92	-0.02	-0.05	16.67	-0.10	-0.05	51.29	0.04	-0.06	57.49	0.4	0.0
83.2	0.02	-1.95	-48.58	0.01	-0.04	39.43	0.20	-0.05	56.85	-0.07	-0.06	69.52	0.1	-0.1
83.3	0.11	-1.93	-46.49	-0.15	-0.05	44.27	-0.11	-0.07	68.23	-0.09	-0.10	79.46	0.6	-0.1
83.4	0.09	-1.97	-40.23	-0.03	-0.04	36.28	0.04	-0.04	74.34	-0.04	-0.06	92.53	0.5	-0.1
83.5	0.05	-1.96	-17.34	-0.06	-0.06	6.46	0.09	-0.04	31.30	0.03	-0.04	54.24	0.3	0.0
83.6	0.02	-1.98	-46.98	0.05	-0.05	50.14	0.18	-0.05	63.54	0.08	-0.02	101.23	0.1	-0.1
83.7	0.06	-1.99	-15.53	-0.09	-0.02	28.26	-0.03	-0.02	9.84	0.02	-0.01	43.19	0.4	0.0
83.8	0.00	-2.00	-30.77	0.14	-0.01	40.85	0.17	-0.02	59.28	-0.05	-0.01	79.66	0.0	0.0
83.9	0.04	-2.02	-13.20	-0.08	0.00	18.91	0.22	0.02	15.88	-0.03	0.01	54.85	0.2	0.0
84.0	0.00	-2.01	-6.72	0.06	0.01	36.50	0.02	-0.02	20.48	0.11	0.01	45.46	0.0	0.0
84.1	0.04	-2.01	-10.24	-0.08	0.00	34.61	0.14	-0.02	30.67	0.14	0.00	40.01	0.2	0.0
84.2	0.04	-1.99	-9.16	0.19	-0.01	17.43	0.06	-0.03	0.94	0.25	0.01	16.31	0.2	0.0
84.3	-0.04	-1.98	-2.21	0.04	-0.03	23.96	0.13	-0.04	6.46	0.09	0.00	36.19	-0.2	0.0
84.4	0.06	-2.00	-3.94	0.08	0.00	38.06	0.02	0.00	1.24	0.09	0.05	3.87	0.3	0.0
84.5	-0.01	-2.02	-10.88	0.15	0.02	24.84	0.25	-0.57	5.99	0.13	0.06	17.48	-0.1	0.0
84.6	0.07	-2.02	3.16	0.13	0.00	13.41	-0.01	-0.01	1.22	0.07	0.08	7.59	0.4	0.0
84.7	-0.03	-2.02	12.73	0.06	0.00	-18.43	0.24	-0.01	-1.78	0.21	0.06	-2.22	-0.1	0.0
84.8	0.14	-2.00	10.08	0.03	-0.02	18.44	-0.10	-0.01	1.73	0.08	0.04	-3.91	0.8	0.0
84.9	-0.05	-2.02	5.71	0.31	0.02	-3.04	0.27	0.00	16.11	0.22	0.04	39.93	-0.2	0.0
85.0	0.06	-2.00	29.79	-0.05	-0.03	-16.02	0.02	-0.02	-14.70	0.06	0.01	-4.68	0.3	0.0
85.1	-0.04	-2.01	24.37	0.22	-0.02	-3.94	0.15	0.00	6.20	0.09	0.00	23.57	-0.2	0.0
85.2	0.23	-2.01	8.27	-0.13	-0.01	-16.49	-0.28	0.00	12.67	-0.04	0.01	25.46	1.2	0.0
85.3	0.00	-2.01	21.74	0.09	-0.01	-17.49	0.02	-0.03	11.23	-0.03	0.03	13.57	0.0	0.0
85.4	0.14	-2.01	34.12	-0.05	0.00	-36.81	-0.08	-0.02	18.19	0.00	0.02	-10.79	0.7	0.0
85.5	0.14	-2.00	13.96	0.10	-0.59	-18.85	-0.06	0.00	22.94	-0.10	0.00	34.20	0.7	0.0
85.6	0.20	-2.02	16.57	-0.14	-0.01	-12.19	-0.09	0.02	37.69	-0.03	0.03	25.12	1.1	0.0
85.7	0.04	-2.01	-5.69	0.18	-0.01	16.64	0.05	0.01	33.36	-0.05	0.03	52.92	0.2	0.0
85.8	0.17	-2.02	28.52	-0.13	0.01	-16.71	-0.22	0.01	20.37	-0.06	0.04	3.60	0.9	0.0
85.9	0.26	-2.00	2.67	-0.04	-0.02	19.14	-0.25	-0.01	38.97	-0.16	0.02	66.45	1.4	0.0
86.0	0.01	-2.03	13.77	0.07	0.01	1.31	0.09	0.03	24.97	0.02	0.05	44.24	0.1	0.0
86.1	0.18	-2.03	20.42	-0.07	0.02	10.15	0.00	0.02	9.34	-0.11	0.07	41.23	1.0	0.0
86.2	0.10	-2.02	-8.22	-0.15	0.01	29.15	0.19	0.04	15.36	0.04	0.06	54.71	0.5	0.0
86.3	0.09	-2.02	4.25	-0.07	-0.02	28.72	-0.04	0.03	29.72	-0.07	0.09	57.41	0.5	0.0
86.4	0.08	-2.00	-2.70	-0.03	-0.02	55.00	0.07	0.05	2.63	-0.10	0.06	58.70	0.4	0.0
86.5	0.23	-2.59	-4.89	-0.16	0.59	41.79	-0.12	0.63	11.48	-0.22	0.65	46.81	1.2	0.0
86.6	0.05	-2.03	4.38	0.05	0.03	49.87	0.08	0.09	6.37	-0.02	0.11	40.69	0.3	0.0
86.7	0.22	-2.02	10.95	-0.13	0.02	16.71	-0.04	0.07	-0.44	-0.23	0.08	13.33	1.1	0.0
86.8	0.04	-2.01	11.81	-0.09	0.00	37.08	0.18	0.05	-5.64	-0.05	0.06	31.94	0.2	0.0
86.9	0.22	-2.02	21.82	-0.21	0.01	19.83	-0.05	0.04	23.82	-0.22	0.09	-10.79	1.2	0.0
87.0	0.08	-2.02	15.08	0.03	0.01	23.66	0.04	0.03	10.03	0.04	0.07	-5.20	0.4	0.0
87.1	0.11	-2.01	30.57	0.07	0.00	-0.81	-0.06	0.00	17.37	-0.02	0.06	-1.63	0.6	0.0
87.2	-0.05	-2.01	20.94	0.34	0.03	-13.79	0.24	0.01	12.80	0.27	0.04	-8.45	-0.2	0.0
87.3	0.02	-2.04	32.97	0.03	0.05	1.00	-0.04	0.06	2.34	-0.02	0.06	-5.37	0.1	0.0
87.4	0.05	-2.02	52.31	0.09	0.07	-52.36	0.08	0.04	-28.98	0.10	0.02	-42.94	0.3	0.1
87.5	0.08	-2.00	36.91	0.04	0.04	-30.31	-0.04	0.00	11.25	0.01	0.02	-1.19	0.4	0.0
87.6	0.10	-2.00	54.26	0.03	0.05	-43.50	0.07	0.01	-12.57	-0.18	0.04	-21.86	0.5	0.1
87.7	0.09	-2.01	27.66	0.09	0.05	-17.15	-0.10	0.03	19.57	0.04	0.02	-3.23	0.4	0.0
87.8	-0.05	-2.01	48.89	0.26	0.04	-42.72	0.16	0.03	-16.78	0.02	0.03	-7.35	-0.3	0.1
87.9	0.01	-2.01	41.65	0.16	0.03	3.99	0.09	0.03	27.48	0.00	0.04	-21.99	0.1	0.1
88.0	0.11	-2.00	38.74	0.02	0.01	-13.63	-0.07	0.03	19.26	-0.08	0.03	-11.54	0.5	0.1
88.1	0.18	-2.01	29.77	-0.13	0.00	18.18	-0.11	0.05	31.89	-0.18	0.05	2.00	0.9	0.0
88.2	0.29	-1.99	7.15	-0.10	-0.02	26.58	-0.16	0.02	39.35	-0.35	0.04	27.40	1.5	0.0
88.3	0.05	-1.98	33.97	-0.07	0.00	1.34	-0.02	0.05	27.69	-0.07	0.01	11.33	0.2	0.0
88.4	0.15	-1.95	-0.07	-0.01	-0.03	23.40	-0.17	0.01	56.08	-0.11	-0.01	46.12	0.7	0.0
88.5	0.12	-1.96	6.60	-0.08	-0.04	41.57	-0.10	0.02	35.33	-0.04	-0.01	29.82	0.6	0.0
88.6	0.13	-1.95	10.76	0.03	-0.04	30.93	-0.10	0.02	34.32	0.03	-0.04	2.39	0.7	0.0
88.7	0.18	-1.96	10.51	-0.20	-0.02	36.72	-0.19	0.02	13.77	0.01	-0.01	32.31	0.9	0.0
88.8	0.22	-1.97	6.17	-0.11	-0.01	25.94	-0.23	0.02	37.57	-0.03	-0.01	12.62	1.1	0.0
88.9	0.17	-1.98	45.63	-0.07	0.00	23.49	-0.17	0.05	-34.61	-0.01	0.01	-36.84	0.9	0.1

Table B-3 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
DIFFERENCES

SYNC TIME MIN	DIFFERENCES (TRANS GND-2 LESS FPS-16) ELEV DEG	AZIMUTH DEG	S/R METERS	ONE MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	TWO MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	FOUR MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	RELATIVE DIFFERENCES ELEV PERCENT	S/R PERCENT
89.0	0.12	-1.99	25.11	-0.09	0.01	32.89	0.00	0.05	-15.23	-0.13	0.01	1.45	0.6	0.0
89.1	0.05	-2.01	47.94	0.02	0.05	13.71	0.04	0.06	-19.00	0.03	0.06	-48.40	0.3	0.1
89.2	0.19	-2.00	33.73	-0.05	0.04	12.76	0.04	0.03	-21.25	-0.06	0.04	-11.88	0.9	0.0
89.3	-0.02	-1.98	35.31	0.05	0.05	26.35	0.03	0.00	-7.71	0.10	0.02	-20.26	-0.1	0.0
89.4	0.13	-1.99	23.33	-0.15	0.04	32.68	0.02	-0.02	-13.96	0.02	0.04	-25.72	0.7	0.0
89.5	0.04	-2.00	48.16	-0.02	0.06	-6.23	0.05	0.03	-12.44	0.15	0.04	-22.70	0.2	0.1
89.6	0.17	-1.99	41.69	-0.13	0.07	3.38	-0.25	0.03	-9.30	0.01	0.05	-32.34	0.8	0.1
89.7	-0.02	-1.98	47.23	0.01	0.04	-22.95	0.15	0.00	-22.79	0.03	0.03	-27.82	-0.1	0.1
89.8	0.11	-1.98	32.11	-0.12	0.02	11.63	-0.13	0.00	9.43	0.06	0.03	-23.26	0.5	0.0
89.9	0.10	-1.98	69.12	-0.10	0.05	-58.10	-0.08	0.01	-49.47	-0.12	0.02	-34.73	0.5	0.1
90.0	0.04	-1.98	58.00	0.08	0.03	-48.12	-0.01	0.01	-30.80	-0.08	0.02	-48.99	0.2	0.1
90.1	0.07	-1.96	61.66	0.02	0.00	-32.71	-0.07	-0.01	-29.89	-0.05	-0.03	-15.24	0.3	0.1
90.2	0.14	-1.97	46.50	0.09	-0.01	-34.01	-0.20	0.02	-11.94	-0.14	-0.01	-20.74	0.7	0.1
90.3	0.02	-1.93	61.66	-0.02	-0.05	-34.06	-0.05	-0.05	-16.36	-0.26	-0.04	-23.40	0.1	0.1
90.4	-0.02	-1.95	56.01	0.17	-0.05	-46.64	0.06	-0.01	-9.96	0.02	-0.02	-9.38	-0.1	0.1
90.5	0.01	-1.93	41.93	0.08	-0.04	-6.21	0.07	-0.03	-5.51	-0.12	-0.05	4.67	0.1	0.1
90.6	0.04	-1.92	45.07	-0.12	-0.04	-12.68	0.13	-0.06	-31.93	-0.06	-0.07	-5.53	0.2	0.1
90.7	-0.01	-1.94	24.28	0.14	-0.04	0.15	0.20	-0.03	18.53	-0.07	-0.05	22.97	-0.1	0.0
90.8	-0.01	-1.95	43.75	-0.01	-0.03	-2.21	0.19	-0.03	-24.96	0.08	-0.04	-13.27	-0.1	0.1
90.9	0.00	-1.93	11.03	0.02	-0.04	8.63	0.16	-0.04	-2.23	0.03	-0.07	9.54	0.0	0.0
91.0	0.12	-1.94	9.88	-0.09	-0.03	17.32	-0.13	-0.04	16.68	-0.05	-0.05	-26.85	0.6	0.0
91.1	0.09	-1.95	28.94	-0.09	-0.01	2.82	-0.01	0.00	-29.40	0.24	-0.04	-11.94	0.4	0.0
91.2	0.23	-1.97	12.48	-0.29	0.02	22.07	-0.10	0.01	9.37	-0.07	-0.03	-3.75	1.1	0.0
91.3	0.00	-1.98	27.60	-0.03	0.00	17.70	0.08	0.02	-12.55	0.21	0.00	-27.84	0.0	0.0
91.4	0.15	-2.00	9.37	-0.11	0.04	36.68	0.00	0.06	-11.77	0.03	0.05	1.38	0.7	0.0
91.5	0.09	-1.97	35.72	-0.01	0.01	0.70	0.10	0.01	-10.25	0.16	0.01	-27.10	0.4	0.0
91.6	-0.08	-1.96	32.39	0.25	-0.02	-19.25	0.27	0.02	-23.04	0.08	0.01	-18.19	-0.4	0.0
91.7	0.13	-1.98	24.43	0.06	0.01	18.38	-0.12	0.03	-5.02	0.11	0.03	-21.78	0.6	0.0
91.8	-0.02	-1.98	41.54	0.21	0.00	-22.75	0.19	0.04	-32.69	0.06	0.04	-31.35	-0.1	0.1
91.9	0.02	-1.96	19.66	0.14	-0.01	-10.86	-0.03	0.01	14.74	-0.06	0.00	-13.20	0.1	0.0
92.0	0.02	-1.97	27.21	-0.03	-0.01	-0.64	-0.07	0.01	-18.19	0.03	0.00	16.11	0.1	0.0
92.1	0.00	-1.97	31.76	0.08	0.01	-32.22	0.02	-0.02	14.66	-0.04	0.01	-9.13	0.0	0.0
92.2	-0.06	-1.95	34.55	0.19	-0.01	-12.70	0.06	-0.03	-8.80	0.05	0.00	-8.76	-0.3	0.0
92.3	-0.02	-1.98	45.30	0.10	0.01	-30.25	-0.21	0.00	-7.04	0.00	-0.01	-18.93	-0.1	0.1
92.4	0.04	-1.96	46.05	0.11	0.01	-48.45	-0.04	-0.01	0.57	0.05	0.00	-42.99	0.2	0.1
92.5	0.08	-1.96	36.41	0.11	0.00	-10.95	-0.19	-0.02	10.18	-0.12	-0.03	2.74	0.4	0.0
92.6	0.17	-1.98	13.15	0.02	0.04	-3.79	-0.19	-0.01	26.39	-1.10	-0.02	12.13	0.8	0.0
92.7	0.19	-1.97	42.81	-0.18	0.02	-23.40	-0.27	-0.02	4.44	-1.05	-0.01	-16.13	0.8	0.1
92.8	0.18	-1.98	18.79	-0.01	0.04	-9.94	-0.12	-0.02	11.69	-0.03	0.00	-23.62	0.8	0.0
92.9	0.16	-1.97	8.79	-0.17	0.02	25.60	-0.13	-0.02	11.78	0.06	-0.01	26.43	0.7	0.0
93.0	-0.01	-1.98	26.56	-0.03	0.03	-17.55	0.07	-0.01	-43.53	0.15	0.00	-30.01	0.0	0.0
93.1	0.08	-1.95	-0.46	-0.06	-0.03	46.88	0.25	-0.04	17.47	0.02	-0.04	51.32	0.4	0.0
93.2	0.13	-1.96	21.85	-0.13	-0.02	3.90	0.02	-0.04	-13.12	-0.04	0.00	9.97	0.6	0.0
93.3	0.08	-1.96	15.05	-0.32	-0.01	23.21	0.14	-0.02	-15.29	-0.02	0.01	35.27	0.4	0.0
93.4	0.15	-1.94	-2.40	-0.15	-0.02	49.02	0.03	-0.01	13.15	-0.13	-0.06	36.48	0.7	0.0
93.5	0.19	-1.96	25.46	-0.30	-0.02	21.13	0.07	0.00	-16.84	0.00	0.00	8.35	0.8	0.0
93.6	0.18	-1.94	9.35	-0.21	-0.05	30.19	-0.18	-0.01	4.85	-0.02	0.03	15.10	0.8	0.0
93.7	0.01	-1.95	19.41	-0.10	-0.04	27.84	0.23	0.00	-16.76	0.14	0.01	-1.78	0.0	0.0
93.8	0.17	-1.94	8.85	-0.10	-0.05	21.63	-0.12	0.00	1.34	-0.09	-0.02	25.76	0.7	0.0
93.9	-0.02	-1.96	34.40	0.05	-0.04	-13.83	-0.03	-0.01	-27.95	-0.06	-0.04	-43.83	-0.1	0.0
94.0	-0.04	-1.96	9.01	0.11	-0.03	-25.98	0.10	-0.02	34.31	0.11	0.00	40.30	-0.2	0.0
94.1	0.02	-1.99	46.42	0.31	0.00	-29.42	-0.06	0.03	-23.79	-0.02	0.02	-14.69	0.1	0.1
94.2	0.00	-1.98	25.75	0.16	-0.02	-17.02	-0.01	0.03	0.04	-0.06	0.02	-1.22	0.0	0.0
94.3	-0.24	-1.97	38.26	0.45	-0.01	-38.50	0.22	-0.01	-11.89	0.31	-0.01	-15.35	-1.0	0.1
94.4	0.00	-1.97	46.62	0.18	0.02	-35.87	0.09	0.00	-43.56	0.13	0.00	-14.88	0.0	0.1
94.5	-0.11	-1.99	46.59	0.36	0.03	-37.97	0.07	-0.01	-7.44	0.21	-0.01	-45.99	-0.5	0.1
94.6	-0.03	-1.99	39.54	0.03	0.04	-25.34	-0.91	-0.01	-14.27	0.15	0.00	4.62	-0.1	0.1
94.7	-0.09	-1.99	47.25	0.33	0.04	-44.60	-0.77	0.01	-20.57	0.16	0.00	-26.26	-0.4	0.1
94.8	0.06	-1.99	30.48	-0.03	0.05	-20.29	0.09	0.01	-35.31	-0.09	0.00	-14.79	0.3	0.0
94.9	0.03	-1.99	20.57	-0.08	0.03	-14.12	0.19	0.01	14.65	0.04	0.01	-5.96	0.1	0.0
95.0	0.07	-1.99	-16.97	-0.01	0.02	60.29	0.07	0.00	13.53	0.17	0.01	69.21	0.3	0.0
95.1	0.33	-1.99	17.01	-0.37	0.03	5.63	-0.23	0.00	33.85	-0.45	0.03	3.22	1.4	0.0
95.2	0.15	-2.00	8.74	-0.17	0.05	17.06	-0.06	0.04	23.09	-0.08	0.06	38.12	0.7	0.0
95.3	0.22	-1.98	-0.24	-0.24	0.00	26.61	-0.15	0.03	50.57	-0.18	0.03	36.44	0.9	0.0
95.4	0.18	-1.95	10.75	-0.09	-0.01	-7.69	-0.16	-0.05	23.33	-0.29	0.01	25.35	0.8	0.0
95.5	0.25	-1.96	8.62	-0.29	-0.04	30.53	-0.07	-0.01	25.19	-0.24	0.01	21.84	1.1	0.0
95.6	0.00	-1.96	14.21	-0.94	-0.05	11.07	0.17	0.04	10.25	0.00	0.03	22.29	0.0	0.0
95.7	0.24	-1.95	2.65	-1.10	-0.03	24.03	-0.09	0.01	14.99	-0.33	0.02	2.81	1.0	0.0
95.8	0.04	-1.94	10.19	0.12	-0.04	-15.02	0.04	-0.02	24.42	0.04	0.01	9.91	0.2	0.0
95.9	-0.05	-1.97	6.45	0.27	-0.02	28.77	-0.03	-0.03	-15.88	0.19	0.03	16.15	-0.2	0.0
96.0	0.06	-1.97	43.32	0.08	-0.01	-46.76	0.02	0.02	5.99	-0.10	0.02	-24.44	0.2	0.1
96.1	-0.04	-1.96	22.63	0.14	-0.04	28.23	0.04	0.00	9.10	0.23	-0.03	0.41	-0.2	0.0
96.2	-0.02	-1.95	25.79	0.11	-0.01	6.03	-0.05	0.00	-1.25	0.23	-0.05	7.16	-0.1	0.0
96.3	-0.02	-1.99	26.37	0.08	0.03	23.96	0.10	0.00	-3.46	-0.23	-0.04	-19.18	-0.1	0.0
96.4	0.09	-1.96	3.06	-0.06	-0.04	31.02	0.05	-0.01	28.68	-0.01	-0.07	37.78	0.4	0.0
96.5	-0.04	-2.00	39.15	0.23	0.03	-5.34	0.14	0.00	-38.54	0.15	-0.02	-13.20	-0.2	0.1
96.6	-0.94	-2.01	25.28	1.10	0.09	-0.82	1.08	0.02	18.89	0.82	0.01	14.22	-3.9	0.0
96.7	-0.86	-1.98	26.68	1.01	0.04	-9.05	0.93	-0.01	-5.69	0.76	-0.04	30.65	-3.6	0.0
96.8	0.15	-1.98	-4.83	-0.08	0.02	39.44	-0.18	-0.02	20.51	0.00	0.02	65.69	0.6	0.0
96.9	0.22	-1.98	35.22	-0.30	-0.01	-44.65	-0.15	0.00	-20.61	-0.50	0.01	22.92	0.9	0.0

Table B-3 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
DIFFERENCES

SYNC TIME MIN	DIFFERENCES (TRANS GMD-2 LESS FPS-16) ELEV DEG	AZIMUTH DEG	S/R METERS	ONE MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	TWO MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	FOUR MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	RELATIVE DIFFERENCES ELEV PERCENT	S/R PERCENT
97.0	0.14	-1.99	-3.44	-0.07	0.03	52.76	0.09	0.01	55.68	-0.10	0.00	63.11	0.6	0.0
97.1	0.10	-2.00	50.86	-0.10	0.03	-19.12	-0.23	0.03	-30.63	-0.12	0.00	11.58	0.4	0.1
97.2	0.09	-1.96	31.83	-0.16	0.00	-7.29	-0.02	0.01	15.03	-0.08	-0.03	29.23	0.4	0.0
97.3	0.06	-1.95	50.33	0.01	-0.03	-27.42	-0.03	0.00	-14.12	0.02	-0.05	-2.33	0.3	0.1
97.4	0.02	-2.00	34.08	0.11	0.03	-2.34	-0.13	0.06	2.02	0.27	0.02	15.77	0.1	0.0
97.5	0.19	-1.97	33.81	-0.08	-0.03	-33.21	-0.17	0.02	-3.35	0.13	-0.04	-5.29	0.8	0.0
97.6	0.17	-1.92	24.46	-0.04	-0.07	19.71	-0.17	-0.01	12.04	0.12	-0.08	2.41	0.7	0.0
97.7	0.15	-1.94	17.64	-0.08	-0.05	3.35	-0.24	0.01	-12.18	-0.16	-0.04	18.71	0.6	0.0
97.8	0.07	-1.96	34.61	-0.10	-0.04	-18.92	0.00	0.03	-14.51	0.01	-0.02	6.27	0.3	0.0
97.9	-0.08	-1.99	-9.43	0.15	0.01	24.04	0.21	0.06	32.03	0.07	0.00	39.85	-0.3	0.0
98.0	0.07	-1.96	49.31	0.16	-0.02	2.93	-0.11	0.01	-30.43	0.07	-0.02	6.47	0.3	0.1
98.1	0.00	-1.96	31.74	-0.12	0.00	-11.51	0.18	-0.03	-8.69	-0.18	0.00	10.73	0.0	0.0
98.2	-0.06	-1.95	24.54	0.14	0.01	22.32	0.27	-0.04	8.42	0.08	-0.03	21.82	-0.2	0.0
98.3	0.07	-1.98	22.91	-0.04	0.03	13.29	-0.32	-0.04	-15.72	-0.07	0.02	20.22	0.3	0.0
98.4	0.13	-1.97	31.74	-0.24	0.03	4.36	-0.06	-0.07	9.11	-0.26	0.02	11.38	0.5	0.0
98.5	0.10	-1.99	0.61	-0.09	0.04	29.86	0.01	-0.02	25.34	0.03	0.03	45.09	0.4	0.0
98.6	0.13	-1.99	44.16	-0.13	0.07	-7.67	-0.24	-0.01	-4.67	0.05	0.04	3.12	0.5	0.1
98.7	0.07	-1.99	20.99	-0.16	0.06	-15.53	-0.17	-0.03	36.34	-0.02	0.05	21.64	0.3	0.0
98.8	-0.03	-2.00	15.69	0.11	0.06	4.41	0.17	0.04	45.18	0.27	0.05	19.81	-0.1	0.0
98.9	0.07	-1.98	14.61	0.07	0.05	7.98	-0.36	0.01	43.53	0.21	0.05	20.29	0.3	0.0
99.0	0.23	-1.98	52.24	-0.27	0.03	-33.36	-0.19	-0.01	7.42	-0.22	0.03	-19.45	0.9	0.1
99.1	-0.12	-1.96	20.23	0.31	-0.03	2.81	0.11	-0.03	42.21	0.46	0.02	31.99	-0.5	0.0
99.2	0.07	-1.94	46.86	0.14	-0.06	-13.90	-0.06	-0.04	14.21	-0.01	-0.01	-17.67	0.3	0.1
99.3	0.03	-1.95	36.20	-0.28	-0.07	-29.02	0.05	-0.06	11.79	-0.03	-0.03	0.21	0.1	0.1
99.4	-0.11	-1.94	36.09	0.18	-0.09	4.75	0.40	-0.04	13.76	0.28	-0.04	19.12	-0.4	0.1
99.5	0.02	-1.95	30.46	0.09	-0.07	-4.52	0.30	-0.06	-1.94	0.02	-0.02	24.99	0.1	0.0
99.6	0.00	-1.92	36.49	-0.11	-0.08	3.00	0.29	-0.08	-9.63	-0.09	-0.05	11.58	0.0	0.1
99.7	-0.09	-1.93	5.46	-0.01	-0.09	51.07	0.08	-0.05	30.89	0.25	-0.04	53.90	-0.4	0.0
99.8	0.08	-1.93	20.10	0.07	-0.03	40.76	0.01	-0.04	20.79	-0.06	-0.01	40.64	0.3	0.0
99.9	0.14	-1.93	22.60	-0.42	-0.04	35.54	-0.15	-0.07	7.82	-0.33	-0.01	48.84	0.5	0.0
100.0	-0.04	-1.95	18.88	0.08	-0.03	40.78	0.18	-0.03	36.90	-0.03	0.01	30.33	-0.2	0.0
100.1	0.18	-1.99	23.04	-0.20	0.00	39.40	-0.37	0.02	19.43	-0.09	0.05	24.17	0.7	0.0
100.2	0.21	-2.00	32.95	-0.19	0.01	28.11	-0.19	0.01	13.40	-0.03	0.05	17.54	0.8	0.0
100.3	-0.25	-2.02	7.19	0.33	0.02	40.81	0.25	0.06	35.95	0.53	0.08	32.98	-0.9	0.0
100.4	0.07	-2.04	40.84	0.22	0.06	9.01	-0.20	0.09	2.28	0.26	0.10	26.93	0.3	0.1
100.5	0.11	-2.02	25.95	0.20	0.01	2.58	0.02	0.06	19.75	-0.12	0.09	26.53	0.4	0.0
100.6	-0.11	-2.00	39.49	0.39	0.00	-12.63	0.29	0.05	7.80	0.28	0.04	34.95	-0.4	0.1
100.7	-0.10	-2.02	57.33	0.09	0.04	-20.98	0.15	0.08	-14.70	0.15	0.08	22.40	-0.4	0.1
100.8	0.15	-1.96	60.86	-0.06	-0.02	-19.98	0.10	0.02	-25.37	-0.39	0.01	16.55	0.6	0.1
100.9	-0.28	-1.97	58.14	0.27	-0.03	-27.72	0.56	0.04	-23.23	0.31	0.02	29.03	-1.1	0.1
101.0	0.04	-1.98	59.66	0.10	0.00	-3.88	-0.02	0.03	-26.88	-0.09	0.05	39.28	0.2	0.1
101.1	-0.01	-1.99	62.44	-0.17	0.03	-19.97	0.35	0.05	-10.22	-0.10	0.05	33.50	-0.1	0.1
101.2	0.02	-1.99	61.06	0.00	0.00	-14.71	0.05	0.04	-31.87	0.25	0.07	8.98	0.1	0.1
101.3	0.08	-2.01	47.99	-0.08	0.05	-4.86	-0.08	0.02	-11.58	0.11	0.09	44.06	0.3	0.1
101.4	0.29	-1.98	49.85	-0.42	0.03	-6.73	-0.12	-0.01	5.37	-0.02	0.08	-5.13	1.1	0.1
101.5	0.31	-2.01	28.52	-0.18	0.05	17.17	-0.28	0.03	26.93	-0.11	0.10	55.83	1.2	0.0
101.6	0.28	-2.00	26.86	-0.11	0.05	20.43	-0.38	0.03	21.21	-0.09	0.12	68.19	1.1	0.0
101.7	-0.01	-1.98	36.35	0.07	0.03	6.28	0.17	0.00	23.01	-0.06	0.10	13.34	0.0	0.1
101.8	0.09	-1.98	40.88	0.16	0.03	-5.39	-0.07	0.04	19.86	0.02	0.09	52.66	0.3	0.1
101.9	-0.01	-2.00	30.42	0.29	0.06	4.48	-0.18	0.05	41.01	-0.09	0.09	47.77	0.0	0.0
102.0	0.14	-1.98	55.78	-0.13	0.03	-23.00	-0.21	0.04	-6.57	-0.14	0.04	14.42	0.5	0.1
102.1	-0.18	-1.97	42.47	0.52	0.03	9.75	0.27	0.03	4.74	0.27	0.03	50.61	-0.7	0.1
102.2	0.02	-1.99	46.35	0.05	0.04	-17.17	0.16	0.04	4.14	0.07	0.07	42.18	0.1	0.1
102.3	0.00	-1.96	43.13	0.01	-0.03	-6.71	0.28	0.01	-2.97	0.16	0.02	-5.06	0.0	0.1
102.4	-0.12	-1.95	43.12	0.30	-0.04	12.10	0.46	0.01	24.65	0.47	0.03	19.88	-0.5	0.1
102.5	0.13	-1.96	45.69	-0.10	-0.01	9.77	-0.14	0.04	6.79	0.22	0.06	-1.22	0.5	0.1
102.6	0.18	-1.95	47.29	-0.27	-0.02	0.79	-0.01	-0.01	27.15	-0.17	0.06	25.86	0.6	0.1
102.7	0.06	-1.94	42.63	0.10	-0.03	16.73	-0.01	0.00	37.10	0.16	0.06	36.64	0.2	0.1
102.8	0.25	-1.94	35.50	-0.23	0.00	25.25	-0.49	0.00	41.92	-0.43	0.07	21.82	0.9	0.1
102.9	0.28	-1.93	34.91	-0.47	-0.01	36.53	-0.25	-0.02	52.26	-0.35	0.04	30.28	1.0	0.1
103.0	0.02	-1.95	32.79	-0.08	0.01	16.43	-0.06	0.02	66.15	-0.05	0.01	24.81	0.1	0.0
103.1	0.33	-1.94	52.22	-0.24	0.00	-5.01	-0.44	0.00	43.72	-0.42	-0.02	15.89	1.2	0.1
103.2	0.07	-1.95	29.19	0.11	0.00	21.30	0.20	0.03	40.86	-0.07	-0.05	27.69	0.2	0.0
103.3	0.01	-1.99	36.42	0.28	0.04	3.75	0.19	0.07	55.64	0.19	-0.02	11.57	0.0	0.1
103.4	0.17	-1.98	55.22	0.16	0.05	12.55	0.09	0.09	-10.50	0.03	0.01	-31.22	0.6	0.1
103.5	0.03	-1.97	55.46	-0.04	0.05	-2.98	0.17	0.06	28.89	0.15	0.02	-21.87	0.1	0.1
103.6	-0.09	-1.97	48.08	0.26	0.01	26.36	0.29	0.09	46.98	0.32	-0.01	-25.91	-0.3	0.1
103.7	0.16	-1.97	59.35	-0.11	0.03	20.38	-0.24	0.09	-9.67	0.02	0.04	-24.03	0.6	0.1
103.8	0.02	-1.94	60.74	-0.26	-0.01	16.67	0.09	0.05	32.81	0.06	0.00	-27.50	0.1	0.1
103.9	-0.19	-1.94	71.43	0.22	-0.01	15.73	0.09	0.04	6.76	0.47	0.02	-23.35	-0.7	0.1
104.0	-0.07	-1.94	49.22	0.02	0.01	49.72	0.07	0.00	20.98	0.06	0.02	-37.85	-0.2	0.1
104.1	0.09	-1.94	47.21	-0.20	0.00	48.73	-0.01	0.00	45.87	-0.03	-0.03	-10.73	0.3	0.1
104.2	0.18	-1.95	50.49	0.09	0.03	19.55	-0.09	0.03	38.05	-0.19	-0.06	-29.82	0.6	0.1
104.3	0.28	-1.95	40.17	-0.09	0.03	51.89	-0.13	0.01	-2.09	-0.29	-0.05	-2.92	1.0	0.1
104.4	0.33	-1.94	67.77	-0.07	0.04	-23.05	0.01	0.02	-4.77	-0.22	-0.07	-24.30	1.2	0.1
104.5	-0.01	-1.92	52.48	0.22	0.01	31.87	0.36	0.03	-8.01	0.02	-0.10	-17.63	0.0	0.1
104.6	0.17	-1.96	74.44	0.02	0.08	20.61	-0.16	0.06	-1.30	-0.05	0.00	-12.64	0.6	0.1
104.7	0.05	-1.94	79.73	-0.12	0.06	-30.04	0.17	0.06	-0.46	0.09	-0.07	-46.82	0.2	0.1
104.8	-0.24	-1.95	77.41	0.35	0.06	16.13	0.05	0.07	-20.10	0.59	0.01	-33.94	-0.8	0.1
104.9	0.03	-1.95	87.17	-0.13	0.05	-8.98	-0.10	0.06	-21.98	0.07	-0.04	-36.02	0.1	0.1

Table B-3 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
DIFFERENCES

SYNC TIME MIN	DIFFERENCES (TRANS GND-2 LESS FPS-16) ELEV DEG	AZIMUTH DEG	S/R METERS	ONE MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	TWO MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	FOUR MINUTE CHANGE IN DIFFERENCES ELEV DEG	AZIMUTH DEG	S/R METERS	RELATIVE DIFFERENCES ELEV PERCENT	S/R PERCENT
105.0	-0.05	-1.93	98.94	0.05	-0.01	-28.74	0.01	0.00	-41.34	0.24	-0.02	-39.15	-0.2	0.1
105.1	-0.11	-1.94	95.94	0.20	0.00	-2.87	0.02	-0.02	-27.83	0.28	-0.04	-53.76	-0.4	0.1
105.2	0.27	-1.92	70.05	-0.18	0.00	18.49	-0.27	-0.08	-13.16	-0.17	-0.04	19.15	0.9	0.1
105.3	0.19	-1.92	92.06	-0.04	-0.02	-53.98	0.00	-0.09	-44.07	-0.08	-0.06	-27.57	0.7	0.1
105.4	0.27	-1.89	44.72	0.08	-0.02	18.28	-0.07	-0.08	-20.72	-0.24	-0.09	36.90	0.9	0.1
105.5	0.21	-1.91	84.35	0.14	0.01	-39.88	-0.02	-0.04	-50.76	-0.01	-0.13	-18.55	0.7	0.1
105.6	0.19	-1.88	95.06	-0.19	-0.01	-21.91	0.04	-0.10	-72.89	0.20	-0.08	-27.81	0.6	0.1
105.7	-0.08	-1.88	49.69	0.29	0.00	29.58	0.26	-0.05	-14.36	0.03	-0.11	38.97	-0.3	0.1
105.8	0.11	-1.89	93.55	-0.29	0.01	-36.24	-0.02	-0.06	-60.30	0.06	-0.09	-19.63	0.4	0.1
105.9	-0.10	-1.90	78.19	0.03	0.01	-13.00	0.38	-0.02	-30.11	0.39	-0.06	-17.62	-0.3	0.1
106.0	0.01	-1.94	70.20	-0.05	0.00	-12.60	-0.02	0.01	-58.84	0.22	-0.06	1.56	0.0	0.1
106.1	0.08	-1.94	93.08	-0.18	-0.02	-24.97	-0.02	-0.03	-56.60	0.13	-0.07	-19.08	0.3	0.1
106.2	0.09	-1.92	88.54	-0.09	-0.08	-31.66	-0.10	-0.09	-67.87	0.06	-0.02	-19.33	0.3	0.1
106.3	0.16	-1.94	38.07	0.04	-0.07	9.91	-0.17	-0.06	-0.82	-0.26	-0.06	54.57	0.5	0.1
106.4	0.34	-1.92	63.00	-0.14	-0.06	-39.00	-0.23	-0.09	-19.53	-0.51	-0.10	18.52	1.1	0.1
106.5	0.35	-1.90	44.47	-0.16	-0.05	-10.88	-0.34	-0.13	-9.62	0.01	0.00	47.34	1.1	0.1
106.6	0.01	-1.89	73.15	0.22	-0.08	-50.98	0.11	-0.06	-11.34	0.01	-0.04	15.15	0.0	0.1
106.7	0.22	-1.88	79.27	-0.04	-0.05	-43.95	-0.08	-0.13	-46.36	0.03	-0.02	-8.68	0.7	0.1
106.8	-0.19	-1.88	57.31	0.27	-0.07	-24.07	0.54	-0.06	-13.83	0.51	-0.01	23.78	-0.6	0.1
106.9	-0.07	-1.90	65.19	0.35	-0.03	-17.11	0.17	-0.10	-14.05	-0.03	-0.05	36.41	-0.2	0.1
107.0	-0.04	-1.94	57.60	0.03	0.01	-46.23	0.23	-0.01	2.19	0.28	0.07	34.23	-0.1	0.1
107.1	-0.09	-1.95	68.11	0.16	-0.02	-31.63	0.27	-0.02	-25.92	-0.04	0.04	38.28	-0.3	0.1
107.2	0.00	-2.00	56.88	-0.01	-0.01	-36.21	0.10	0.04	32.31	0.07	0.11	23.00	0.0	0.1
107.3	0.20	-2.01	47.99	-0.21	0.01	-10.74	-0.08	0.03	16.51	-0.12	0.11	52.50	0.6	0.1
107.4	0.20	-1.97	24.00	-0.09	-0.03	19.47	-0.17	-0.02	57.61	-0.09	0.03	70.11	0.6	0.0
107.5	0.18	-1.95	33.59	-0.17	-0.08	1.26	0.01	-0.09	32.21	0.01	0.06	49.49	0.6	0.1
107.6	0.23	-1.98	22.17	-0.11	0.02	39.63	0.16	0.01	45.07	-0.11	0.02	56.68	0.7	0.0
107.7	0.18	-1.93	35.33	-0.04	-0.08	-2.42	-0.22	-0.07	53.33	-0.12	0.05	42.80	0.6	0.1
107.8	0.08	-1.94	33.24	0.28	0.01	10.24	0.09	-0.03	40.68	-0.03	0.03	53.09	0.2	0.1
107.9	0.28	-1.92	48.08	-0.18	-0.07	3.06	0.01	-0.03	12.49	-0.21	0.02	39.17	0.9	0.1
108.0	-0.01	-1.93	11.36	0.20	-0.02	48.42	0.23	-0.07	60.40	0.00	0.00	0.00	0.0	0.0
108.1	0.06	-1.97	36.48	0.11	-0.01	5.71	0.15	-0.04	37.52	0.00	0.00	0.00	0.2	0.1
108.2	-0.01	-2.01	20.67	0.11	0.04	68.53	0.16	0.06	48.55	0.00	0.00	0.00	0.0	0.0
108.3	-0.01	-2.00	37.25	0.13	0.02	27.24	-0.10	0.00	55.39	0.00	0.00	0.00	0.0	0.1
108.4	0.11	-2.00	43.47	-0.08	0.01	38.15	-0.27	-0.01	38.06	0.00	0.00	0.00	0.3	0.1
108.5	0.01	-2.03	34.85	0.18	-0.01	30.96	0.35	0.13	56.97	0.00	0.00	0.00	0.0	0.1
108.6	0.12	-1.95	61.80	0.27	-0.01	5.44	-0.10	0.02	26.49	0.00	0.00	0.00	0.4	0.1
108.7	0.14	-2.01	32.91	-0.18	0.01	55.75	0.11	0.11	37.68	0.00	0.00	0.00	0.4	0.1
108.8	0.35	-1.93	43.48	-0.19	-0.04	30.44	-0.03	0.05	37.62	0.00	0.00	0.00	1.1	0.1
108.9	0.10	-1.99	51.14	0.19	0.03	9.43	-0.20	0.05	50.46	0.00	0.00	0.00	0.3	0.1
109.0	0.19	-1.95	59.79	0.03	-0.05	11.98	0.05	0.08	32.04	0.00	0.00	0.00	0.6	0.1
109.1	0.17	-1.98	42.19	0.04	-0.04	31.81	-0.31	0.06	64.21	0.00	0.00	0.00	0.5	0.1
109.2	0.10	-1.96	89.19	0.05	0.02	-19.98	-0.03	0.07	-9.31	0.00	0.00	0.00	0.3	0.1
109.3	0.12	-1.98	64.49	-0.22	-0.02	28.15	-0.04	0.08	35.99	0.00	0.00	0.00	0.4	0.1
109.4	0.03	-1.99	81.61	-0.19	-0.02	-0.09	0.08	0.05	12.50	0.00	0.00	0.00	0.1	0.1
109.5	0.19	-2.04	65.81	0.16	0.14	26.01	0.00	0.15	17.28	0.00	0.00	0.00	0.6	0.1
109.6	0.39	-1.96	67.24	-0.37	0.02	21.05	-0.27	0.01	11.61	0.00	0.00	0.00	1.2	0.1
109.7	-0.04	-2.00	88.66	0.29	0.09	-18.06	0.10	0.12	-10.54	0.00	0.00	0.00	-0.1	0.1
109.8	0.17	-1.98	73.92	0.15	0.10	7.17	-0.12	0.06	12.41	0.00	0.00	0.00	0.5	0.1
109.9	0.29	-1.96	60.57	-0.39	0.02	41.03	-0.21	0.05	26.67	0.00	0.00	0.00	0.9	0.1
110.0	0.23	-2.00	71.76	0.02	0.12	20.07	0.00	0.00	0.00	0.00	0.00	0.00	0.7	0.1
110.1	0.21	-2.01	74.00	-0.35	0.10	32.40	0.00	0.00	0.00	0.00	0.00	0.00	0.6	0.1
110.2	0.15	-1.94	69.21	-0.08	0.05	10.67	0.00	0.00	0.00	0.00	0.00	0.00	0.4	0.1
110.3	-0.11	-2.00	92.64	0.18	0.10	7.84	0.00	0.00	0.00	0.00	0.00	0.00	-0.3	0.1
110.4	-0.16	-2.01	81.52	0.27	0.07	12.59	0.00	0.00	0.00	0.00	0.00	0.00	-0.5	0.1
110.5	0.36	-1.90	91.82	-0.16	0.01	-8.73	0.00	0.00	0.00	0.00	0.00	0.00	1.0	0.1
110.6	0.02	-1.94	88.29	0.10	-0.02	-9.44	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.1
110.7	0.25	-1.90	70.59	-0.19	0.03	7.53	0.00	0.00	0.00	0.00	0.00	0.00	0.7	0.1
110.8	0.32	-1.88	81.09	-0.27	-0.03	5.24	0.00	0.00	0.00	0.00	0.00	0.00	0.9	0.1
110.9	-0.10	-1.94	101.60	0.18	0.04	-14.36	0.00	0.00	0.00	0.00	0.00	0.00	-0.3	0.2
111.0	0.24	-1.87	91.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.7	0.1
111.1	-0.14	-1.92	106.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.4	0.2
111.2	0.07	-1.89	79.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.2	0.1
111.3	0.08	-1.90	100.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.2	0.2
111.4	0.11	-1.94	94.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.3	0.2
111.5	0.19	-1.89	83.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.5	0.1
111.6	0.12	-1.95	78.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.3	0.1
111.7	0.06	-1.88	78.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.2	0.1
111.8	0.05	-1.91	86.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.1	0.1
111.9	0.08	-1.91	87.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.2	0.1

Table B-4

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
THERMODYNAMIC DATA

SYNC TIME MIN	TEMP (230) DEG C	TEMP COMP DEG C	REL HUM	VAPOR PRESS MB	KINETIC TEMP DEG K	VIRTUAL TEMP DEG K
1.0	7.6	8.09	34.0	3.67	281.29	281.68
1.5	7.4	7.91	30.0	3.20	281.11	281.46
2.0	6.7	7.20	30.0	3.05	280.40	280.74
2.5	5.6	6.15	28.0	2.65	279.35	279.65
3.0	4.8	5.29	24.0	2.14	278.49	278.73
3.5	3.9	4.26	24.0	1.99	277.46	277.69
4.0	2.3	2.75	24.0	1.79	275.95	276.16
4.5	1.4	1.75	25.0	1.73	274.95	275.15
5.0	0.6	0.93	27.0	1.76	274.13	274.34
5.5	-0.4	-0.05	28.0	1.70	273.15	273.35
6.0	-0.5	-0.21	25.0	1.50	272.99	273.17
6.5	-1.4	-1.02	20.0	1.13	272.18	272.32
7.0	-2.3	-1.98	17.0	0.90	271.22	271.33
7.5	-3.1	-2.78	17.0	0.85	270.42	270.53
8.0	-4.4	-4.04	16.0	0.72	269.16	269.25
8.5	-5.4	-5.14	18.0	0.75	268.06	268.16
9.0	-6.2	-5.92	16.0	0.63	267.28	267.36
9.5	-7.0	-6.85	15.0	0.55	266.35	266.42
10.0	-8.0	-7.93	15.0	0.50	265.27	265.34
10.5	-9.2	-9.15	15.0	0.46	264.05	264.11
11.0	-10.3	-10.37	19.0	0.53	262.83	262.90
11.5	-11.7	-11.88	20.0	0.49	261.32	261.39
12.0	-12.6	-12.78	20.0	0.46	260.42	260.48
12.5	-13.8	-13.98	20.0	0.41	259.22	259.28
13.0	-14.8	-15.02	20.0	0.38	258.18	258.24
13.5	-15.8	-16.05	15.0	0.26	257.15	257.18
14.0	-16.9	-17.23	15.0	0.24	255.97	256.00
14.5	-18.0	-18.55	19.0	0.27	254.65	254.69
15.0	-19.0	-19.56	18.0	0.23	253.64	253.67
15.5	-20.0	-20.57	15.0	0.18	252.63	252.66
16.0	-19.1	-21.56	15.0	0.16	251.64	251.66
16.5	-21.7	-22.41	15.0	0.15	250.79	250.81
17.0	-22.9	-23.66	15.0	0.14	249.54	249.56
17.5	-24.0	-24.88	15.0	0.12	248.32	248.34
18.0	-25.1	-25.93	15.0	0.11	247.27	247.28
18.5	-26.2	-26.95	15.0	0.10	246.25	246.27
19.0	-27.6	-28.26	15.0	0.09	244.94	244.96
19.5	-29.0	-29.28	15.0	0.08	243.92	243.94
20.0	-30.5	-30.25	15.0	0.07	242.95	242.97
20.5	-31.6	-31.13	15.0	0.07	242.07	242.08

Table B-4 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
THERMODYNAMIC DATA

SYNC TIME MIN	TEMP (230) DEG C	TEMP COMP DEG C	REL HUM	VAPOR PRESS MB	KINETIC TEMP DEG K	VIRTUAL TEMP DEG K
21.0	-32.6	-32.12	15.0	0.06	241.08	241.09
21.5	-33.4	-32.90	15.0	0.06	240.30	240.31
22.0	-34.5	-33.97	15.0	0.05	239.23	239.24
22.5	-35.4	-34.94	15.0	0.05	238.26	238.26
23.0	-36.1	-35.65	15.0	0.04	237.55	237.56
23.5	-35.2	-34.80	15.0	0.05	238.40	238.40
24.0	-36.6	-36.22	15.0	0.04	236.98	236.99
24.5	-37.4	-37.08	15.0	0.04	236.12	236.13
25.0	-37.8	-37.51	15.0	0.04	235.69	235.70
25.5	-38.3	-38.09	15.0	0.03	235.11	235.12
26.0	-38.9	-38.52	15.0	0.03	234.68	234.68
26.5	-39.2	-38.96	15.0	0.03	234.24	234.25
27.0	-39.6	-39.40	15.0	0.03	233.80	233.81
27.5	-39.5	-39.25	15.0	0.03	233.95	233.96
28.0	-39.6	-39.40	15.0	0.03	233.80	233.81
28.5	-39.6	-39.40	15.0	0.03	233.80	233.81
29.0	-39.8	-39.54	15.0	0.03	233.66	233.66
29.5	-40.0	-39.83	15.0	0.03	233.37	233.37
30.0	-40.4	-40.27	15.0	0.03	232.93	232.93
30.5	-40.0	-39.83	15.0	0.03	233.37	233.37
31.0	-39.9	-39.69	15.0	0.03	233.51	233.52
31.5	-39.5	-39.25	15.0	0.03	233.95	233.96
32.0	-38.9	-38.52	15.0	0.03	234.68	234.69
32.5	-38.9	-38.52	15.0	0.03	234.68	234.69
33.0	-38.4	-37.94	15.0	0.03	235.26	235.27
33.5	-38.0	-37.65	15.0	0.04	235.55	235.56
34.0	-38.9	-38.52	15.0	0.03	234.68	234.69
34.5	-38.7	-38.38	15.0	0.03	234.82	234.83
35.0	-38.7	-38.38	15.0	0.03	234.82	234.83
35.5	-39.0	-38.67	15.0	0.03	234.53	234.54
36.0	-39.5	-39.25	15.0	0.03	233.95	233.96
36.5	-39.6	-39.40	15.0	0.03	233.80	233.81
37.0	-40.0	-39.83	0.0	0.00	233.37	233.37
37.5	-40.3	-40.13	0.0	0.00	233.07	233.07
38.0	-40.9	-40.71	0.0	0.00	232.49	232.49
38.5	-41.4	-41.30	0.0	0.00	231.90	231.90
39.0	-41.3	-41.15	0.0	0.00	232.05	232.05
39.5	-41.6	-41.44	0.0	0.00	231.76	231.76
40.0	-42.4	-42.32	0.0	0.00	230.88	230.88
40.5	-43.1	-43.06	0.0	0.00	230.14	230.14

Table B-4 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
THERMODYNAMIC DATA

SYNC TIME MIN	TEMP (230) DEG C	TEMP COMP DEG C	REL HUM	VAPOR PRESS MB	KINETIC TEMP DEG K	VIRTUAL TEMP DEG K
41.0	-43.6	-43.65	0.0	0.00	229.55	229.55
41.5	-44.4	-44.38	0.0	0.00	228.82	228.82
42.0	-45.0	-45.12	0.0	0.00	228.08	228.08
42.5	-45.0	-45.12	0.0	0.00	228.08	228.08
43.0	-44.8	-44.83	0.0	0.00	228.37	228.37
43.5	-44.8	-44.83	0.0	0.00	228.37	228.37
44.0	-45.0	-45.12	0.0	0.00	228.08	228.08
44.5	-45.2	-45.27	0.0	0.00	227.93	227.93
45.0	-45.8	-45.86	0.0	0.00	227.34	227.34
45.5	-45.8	-45.86	0.0	0.00	227.34	227.34
46.0	-46.3	-46.46	0.0	0.00	226.74	226.74
46.5	-46.5	-46.61	0.0	0.00	226.59	226.59
47.0	-46.7	-46.76	0.0	0.00	226.44	226.44
47.5	-47.0	-47.20	0.0	0.00	226.00	226.00
48.0	-47.2	-47.35	0.0	0.00	225.85	225.85
48.5	-47.2	-47.35	0.0	0.00	225.85	225.85
49.0	-47.9	-48.10	0.0	0.00	225.10	225.10
49.5	-48.7	-49.00	0.0	0.00	224.20	224.20
50.0	-49.1	-49.46	0.0	0.00	223.74	223.74
50.5	-49.5	-49.76	0.0	0.00	223.44	223.44
51.0	-49.3	-49.61	0.0	0.00	223.59	223.59
51.5	-49.9	-50.07	0.0	0.00	223.13	223.13
52.0	-50.2	-50.37	0.0	0.00	222.83	222.83
52.5	-50.0	-50.22	0.0	0.00	222.98	222.98
53.0	-50.8	-50.99	0.0	0.00	222.21	222.21
53.5	-52.0	-52.23	0.0	0.00	220.97	220.97
54.0	-53.1	-53.33	0.0	0.00	219.87	219.87
54.5	-53.8	-53.97	0.0	0.00	219.23	219.23
55.0	-54.4	-54.61	0.0	0.00	218.59	218.59
55.5	-54.7	-54.93	0.0	0.00	218.27	218.27
56.0	-54.9	-55.10	0.0	0.00	218.10	218.10
56.5	-54.9	-55.10	0.0	0.00	218.10	218.10
57.0	-55.4	-55.59	0.0	0.00	217.61	217.61
57.5	-55.2	-55.43	0.0	0.00	217.77	217.77
58.0	-55.2	-55.43	0.0	0.00	217.77	217.77
58.5	-55.4	-55.59	0.0	0.00	217.61	217.61
59.0	-55.6	-55.75	0.0	0.00	217.45	217.45
59.5	-54.9	-55.10	0.0	0.00	218.10	218.10
60.0	-54.7	-54.93	0.0	0.00	218.27	218.27
60.5	-54.7	-54.93	0.0	0.00	218.27	218.27

Table B-4 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
THERMODYNAMIC DATA

SYNC TIME MIN	TEMP (230) DEG C	TEMP COMP DEG C	REL HUM	VAPOR PRESS MB	KINETIC TEMP DEG K	VIRTUAL TEMP DEG K
61.0	-54.6	-54.77	0.0	0.00	218.43	218.43
61.5	-54.9	-55.10	0.0	0.00	218.10	218.10
62.0	-54.1	-54.29	0.0	0.00	218.91	218.91
62.5	-53.5	-53.81	0.0	0.00	219.39	219.39
63.0	-53.5	-53.81	0.0	0.00	219.39	219.39
63.5	-54.1	-54.29	0.0	0.00	218.91	218.91
64.0	-54.9	-55.10	0.0	0.00	218.10	218.10
64.5	-55.7	-55.92	0.0	0.00	217.28	217.28
65.0	-54.7	-54.93	0.0	0.00	218.27	218.27
65.5	-54.1	-54.29	0.0	0.00	218.91	218.91
66.0	-53.5	-53.81	0.0	0.00	219.39	219.39
66.5	-54.3	-54.45	0.0	0.00	218.75	218.75
67.0	-54.9	-55.10	0.0	0.00	218.10	218.10
67.5	-55.6	-55.75	0.0	0.00	217.45	217.45
68.0	-56.2	-56.42	0.0	0.00	216.78	216.78
68.5	-56.6	-56.75	0.0	0.00	216.45	216.45
69.0	-57.4	-57.60	0.0	0.00	215.60	215.60
69.5	-56.6	-56.75	0.0	0.00	216.45	216.45
70.0	-54.6	-54.77	0.0	0.00	218.43	218.43
70.5	-54.3	-54.45	0.0	0.00	218.75	218.75
71.0	-55.7	-55.92	0.0	0.00	217.28	217.28
71.5	-56.4	-56.59	0.0	0.00	216.61	216.61
72.0	-54.7	-54.93	0.0	0.00	218.27	218.27
72.5	-53.9	-54.13	0.0	0.00	219.07	219.07
73.0	-52.9	-53.17	0.0	0.00	220.03	220.03
73.5	-52.5	-52.70	0.0	0.00	220.50	220.50
74.0	-52.2	-52.38	0.0	0.00	220.82	220.82
74.5	-57.4	-57.60	0.0	0.00	215.60	215.60
75.0	-51.2	-51.45	0.0	0.00	221.75	221.75
75.5	-51.5	-51.76	0.0	0.00	221.44	221.44
76.0	-52.0	-52.23	0.0	0.00	220.97	220.97
76.5	-51.7	-51.91	0.0	0.00	221.29	221.29
77.0	-51.9	-52.07	0.0	0.00	221.13	221.13
77.5	-53.1	-53.33	0.0	0.00	219.87	219.87
78.0	-53.8	-53.97	0.0	0.00	219.23	219.23
78.5	-53.8	-53.97	0.0	0.00	219.23	219.23
79.0	-53.1	-53.33	0.0	0.00	219.87	219.87
79.5	-52.7	-52.85	0.0	0.00	220.35	220.35
80.0	-52.2	-52.38	0.0	0.00	220.82	220.82
80.5	-51.7	-51.91	0.0	0.00	221.29	221.29

Table B-4 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
THERMODYNAMIC DATA

SYNC TIME MIN	TEMP (230) DEG C	TEMP COMP DEG C	REL HUM	VAPOR PRESS MB	KINETIC TEMP DEG K	VIRTUAL TEMP DEG K
81.0	-52.3	-52.54	0.0	0.00	220.66	220.66
81.5	-52.9	-53.17	0.0	0.00	220.03	220.03
82.0	-52.5	-52.70	0.0	0.00	220.50	220.50
82.5	-52.0	-52.23	0.0	0.00	220.97	220.97
83.0	-51.5	-51.76	0.0	0.00	221.44	221.44
83.5	-50.8	-50.99	0.0	0.00	222.21	222.21
84.0	-51.0	-51.14	0.0	0.00	222.06	222.06
84.5	-51.1	-51.29	0.0	0.00	221.91	221.91
85.0	-51.5	-51.76	0.0	0.00	221.44	221.44
85.5	-51.0	-51.14	0.0	0.00	222.06	222.06
86.0	-50.8	-50.99	0.0	0.00	222.21	222.21
86.5	-50.5	-50.68	0.0	0.00	222.52	222.52
87.0	-50.6	-50.83	0.0	0.00	222.37	222.37
87.5	-50.0	-50.22	0.0	0.00	222.98	222.98
88.0	-49.1	-49.46	0.0	0.00	223.74	223.74
88.5	-48.6	-48.85	0.0	0.00	224.35	224.35
89.0	-48.2	-48.40	0.0	0.00	224.80	224.80
89.5	-47.9	-48.10	0.0	0.00	225.10	225.10
90.0	-48.2	-48.40	0.0	0.00	224.80	224.80
90.5	-48.6	-48.85	0.0	0.00	224.35	224.35
91.0	-48.7	-49.00	0.0	0.00	224.20	224.20
91.5	-48.6	-48.85	0.0	0.00	224.35	224.35
92.0	-48.0	-48.25	0.0	0.00	224.95	224.95
92.5	-47.7	-47.95	0.0	0.00	225.25	225.25
93.0	-47.2	-47.35	0.0	0.00	225.85	225.85
93.5	-46.7	-46.76	0.0	0.00	226.44	226.44
94.0	-45.8	-45.86	0.0	0.00	227.34	227.34
94.5	-45.8	-45.86	0.0	0.00	227.34	227.34
95.0	-45.8	-45.86	0.0	0.00	227.34	227.34
95.5	-45.8	-45.86	0.0	0.00	227.34	227.34
96.0	-45.5	-45.57	0.0	0.00	227.63	227.63
96.5	-45.6	-45.72	0.0	0.00	227.48	227.48
97.0	-45.8	-45.86	0.0	0.00	227.34	227.34
97.5	-45.0	-45.12	0.0	0.00	228.08	228.08
98.0	-44.2	-44.24	0.0	0.00	228.96	228.96
98.5	-43.4	-43.35	0.0	0.00	229.85	229.85
99.0	-42.6	-42.62	0.0	0.00	230.58	230.58
99.5	-42.5	-42.47	0.0	0.00	230.73	230.73
100.0	-42.6	-42.62	0.0	0.00	230.58	230.58
100.5	-42.4	-42.32	0.0	0.00	230.88	230.88

Table B-4 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
THERMODYNAMIC DATA

SYNC TIME MIN	TEMP (230) DEG C	TEMP COMP DEG C	REL HUM	VAPOR PRESS MB	KINETIC TEMP DEG K	VIRTUAL TEMP DEG K
101.0	-41.1	-41.00	0.0	0.00	232.20	232.20
101.5	-39.8	-39.54	0.0	0.00	233.66	233.66
102.0	-38.4	-37.94	0.0	0.00	235.26	235.26
102.5	-37.4	-37.08	0.0	0.00	236.12	236.12
103.0	-36.3	-35.79	0.0	0.00	237.41	237.41
103.5	-35.2	-34.80	0.0	0.00	238.40	238.40
104.0	-34.4	-33.84	0.0	0.00	239.36	239.36
104.5	-34.2	-33.57	0.0	0.00	239.63	239.63
105.0	-34.5	-33.97	0.0	0.00	239.23	239.23
105.5	-34.9	-34.25	0.0	0.00	238.95	238.95
106.0	-34.6	-34.11	0.0	0.00	239.09	239.09
106.5	-34.2	-33.57	0.0	0.00	239.63	239.63
107.0	-33.7	-33.03	0.0	0.00	240.17	240.17
107.5	-32.3	-31.62	0.0	0.00	241.58	241.58
108.0	-31.6	-31.13	0.0	0.00	242.07	242.07
108.5	-31.6	-31.02	0.0	0.00	242.18	242.18
109.0	-31.0	-30.56	0.0	0.00	242.64	242.64
109.5	-30.8	-30.46	0.0	0.00	242.74	242.74
110.0	-30.4	-30.14	0.0	0.00	243.06	243.06
110.5	-30.1	-29.95	0.0	0.00	243.25	243.25
111.0	-29.6	-29.62	0.0	0.00	243.58	243.58
111.5	-29.3	-29.50	0.0	0.00	243.70	243.70

Table B-5

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
HEIGHT ALTITUDE

SYNC TIME MIN	COMPUTED GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	DIFFERENCES 1DG GPM	2DG GPM	COMPUTED GEOMETRIC ALTITUDE FPS-16 METERS	GMD-2 METERS	RAOB METERS	OBSERVED GMD-2 METERS	DIFFERENCE GMD-2 METERS
1.0	234.6	231.7	218.8	-2.94	-15.83	235	232	219	216	-3.95
1.5	342.1	333.3	327.9	-8.83	-14.22	342	333	328	314	-8.08
2.0	463.0	455.2	446.9	-7.84	-16.14	463	455	447	442	-2.00
2.5	595.5	583.9	567.2	-11.52	-28.25	596	584	567	561	-11.94
3.0	720.6	715.6	706.4	-5.06	-14.24	721	716	707	671	-33.94
3.5	842.4	840.9	829.7	-1.49	-12.66	843	841	830	817	-13.03
4.0	960.1	961.4	954.4	1.25	-5.73	961	962	955	939	-11.65
4.5	1072.1	1076.9	1062.3	4.87	-9.76	1073	1077	1063	1055	-11.46
5.0	1178.1	1174.1	1171.3	-4.06	-6.84	1179	1175	1172	1155	-8.08
5.5	1281.8	1283.8	1281.4	2.01	-0.37	1283	1285	1282	1250	-23.42
6.0	1390.8	1390.6	1374.2	-0.22	-16.66	1392	1391	1375	1366	-14.48
6.5	1500.0	1505.5	1486.7	5.54	-13.26	1501	1506	1488	1475	-19.73
7.0	1613.8	1618.3	1600.4	4.45	-13.41	1615	1619	1601	1594	-13.74
7.5	1739.9	1730.6	1725.1	-9.36	-14.82	1741	1732	1726	1707	-13.35
8.0	1866.2	1876.9	1861.1	10.76	-5.09	1867	1878	1862	1847	-19.62
8.5	1985.3	1996.4	1988.9	11.11	3.58	1987	1998	1990	1969	-17.32
9.0	2114.7	2117.3	2108.3	2.55	-6.40	2116	2119	2110	2094	-13.33
9.5	2244.0	2244.3	2229.2	0.30	-14.77	2246	2246	2231	2216	-18.55
10.0	2377.2	2371.8	2372.1	-5.37	-5.07	2379	2374	2374	2344	-18.20
10.5	2506.8	2506.0	2485.8	-0.76	-21.00	2509	2508	2488	2478	-18.44
11.0	2632.8	2646.3	2632.2	13.45	-0.65	2635	2648	2634	2640	2.66
11.5	2768.6	2781.5	2770.0	12.86	1.36	2771	2784	2772	2758	-13.81
12.0	2900.3	2893.7	2898.8	-6.64	-1.51	2903	2896	2901	2877	-7.27
12.5	3026.7	3006.4	3029.3	-20.36	2.58	3029	3009	3032	2990	-7.32
13.0	3150.2	3164.7	3150.4	14.55	0.20	3153	3167	3153	3142	-13.51
13.5	3279.0	3290.4	3284.2	11.40	5.18	3282	3293	3287	3283	0.84
14.0	3414.6	3404.2	3408.4	-10.38	-6.19	3418	3407	3411	3383	-12.55
14.5	3542.6	3542.6	3545.7	0.05	3.09	3546	3546	3549	3527	-7.89
15.0	3672.6	3690.2	3673.1	17.65	0.54	3676	3694	3677	3676	-6.37
15.5	3814.8	3817.6	3814.2	2.73	-0.68	3818	3821	3818	3801	-8.93
16.0	3951.7	3969.5	3969.4	17.85	17.76	3955	3973	3973	3941	-20.90
16.5	4094.9	4093.0	4090.7	-1.89	-4.28	4099	4097	4095	4075	-10.52
17.0	4241.0	4247.4	4238.2	6.39	-2.79	4245	4252	4243	4234	-6.63
17.5	4387.7	4406.7	4388.0	18.94	0.32	4392	4411	4393	4389	-10.72
18.0	4533.6	4563.0	4540.3	29.42	6.77	4538	4568	4545	4542	-14.92
18.5	4675.0	4671.4	4669.2	-3.59	-5.84	4680	4677	4674	4654	-10.79
19.0	4818.1	4835.4	4812.9	17.33	-5.14	4823	4841	4818	4819	-10.48
19.5	4956.4	4971.8	4945.5	15.46	-10.83	4962	4977	4951	4959	-6.95
20.0	5100.2	5091.8	5093.7	-8.35	-6.48	5106	5098	5100	5072	-14.39
20.5	5223.7	5234.2	5216.8	10.48	-6.99	5230	5240	5223	5215	-13.83
21.0	5353.6	5356.5	5341.5	2.91	-12.07	5360	5363	5348	5340	-11.37
21.5	5486.4	5485.9	5482.2	-0.51	-4.17	5493	5493	5489	5465	-16.08
22.0	5608.0	5611.6	5610.8	3.65	2.85	5615	5619	5618	5578	-29.31
22.5	5725.3	5730.8	5726.7	5.49	1.36	5732	5738	5734	5709	-17.67
23.0	5849.8	5848.5	5873.7	-1.27	23.91	5857	5856	5881	5828	-16.77
23.5	5992.1	6012.3	5993.6	20.19	1.56	6000	6020	6001	5992	-16.28
24.0	6118.9	6141.0	6115.5	22.05	-3.40	6127	6149	6124	6117	-20.31
24.5	6253.6	6268.6	6254.6	14.96	0.93	6262	6277	6263	6236	-29.36
25.0	6387.1	6397.1	6412.0	9.97	24.84	6396	6406	6421	6379	-14.92
25.5	6539.6	6542.8	6556.5	3.20	16.86	6549	6552	6566	6523	-17.70
26.0	6671.9	6679.9	6703.7	8.06	31.88	6681	6689	6713	6657	-21.04
26.5	6810.6	6855.0	6820.3	44.38	9.69	6820	6865	6830	6837	-16.71
27.0	6958.4	6943.5	6972.8	-14.95	14.37	6969	6954	6983	6925	-17.05
27.5	7088.7	7107.5	7111.2	18.83	22.50	7099	7118	7122	7090	-16.93
28.0	7225.0	7258.5	7234.7	33.53	9.63	7236	7269	7245	7233	-25.07
28.5	7353.3	7353.4	7378.5	0.11	25.16	7364	7365	7390	7333	-19.60
29.0	7494.8	7522.4	7525.3	27.58	30.46	7506	7534	7537	7507	-15.34
29.5	7632.4	7676.9	7656.3	44.46	23.91	7644	7689	7668	7660	-17.79
30.0	7773.8	7813.8	7789.7	39.93	15.82	7786	7826	7802	7800	-14.89
30.5	7909.6	7928.8	7945.3	19.20	35.73	7922	7941	7958	7910	-20.49
31.0	8040.2	8041.4	8064.6	1.21	24.38	8053	8054	8078	8022	-20.67
31.5	8178.5	8202.4	8206.6	23.87	28.06	8192	8216	8220	8184	-20.58
32.0	8311.2	8339.3	8331.0	28.01	19.76	8325	8353	8345	8315	-26.78
32.5	8429.2	8466.7	8457.9	37.44	28.68	8443	8481	8472	8446	-23.52
33.0	8560.2	8580.6	8609.2	20.42	49.02	8575	8595	8624	8556	-28.05
33.5	8684.2	8708.4	8719.5	24.21	35.33	8699	8723	8735	8690	-22.14
34.0	8808.4	8821.1	8831.5	12.68	23.11	8824	8836	8847	8797	-28.48
34.5	8935.1	8948.2	8968.1	13.06	33.01	8951	8964	8984	8912	-40.17
35.0	9068.8	9077.1	9107.6	8.24	38.72	9085	9093	9124	0	-9081.83
35.5	9207.3	9240.8	9249.8	33.48	42.51	9224	9257	9267	9214	-31.94
36.0	9341.9	9370.8	9370.4	28.85	28.45	9359	9388	9388	9345	-31.31
36.5	9483.3	9522.1	9542.6	38.85	59.28	9501	9540	9560	9485	-42.99
37.0	9639.6	9664.7	9693.5	25.07	53.91	9658	9683	9712	9635	-36.63
37.5	9782.1	9850.2	9847.6	68.16	65.55	9801	9869	9866	9824	-33.85
38.0	9944.6	9985.6	10005.0	40.94	60.34	9964	10005	10024	9955	-38.60
38.5	10100.1	10173.1	10138.6	73.03	38.52	10120	10193	10158	10144	-37.82
39.0	10256.7	10329.9	10302.3	73.21	45.60	10277	10350	10323	10296	-42.82
39.5	10397.9	10489.1	10470.0	91.28	72.18	10419	10510	10491	10461	-38.02
40.0	10566.8	10620.0	10612.7	53.15	45.86	10588	10641	10634	10592	-38.28
40.5	10723.4	10774.1	10757.9	50.66	34.50	10745	10796	10780	10729	-55.76

Table B-5 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

HEIGHT ALTITUDE

SYNC TIME MIN	COMPUTED GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	DIFFERENCES 1DG GPM	2DG GPM	COMPUTED GEOMETRIC ALTITUDE FPS-16 METERS	GMD-2 METERS	RAOB METERS	OBSERVED GMD-2 METERS	DIFFERENCE GMD-2 METERS
41.0	10880.2	10949.4	10935.9	69.22	55.63	10903	10972	10959	10921	-39.80
41.5	11036.9	11088.6	11087.4	51.69	50.48	11060	11112	11111	11073	-27.09
42.0	11177.2	11249.9	11241.9	72.72	64.73	11201	11274	11266	11220	-42.72
42.5	11296.9	11390.2	11399.9	93.29	102.97	11321	11415	11424	11357	-46.39
43.0	11442.7	11569.0	11529.1	126.35	86.40	11467	11594	11554	11531	-52.17
43.5	11594.1	11713.9	11660.9	119.80	66.76	11619	11740	11686	11677	-51.36
44.0	11720.3	11799.7	11829.3	79.49	109.01	11746	11826	11855	11762	-52.20
44.5	11869.4	11941.0	11967.0	71.59	97.52	11896	11968	11994	11896	-59.96
45.0	12030.4	12100.9	12107.3	70.42	76.91	12057	12128	12135	12061	-55.85
45.5	12164.1	12266.0	12286.8	101.85	122.73	12192	12294	12315	12222	-60.10
46.0	12324.5	12441.9	12396.8	117.36	72.21	12353	12471	12425	12393	-66.11
46.5	12459.3	12585.5	12583.8	126.21	124.49	12488	12615	12613	12530	-73.18
47.0	12611.0	12682.9	12698.5	71.91	87.51	12641	12713	12728	12634	-67.37
47.5	12743.7	12852.4	12815.1	108.62	71.37	12774	12883	12846	12786	-85.17
48.0	12892.6	12997.6	12973.6	105.04	81.06	12923	13029	13005	12936	-81.69
48.5	13037.8	13151.8	13136.0	114.00	98.20	13069	13184	13168	13094	-78.05
49.0	13189.8	13275.8	13260.2	86.00	70.35	13222	13308	13293	13192	-105.15
49.5	13324.3	13432.3	13428.9	107.99	104.58	13357	13466	13462	13384	-70.33
50.0	13467.9	13616.1	13558.0	148.25	90.09	13501	13650	13592	13558	-81.26
50.5	13615.0	13729.0	13689.4	113.94	74.39	13649	13764	13724	13661	-90.97
51.0	13757.9	13804.8	13823.5	46.91	65.62	13793	13840	13858	13750	-78.75
51.5	13901.5	13960.6	13960.3	59.08	58.78	13937	13996	13996	13881	-104.20
52.0	14059.7	14093.8	14146.9	34.10	87.19	14096	14130	14183	14027	-91.77
52.5	14207.8	14241.4	14290.4	33.58	82.60	14245	14278	14328	14179	-87.65
53.0	14379.8	14388.5	14436.9	8.73	57.15	14417	14426	14475	14320	-95.29
53.5	14547.4	14600.1	14586.1	52.73	38.76	14586	14639	14625	14536	-91.54
54.0	14732.8	14755.6	14789.5	22.82	56.67	14772	14795	14829	14701	-83.26
54.5	14902.8	14916.9	14945.7	14.06	42.87	14943	14957	14986	14874	-71.61
55.0	15075.8	15069.9	15159.5	-5.93	83.62	15117	15111	15201	15002	-97.38
55.5	15239.4	15270.1	15324.2	30.71	84.81	15281	15312	15367	15200	-100.51
56.0	15404.6	15517.3	15493.2	112.74	88.57	15447	15561	15536	15423	-126.49
56.5	15560.3	15725.9	15666.6	165.60	106.32	15604	15770	15711	15655	-104.51
57.0	15719.8	15779.1	15784.8	59.25	64.96	15764	15824	15830	15703	-109.21
57.5	15853.9	15844.9	15905.1	-9.02	51.20	15899	15890	15951	16121	242.21
58.0	16013.7	16064.4	16090.0	50.74	76.33	16060	16111	16137	15996	-103.48
58.5	16158.7	16118.0	16216.3	-40.69	57.56	16206	16165	16263	16036	-117.75
59.0	16297.3	16329.0	16345.0	31.67	47.69	16345	16377	16393	16255	-110.41
59.5	16440.6	16472.5	16543.3	31.89	102.68	16489	16521	16592	16209	-300.48
60.0	16542.0	16593.6	16610.9	51.58	68.91	16591	16643	16660	16490	-141.83
60.5	16654.3	16696.0	16748.4	41.69	94.14	16704	16746	16799	16615	-119.81
61.0	16776.7	16743.1	16889.0	-33.58	112.32	16827	16793	16940	16660	-121.46
61.5	16938.1	16941.8	17032.7	3.70	94.56	16989	16993	17084	16855	-126.23
62.0	17099.8	17170.6	17179.8	70.83	80.03	17152	17223	17232	17020	-191.76
62.5	17279.6	17330.9	17330.9	51.24	51.24	17333	17384	17384	17243	-130.43
63.0	17474.7	17615.3	17485.7	140.59	11.01	17529	17670	17540	17535	-123.93
63.5	17655.0	17716.6	17725.0	61.60	69.95	17710	17772	17781	17630	-131.37
64.0	17855.3	17988.4	17889.1	133.15	33.84	17912	18046	17946	17797	-127.41
64.5	18017.5	17926.1	18056.9	-91.37	39.38	18075	17983	18115	17822	-150.12
65.0	18194.8	18276.6	18317.3	81.73	122.45	18254	18336	18377	18203	-121.68
65.5	18339.9	18251.5	18406.8	-88.39	66.94	18399	18311	18467	18151	-148.29
66.0	18505.3	18537.1	18590.3	31.84	85.01	18566	18598	18651	18571	-15.00
66.5	18668.9	18719.4	18779.0	50.48	110.07	18731	18781	18841	18620	-149.69
67.0	18858.2	18938.2	18875.2	79.93	16.97	18921	19001	18938	18846	-144.28
67.5	19037.2	19004.3	19071.5	-32.90	34.29	19101	19068	19136	18940	-116.34
68.0	19214.4	19201.8	19273.4	-12.59	58.99	19279	19267	19339	19135	-120.06
68.5	19422.0	19495.1	19481.4	73.10	59.41	19488	19562	19548	19416	-134.85
69.0	19588.3	19894.6	19696.0	306.33	107.69	19656	19964	19764	19782	-171.18
69.5	19795.5	19915.7	19918.0	120.16	122.48	19864	19985	19988	19846	-128.40
70.0	19945.1	19944.4	20032.8	-0.69	87.63	20015	20014	20103	19858	-145.15
70.5	20120.0	20328.9	20269.9	208.91	149.92	20191	20401	20342	20248	-142.08
71.0	20267.6	20465.5	20391.6	197.92	124.00	20340	20539	20464	20315	-212.52
71.5	20414.4	20447.2	20640.8	32.78	226.38	20487	20520	20715	20461	-47.80
72.0	20564.5	20462.0	20900.8	-102.52	336.27	20639	20535	20977	20385	-138.90
72.5	20730.7	20749.1	21035.6	18.44	304.92	20806	20824	21113	20675	-138.47
73.0	20867.4	20836.4	21173.9	-31.05	306.49	20944	20912	21252	20729	-171.45
73.5	21016.0	21081.9	21315.7	65.94	299.77	21093	21160	21395	21022	-126.08
74.0	21171.2	21368.7	21461.0	197.47	289.78	21249	21448	21541	21309	-128.36
74.5	21353.6	21485.5	21607.9	131.92	254.36	21433	21566	21689	21424	-130.18
75.0	21552.9	21552.9	21913.0	-0.05	360.05	21634	21634	21997	21409	-213.31
75.5	21691.2	21775.1	22154.9	83.90	463.72	21773	21858	22240	21714	-132.31
76.0	21876.7	21911.9	22321.1	35.18	444.38	21960	21995	22408	21851	-132.91
76.5	22068.5	22092.9	22405.7	24.41	337.18	22153	22178	22493	22037	-129.41
77.0	22258.1	22222.1	22578.5	-36.06	320.38	22344	22308	22667	22147	-149.76
77.5	22426.6	22352.2	22719.7	-74.47	293.07	22514	22439	22809	22314	-113.16
78.0	22609.6	22739.1	22863.4	129.50	253.83	22698	22829	22954	22488	-329.24
78.5	22781.0	22774.2	23028.8	-6.85	247.78	22871	22864	23121	22811	-41.50
79.0	22949.8	23029.0	23217.9	79.20	268.12	23041	23121	23311	22951	-158.09
79.5	23116.8	23145.2	23334.5	28.41	217.70	23209	23238	23429	23092	-134.92
80.0	23261.9	23394.8	23513.7	132.96	251.80	23356	23490	23609	23326	-151.80
80.5	23423.1	23513.3	23698.4	90.13	275.24	23518	23609	23796	23470	-127.92

Table B-5 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

HEIGHT ALTITUDE

SYNC TIME MIN	COMPUTED GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	DIFFERENCES 1DG GPM	2DG GPM	COMPUTED GEOMETRIC ALTITUDE FPS-16 METERS	GMD-2 METERS	RAOB METERS	OBSERVED GMD-2 METERS	DIFFERENCE GMD-2 METERS
81.0	23593.7	23590.4	23824.5	-3.26	230.77	23690	23687	23923	23558	-117.31
81.5	23755.1	23749.3	23931.1	-5.76	176.08	23853	23847	24030	23704	-131.12
82.0	23942.0	23987.4	24149.9	45.43	207.85	24041	24087	24251	23966	-109.02
82.5	24114.6	24173.3	24262.3	58.75	147.76	24215	24274	24364	24226	-37.28
83.0	24288.6	24380.6	24493.7	92.01	205.14	24390	24483	24597	24341	-130.44
83.5	24474.4	24498.9	24685.6	24.50	211.18	24578	24602	24791	24463	-127.75
84.0	24669.2	24625.3	24858.4	-43.87	189.25	24774	24730	24965	24582	-136.33
84.5	24845.5	24792.9	25035.9	-52.62	190.35	24952	24899	25144	24765	-122.42
85.0	25056.1	25104.0	25218.1	47.91	162.00	25164	25212	25328	25027	-173.92
85.5	25192.7	25335.9	25460.2	143.23	267.47	25302	25446	25572	25320	-115.19
86.0	25383.4	25368.9	25570.9	-14.54	187.49	25494	25480	25683	25362	-105.75
86.5	25543.5	25802.4	25798.5	258.90	254.96	25656	25917	25913	25795	-110.15
87.0	25727.4	25795.2	25974.6	67.75	247.16	25841	25909	26090	25737	-160.75
87.5	25934.3	26007.9	26186.5	73.35	252.17	26050	26124	26304	25804	-308.29
88.0	26110.5	26220.2	26374.3	109.68	263.77	26228	26338	26494	26021	-305.97
88.5	26317.5	26432.0	26634.2	114.45	316.69	26436	26552	26756	26438	-102.02
89.0	26501.4	26625.6	26768.5	124.19	267.05	26622	26747	26891	26609	-126.66
89.5	26710.2	26736.7	26975.5	26.44	265.23	26832	26859	27100	26740	-107.65
90.0	26872.1	26901.5	27153.1	29.46	280.99	26996	27025	27279	26883	-130.72
90.5	27096.3	27095.4	27372.4	-0.89	276.04	27222	27221	27501	27274	63.81
91.0	27292.5	27403.9	27522.5	111.39	230.05	27420	27532	27652	27411	-110.23
91.5	27509.4	27596.5	27833.5	87.10	324.17	27639	27727	27966	27469	-246.67
92.0	27686.3	27690.9	28036.0	4.58	349.68	27817	27822	28170	27740	-70.73
92.5	27885.5	27963.9	28203.0	78.46	317.49	28018	28097	28339	27807	-279.16
93.0	28071.5	28039.7	28374.6	-31.77	303.10	28206	28174	28512	28011	-151.41
93.5	28285.7	28483.7	28596.1	198.02	310.41	28422	28622	28736	28502	-108.86
94.0	28484.4	28405.8	28826.1	-78.59	341.71	28623	28543	28968	28447	-85.07
94.5	28691.8	28553.0	29016.4	-138.87	324.53	28832	28692	29160	28575	-105.61
95.0	28908.1	28946.3	29212.2	38.12	304.09	29051	29089	29358	29057	-21.04
95.5	29134.1	29397.0	29465.4	262.94	331.35	29279	29544	29613	29328	-204.87
96.0	29330.0	29380.5	29675.3	50.54	345.33	29476	29527	29825	29322	-194.31
96.5	29550.0	29489.5	29892.1	-60.52	342.13	29699	29637	30044	29593	-33.02
97.0	29735.8	29662.9	30116.0	127.12	380.21	29886	30015	30270	29898	-105.35
97.5	29953.1	30145.1	30348.0	192.01	394.98	30106	30300	30505	30001	-286.64
98.0	30166.3	30236.2	30589.3	69.96	423.02	30321	30392	30748	30267	-113.51
98.5	30373.4	30455.1	30776.8	81.69	403.42	30530	30613	30938	30501	-99.86
99.0	30586.4	30835.9	30970.4	249.58	384.04	30745	30997	31133	30763	-222.44
99.5	30847.9	30847.6	31170.1	-0.32	322.23	31009	31009	31335	30925	-72.63
100.0	31076.1	31011.2	31445.9	-64.88	369.79	31240	31174	31614	31065	-97.76
100.5	31277.9	31376.1	31588.2	98.26	310.33	31444	31543	31757	31431	-100.63
101.0	31482.3	31522.2	31808.2	39.91	325.83	31650	31691	31980	31519	-159.87
101.5	31681.4	31998.0	32036.9	316.58	355.43	31852	32171	32211	31772	-387.63
102.0	31873.8	32022.9	32275.1	149.14	401.28	32046	32197	32451	31888	-296.98
102.5	32058.5	32185.9	32439.5	127.40	380.94	32233	32361	32618	32294	-56.31
103.0	32277.3	32280.1	32782.0	2.76	504.70	32454	32456	32964	32464	19.25
103.5	32465.3	32495.8	32960.7	30.58	495.41	32644	32675	33144	32361	-302.47
104.0	32682.8	32610.8	33144.8	-72.02	462.02	32863	32791	33330	32726	-52.87
104.5	32896.1	32881.0	33431.2	-15.16	535.07	33079	33064	33620	33123	70.28
105.0	33111.7	33085.6	33729.7	-26.07	617.97	33297	33271	33922	33162	-96.98
105.5	33351.2	33569.8	33935.7	218.62	584.50	33539	33760	34130	33671	-77.40
106.0	33547.1	33563.3	34147.8	16.15	600.69	33737	33754	34345	33662	-79.99
106.5	33760.9	34093.4	34479.1	332.48	718.22	33953	34290	34680	34086	-192.30
107.0	33976.0	33943.3	34709.5	-32.63	733.59	34171	34138	34913	34049	-77.13
107.5	34176.6	34340.8	35071.4	164.26	894.88	34374	34540	35279	34452	-76.75
108.0	34401.1	34372.7	35324.4	-28.39	923.34	34601	34572	35535	34482	-78.52
108.5	34616.9	34617.8	35587.1	0.88	970.25	34819	34820	35800	34534	-274.53
109.0	34839.9	35027.3	35860.3	187.42	1020.41	35044	35234	36077	35247	24.52
109.5	35077.6	35265.9	36144.6	188.25	1067.04	35285	35475	36364	34994	-469.80
110.0	35279.5	35498.4	36441.1	218.90	1161.68	35489	35710	36664	35540	-159.39
110.5	35509.4	35855.9	36594.3	346.51	1084.94	35722	36072	36819	35747	-313.84
111.0	35739.6	35983.3	36911.2	243.77	1171.67	35955	36201	37140	36128	-61.80
111.5	35961.2	36152.9	37243.2	191.61	1281.99	36179	36373	37476	36317	-44.34

Table B-6

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

PRESSURE VIRTUAL TEMPERATURE

SYNC TIME MIN	PRESSURE FPS-16 MB	PRESSURE GMD-2 MB	PRESSURE RAOB MB	DIFFERENCES 1DP MB	DIFFERENCES 2DP MB	RELATIVE DIFF R1DP PERCENT	RELATIVE DIFF R2DP PERCENT	MEAN VIRTUAL TEMP FPS-16 DEG K	MEAN VIRTUAL TEMP RAOB DEG K	DIFFERENCE VIR TEMP DEG K	REL DIFF VIR TEMP PERCENT	ASCENT RATE GPM/MIN
1.0	989.00	989.00	989.00	0.00	0.00	0.0	0.0	0.00	0.00	0.00	0.0	0.0
1.5	976.18	976.88	976.00	0.70	-0.18	0.1	0.0	277.42	281.57	4.15	1.5	228.4
2.0	961.94	962.52	962.00	0.57	0.06	0.1	0.0	285.65	281.10	-4.55	-1.6	253.3
2.5	946.54	947.53	948.00	0.99	1.46	0.1	0.2	308.39	280.19	-28.19	-9.1	257.6
3.0	932.15	932.38	932.00	0.24	-0.15	0.0	0.0	251.10	279.19	28.09	11.2	247.0
3.5	918.32	918.14	918.00	-0.17	-0.32	0.0	0.0	274.64	278.21	3.57	1.3	239.5
4.0	905.07	904.60	904.00	-0.47	-1.07	-0.1	-0.1	261.52	276.92	15.40	5.9	229.7
4.5	892.61	891.74	892.00	-0.87	-0.61	-0.1	-0.1	285.97	275.66	-10.31	-3.6	218.0
5.0	880.91	881.03	880.00	0.12	-0.91	0.0	-0.1	267.37	274.75	7.37	2.8	209.7
5.5	869.59	869.05	868.00	-0.54	-1.59	-0.1	-0.2	257.76	273.85	16.08	6.2	212.7
6.0	857.82	857.53	858.00	-0.29	0.18	0.0	0.0	321.25	273.26	-47.99	-14.9	218.2
6.5	846.17	845.27	846.00	-0.90	-0.17	-0.1	0.0	264.52	272.74	8.23	3.1	223.0
7.0	834.15	833.38	834.00	-0.77	-0.15	-0.1	0.0	272.16	271.82	-0.34	-0.1	240.0
7.5	820.99	821.66	821.00	0.67	0.01	0.1	0.0	274.01	270.93	-3.08	-1.1	252.3
8.0	807.98	806.58	807.00	-1.40	-0.98	-0.2	-0.1	250.56	269.89	19.33	7.7	245.4
8.5	795.83	794.42	794.00	-1.41	-1.83	-0.2	-0.2	250.49	268.70	18.21	7.3	248.6
9.0	782.79	782.26	782.00	-0.53	-0.79	-0.1	-0.1	290.13	267.76	-22.37	-7.7	258.7
9.5	769.95	769.64	770.00	-0.30	0.05	0.0	0.0	285.37	266.89	-18.48	-6.5	262.5
10.0	756.88	757.14	756.00	0.25	-0.88	0.0	-0.1	247.83	265.88	18.06	7.3	262.8
10.5	744.33	744.14	745.00	-0.19	0.67	0.0	0.1	301.84	264.73	-37.11	-12.3	255.7
11.0	732.26	730.72	731.00	-1.54	-1.26	-0.2	-0.2	226.88	263.51	36.62	16.1	261.8
11.5	719.42	717.96	718.00	-1.46	-1.42	-0.2	-0.2	258.32	262.15	3.83	1.5	267.5
12.0	707.12	707.50	706.00	0.37	-1.12	0.1	-0.2	266.76	260.94	-5.82	-2.2	258.1
12.5	695.47	697.09	694.00	1.62	-1.47	0.2	-0.2	251.73	259.88	8.15	3.2	249.9
13.0	684.22	682.67	683.00	-1.56	-1.22	-0.2	-0.2	263.84	258.76	-5.08	-1.9	252.3
13.5	672.64	671.39	671.00	-1.25	-1.64	-0.2	-0.2	248.13	257.71	9.58	3.9	264.4
14.0	660.60	661.29	660.00	0.69	-0.60	0.1	-0.1	280.06	256.59	-23.47	-8.4	263.6
14.5	649.39	649.16	648.00	-0.23	-1.39	0.0	-0.2	238.08	255.35	17.27	7.3	258.0
15.0	638.14	636.41	637.00	-1.73	-1.14	-0.3	-0.2	259.27	254.18	-5.09	-2.0	272.3
15.5	626.01	625.57	625.00	-0.44	-1.01	-0.1	-0.2	255.35	253.17	-2.19	-0.9	279.1
16.0	614.51	612.82	612.00	-1.69	-2.51	-0.3	-0.4	222.22	252.16	29.94	13.5	280.1
16.5	602.66	602.61	602.00	-0.04	-0.66	0.0	-0.1	296.92	251.24	-45.68	-15.4	289.3
17.0	590.75	590.04	590.00	-0.71	-0.75	-0.1	-0.1	247.66	250.19	2.53	1.0	292.8
17.5	578.98	577.29	578.00	-1.69	-0.98	-0.3	-0.2	243.78	248.95	5.18	2.1	292.6
18.0	567.45	564.98	566.00	-2.48	-1.45	-0.4	-0.3	237.32	247.81	10.49	4.4	287.3
18.5	556.45	556.56	556.00	0.11	-0.45	0.0	-0.1	270.93	246.77	-24.16	-8.9	284.5
19.0	545.49	544.01	545.00	-1.48	-0.49	-0.3	-0.1	244.42	245.61	1.20	0.5	281.3
19.5	535.05	533.74	535.00	-1.31	-0.05	-0.2	0.0	254.93	244.45	-10.49	-4.1	282.1
20.0	524.36	524.82	524.00	0.47	-0.36	0.1	-0.1	236.30	243.45	7.15	3.0	267.4
20.5	515.31	514.40	515.00	-0.91	-0.31	-0.2	-0.1	243.53	242.52	-1.01	-0.4	253.4
21.0	505.93	505.58	506.00	-0.35	0.07	-0.1	0.0	251.43	241.59	-9.84	-3.9	262.7
21.5	496.48	496.38	496.00	-0.10	-0.48	0.0	-0.1	227.18	240.70	13.52	6.0	254.4
22.0	487.96	487.57	487.00	-0.39	-0.96	-0.1	-0.2	226.69	239.77	13.09	5.8	258.9
22.5	479.83	479.32	479.00	-0.51	-0.83	-0.1	-0.2	241.82	238.75	-3.07	-1.3	241.8
23.0	471.33	471.29	469.00	-0.04	-2.33	0.0	-0.5	201.42	237.91	36.49	18.1	266.8
23.5	461.80	460.34	461.00	-1.46	-0.80	-0.3	-0.2	282.35	237.98	-44.37	-15.7	269.1
24.0	453.46	451.91	453.00	-1.56	-0.46	-0.3	-0.1	247.37	237.70	-9.67	-3.9	261.6
24.5	444.72	443.65	444.00	-1.07	-0.72	-0.2	-0.2	229.19	236.56	7.38	3.2	268.2
25.0	436.21	435.47	434.00	-0.74	-2.21	-0.2	-0.5	200.08	235.91	35.83	17.9	286.0
25.5	425.66	426.36	425.00	-0.30	-1.66	-0.1	-0.4	248.41	235.41	-13.00	-5.2	284.7
26.0	418.54	417.94	416.00	-0.59	-2.54	-0.1	-0.6	210.95	234.90	23.95	11.4	271.0
26.5	410.16	407.42	409.00	-2.74	-1.16	-0.7	-0.3	279.11	234.47	-44.64	-16.0	286.6
27.0	401.40	402.19	400.00	0.78	-1.40	0.2	-0.3	226.85	234.03	7.18	3.2	278.1
27.5	393.84	392.66	392.00	-1.17	-1.84	-0.3	-0.5	220.14	233.88	13.74	6.2	266.6
28.0	386.07	384.10	385.00	-1.98	-1.07	-0.5	-0.3	258.26	233.88	-24.38	-9.4	264.6
28.5	378.90	378.81	377.00	-0.09	-1.90	0.0	-0.5	208.56	233.81	25.26	12.1	269.8
29.0	371.15	369.57	369.00	-1.58	-2.15	-0.4	-0.6	225.31	233.74	8.43	3.7	279.1
29.5	363.75	361.31	362.00	-2.44	-1.75	-0.7	-0.5	245.19	233.52	-11.67	-4.8	279.0
30.0	356.29	354.13	355.00	-2.16	-1.29	-0.6	-0.4	247.31	233.15	-14.15	-5.7	277.2
30.5	349.27	348.22	347.00	-1.06	-2.27	-0.3	-0.7	203.32	233.15	29.83	14.7	266.4
31.0	342.66	342.52	341.00	-0.14	-1.66	0.0	-0.5	255.67	233.45	-22.23	-8.7	268.9
31.5	335.80	334.56	334.00	-1.24	-1.80	-0.4	-0.5	227.67	233.74	6.06	2.7	271.0
32.0	329.37	327.95	328.00	-1.42	-1.37	-0.4	-0.4	249.95	234.32	-15.63	-6.3	250.7
32.5	323.76	321.92	322.00	-1.84	-1.76	-0.6	-0.5	218.19	234.69	16.50	7.6	248.9
33.0	317.65	316.64	315.00	-1.02	-2.65	-0.3	-0.8	203.39	234.98	31.58	15.5	255.0
33.5	311.99	310.82	310.00	-1.17	-1.99	-0.4	-0.6	264.61	235.41	-29.20	-11.0	248.2
34.0	306.41	305.77	305.00	-0.64	-1.41	-0.2	-0.5	260.78	235.12	-25.66	-9.8	250.9
34.5	300.81	300.17	299.00	-0.64	-1.81	-0.2	-0.6	217.75	234.76	17.01	7.8	260.4
35.0	295.01	294.59	293.00	-0.42	-2.01	-0.1	-0.7	225.22	234.83	9.61	4.3	272.2
35.5	289.13	287.65	287.00	-1.47	-2.13	-0.5	-0.7	228.43	234.69	6.25	2.7	273.1
36.0	283.51	282.25	282.00	-1.26	-1.51	-0.4	-0.5	261.55	234.25	-27.30	-10.4	276.0
36.5	277.71	276.08	275.00	-1.63	-2.71	-0.6	-1.0	192.02	233.89	41.86	21.8	297.7
37.0	271.43	270.38	269.00	-1.05	-2.43	-0.4	-0.9	241.89	233.59	-8.30	-3.4	298.8
37.5	265.83	263.13	263.00	-2.70	-2.83	-1.0	-1.1	215.61	233.22	17.61	8.2	305.0
38.0	259.56	257.96	257.00	-1.60	-2.56	-0.6	-1.0	240.49	232.78	-7.71	-3.2	318.0
38.5	253.69	250.94	252.00	-2.76	-1.69	-1.1	-0.7	270.12	232.20	-37.92	-14.0	312.1
39.0	247.91	245.21	246.00	-2.70	-1.91	-1.1	-0.8	221.94	231.98	10.04	4.5	297.8
39.5	242.81	239.52	240.00	-3.28	-2.81	-1.4	-1.2	195.15	231.90	36.75	18.8	310.1
40.0	236.82	234.94	235.00	-1.88	-1.82	-0.8	-0.8	273.99	231.32	-42.68	-15.6	325.5
40.5	231.39	229.64	230.00	-1.75	-1.39	-0.8	-0.6	248.54	230.51	-18.03	-7.3	313.4

Table B-6 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
PRESSURE VIRTUAL TEMPERATURE

SYNC TIME MIN	PRESSURE FPS-16 MB	PRESSURE GMD-2 MB	PRESSURE RAOB MB	DIFFERENCES 1DP MB	DIFFERENCES 2DP MB	RELATIVE DIFF R1DP PERCENT	RELATIVE DIFF R2DP PERCENT	MEAN VIRTUAL TEMP FPS-16 DEG K	MEAN VIRTUAL TEMP RAOB DEG K	DIFFERENCE VIR TEMP DEG K	REL DIFF VIR TEMP PERCENT	ASCENT RATE GPM/MIN
41.0	226.06	223.73	224.00	-2.33	-2.06	-1.0	-0.9	202.56	229.85	27.29	13.5	313.5
41.5	220.84	219.13	219.00	-1.71	-1.84	-0.8	-0.8	236.97	229.18	-7.78	-3.3	297.0
42.0	216.25	213.91	214.00	-2.34	-2.25	-1.1	-1.0	207.38	228.45	21.07	10.2	260.0
42.5	212.41	209.46	209.00	-2.95	-3.41	-1.4	-1.6	172.86	228.08	55.22	31.9	265.5
43.0	207.83	203.93	205.00	-3.90	-2.83	-1.9	-1.4	257.50	228.22	-29.27	-11.4	297.2
43.5	203.17	199.56	201.00	-3.61	-2.17	-1.8	-1.1	262.41	228.37	-34.03	-13.0	277.6
44.0	199.37	197.01	196.00	-2.36	-3.37	-1.2	-1.7	170.97	228.22	57.26	33.5	275.3
44.5	194.96	192.88	192.00	-2.08	-2.96	-1.1	-1.5	247.02	228.00	-19.02	-7.7	310.2
45.0	190.31	189.31	188.00	-2.00	-2.31	-1.1	-1.2	261.07	227.63	-33.43	-12.8	294.7
45.5	186.52	183.[illegible]	183.00	-2.83	-3.52	-1.5	-1.9	169.30	227.34	58.03	34.3	294.1
46.0	182.08	178.90	180.00	-3.18	-2.08	-1.7	-1.1	331.37	227.04	-104.33	-31.5	295.2
46.5	178.41	175.07	175.00	-3.35	-3.41	-1.9	-1.9	163.32	226.67	63.35	38.8	286.5
47.0	174.38	172.51	172.00	-1.87	-2.38	-1.1	-1.4	299.53	226.52	-73.01	-24.4	284.4
47.5	170.92	168.15	169.00	-2.76	-1.92	-1.6	-1.1	257.54	226.22	-31.32	-12.2	281.6
48.0	167.12	164.50	165.00	-2.61	-2.12	-1.6	-1.3	212.11	225.92	13.82	6.5	294.0
48.5	163.48	160.71	161.00	-2.77	-2.48	-1.7	-1.5	202.0[illegible]	225.85	23.84	11.8	297.3
49.0	159.76	157.72	158.00	-2.04	-1.76	-1.3	-1.1	27[illegible]	225.47	-50.55	-18.3	286.6
49.5	156.53	154.01	154.00	-2.52	-2.53	-1.6	-1.6	17[illegible]	224.65	45.58	25.5	278.1
50.0	153.14	149.75	151.00	-3.39	-2.14	-2.2	-1.4	249.12	223.97	-25.16	-10.1	290.7
50.5	149.73	147.19	148.00	-2.54	-1.73	-1.7	-1.2	250.29	223.59	-26.70	-10.7	290.0
51.0	146.50	145.49	145.00	-1.00	-1.50	-0.7	-1.0	238.14	223.51	-14.63	-6.1	286.5
51.5	143.32	142.07	142.00	-1.25	-1.32	-0.9	-0.9	234.52	223.36	-11.16	-4.8	301.8
52.0	139.88	139.20	138.00	-0.68	-1.88	-0.5	-1.3	189.04	222.98	33.94	18.0	306.3
52.5	136.74	136.09	135.00	-0.66	-1.74	-0.5	-1.3	230.04	222.90	-7.13	-3.1	320.1
53.0	133.18	133.05	132.00	-0.13	-1.18	-0.1	-0.9	261.26	222.60	-38.66	-14.8	339.6
53.5	129.78	128.78	129.00	-1.01	-0.78	-0.8	-0.6	248.91	221.59	-27.31	-11.0	353.1
54.0	126.11	125.71	125.00	-0.40	-1.11	-0.3	-0.9	201.01	220.42	19.41	9.7	355.5
54.5	122.81	122.59	122.00	-0.22	-0.81	-0.2	-0.7	238.95	219.55	-19.40	-8.1	343.0
55.0	119.54	119.70	118.00	0.16	-1.54	0.1	-1.3	177.18	218.91	41.73	23.6	336.6
55.5	116.52	116.01	115.00	-0.51	-1.52	-0.4	-1.3	216.85	218.43	1.58	0.7	328.7
56.0	113.55	111.61	112.00	-1.94	-1.55	-1.7	-1.4	213.32	218.18	4.86	2.3	320.9
56.5	110.81	108.02	109.00	-2.79	-1.81	-2.5	-1.6	195.78	218.10	22.32	11.4	315.2
57.0	108.07	107.12	107.00	-0.95	-1.07	-0.9	-1.0	294.11	217.86	-76.25	-25.9	293.6
57.5	105.82	106.02	105.00	0.20	-0.82	0.2	-0.8	242.59	217.69	-24.89	-10.3	293.9
58.0	103.21	102.43	102.00	-0.77	-1.21	-0.7	-1.2	188.19	217.77	29.59	15.7	304.8
58.5	100.88	101.57	100.00	0.69	-0.88	0.7	-0.9	250.04	217.69	-32.35	-12.9	283.6
59.0	98.71	98.26	98.00	-0.45	-0.71	-0.5	-0.7	234.22	217.53	-16.70	-7.1	281.9
59.5	96.52	96.08	95.00	-0.44	-1.52	-0.5	-1.6	157.39	217.77	60.39	38.4	244.7
60.0	95.00	94.27	94.00	-0.72	-1.00	-0.8	-1.0	327.13	218.18	-108.95	-33.3	213.7
60.5	93.34	92.77	92.00	-0.57	-1.34	-0.6	-1.4	178.21	218.27	40.05	22.5	234.6
61.0	91.57	92.09	90.00	0.52	-1.57	0.6	-1.7	190.10	218.35	28.25	14.9	283.8
61.5	89.29	89.27	88.00	-0.01	-1.29	0.0	-1.4	245.25	218.26	-26.98	-11.0	323.1
62.0	87.06	86.13	86.00	-0.92	-1.06	-1.1	-1.2	240.09	218.51	-21.58	-9.0	341.5
62.5	84.65	84.01	84.00	-0.64	-0.65	-0.8	-0.8	260.93	219.15	-41.78	-16.0	374.9
63.0	82.12	80.37	82.00	-1.75	-0.12	-2.1	-0.1	276.38	219.39	-56.99	-20.6	375.4
63.5	79.84	79.11	79.00	-0.73	-0.84	-0.9	-1.1	165.17	219.15	53.98	32.7	380.5
64.0	77.38	75.82	77.00	-1.56	-0.38	-2.0	-0.5	266.58	218.51	-48.07	-18.0	362.5
64.5	75.44	76.56	75.00	1.13	-0.44	1.5	-0.6	210.50	217.69	7.19	3.4	339.6
65.0	73.37	72.47	72.00	-0.90	-1.37	-1.2	-1.9	148.30	217.77	69.47	46.8	322.4
65.5	71.72	72.75	71.00	1.03	-0.72	1.4	-1.0	354.10	218.59	-135.51	-38.3	310.4
66.0	69.90	69.58	69.00	-0.31	-0.90	-0.4	-1.3	197.56	219.15	21.59	10.9	329.0
66.5	68.13	67.63	67.00	-0.50	-1.13	-0.7	-1.7	189.98	219.07	29.09	15.3	353.0
67.0	66.15	65.36	66.00	-0.79	-0.15	-1.2	-0.2	429.79	218.43	-211.36	-49.2	368.3
67.5	64.32	64.68	64.00	0.37	-0.32	0.6	-0.5	198.55	217.77	19.22	9.7	356.2
68.0	62.55	62.71	62.00	0.16	-0.55	0.3	-0.9	190.55	217.11	26.56	13.9	384.8
68.5	60.53	59.87	60.00	-0.66	-0.53	-1.1	-0.9	216.18	216.61	0.43	0.2	373.9
69.0	58.96	56.21	58.00	-2.76	-0.96	-4.7	-1.6	167.40	216.02	48.62	29.0	373.5
69.5	57.06	56.02	56.00	-1.04	-1.06	-1.8	-1.9	201.64	216.02	14.38	7.1	356.9
70.0	55.73	55.77	55.00	0.03	-0.73	0.1	-1.3	283.46	217.44	-66.02	-23.3	324.5
70.5	54.23	52.51	53.00	-1.72	-1.23	-3.2	-2.3	161.18	218.59	57.41	35.6	322.4
71.0	52.99	51.40	52.00	-1.59	-0.99	-3.0	-1.9	264.47	218.02	-46.46	-17.6	294.4
71.5	51.78	51.55	50.00	-0.23	-1.78	-0.4	-3.4	127.82	216.95	89.13	69.7	296.9
72.0	50.57	51.43	48.00	0.86	-2.57	1.7	-5.1	125.54	217.44	91.90	73.2	316.3
72.5	49.28	49.17	47.00	-0.10	-2.28	-0.2	-4.6	269.51	218.67	-50.85	-18.9	302.9
73.0	48.24	48.51	46.00	0.27	-2.24	0.6	-4.6	217.05	219.55	2.50	1.2	285.3
73.5	47.14	46.70	45.00	-0.44	-2.14	-0.9	-4.5	230.71	220.27	-10.44	-4.5	303.8
74.0	46.02	44.67	44.00	-1.35	-2.02	-2.9	-4.4	235.84	220.66	-15.18	-6.4	337.6
74.5	44.73	43.86	43.00	-0.87	-1.73	-1.9	-3.9	270.81	218.21	-52.60	-19.4	381.7
75.0	43.36	43.40	41.00	0.05	-2.36	0.1	-5.4	142.91	218.67	75.76	53.0	337.6
75.5	42.44	41.94	39.50	-0.50	-2.94	-1.2	-6.9	126.63	221.60	94.96	75.0	323.7
76.0	41.24	41.06	38.50	-0.18	-2.74	-0.4	-6.6	246.96	221.21	-25.75	-10.4	377.4
76.5	40.04	39.93	38.00	-0.11	-2.04	-0.3	-5.1	501.09	221.13	-279.96	-55.9	381.5
77.0	38.88	39.14	37.00	0.26	-1.88	0.7	-4.8	242.72	221.21	-21.52	-8.9	358.1
77.5	37.88	38.36	36.20	0.48	-1.68	1.3	-4.4	263.15	220.50	-42.65	-16.2	351.4
78.0	36.62	36.12	35.40	-0.70	-1.42	-1.9	-3.8	279.49	219.55	-59.94	-21.4	354.4
78.5	35.85	35.92	34.50	0.08	-1.35	0.2	-3.8	227.26	219.23	-8.02	-3.5	340.2
79.0	34.92	34.53	33.50	-0.39	-1.42	-1.1	-4.1	195.94	219.55	23.61	12.0	335.8
79.5	34.02	33.91	32.90	-0.12	-1.12	-0.3	-3.3	315.35	220.11	-95.25	-30.2	312.0
80.0	33.27	32.62	32.00	-0.65	-1.27	-1.9	-3.8	178.60	220.58	41.98	23.5	306.4
80.5	32.45	32.03	31.10	-0.42	-1.35	-1.3	-4.2	193.01	221.05	28.05	14.5	331.8

Table B-6 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

PRESSURE VIRTUAL TEMPERATURE

SYNC TIME MIN	PRESSURE FPS-16 MB	PRESSURE GMD-2 MB	PRESSURE RAOB MB	DIFFERENCES 1DP MB	DIFFERENCES 2DP MB	RELATIVE DIFF R1DP PERCENT	RELATIVE DIFF R2DP PERCENT	MEAN VIRTUAL TEMP FPS-16 DEG K	MEAN VIRTUAL TEMP RAOB DEG K	DIFFERENCE VIR TEMP DEG K	REL DIFF VIR TEMP PERCENT	ASCENT RATE GPM/MIN
81.0	31.60	31.65	30.50	0.05	-1.10	0.1	-3.5	298.91	220.97	-77.93	-26.1	331.9
81.5	30.82	30.88	30.00	0.06	-0.82	0.2	-2.7	333.30	220.34	-112.95	-33.9	348.3
82.0	29.94	29.76	29.00	-0.18	-0.94	-0.6	-3.1	188.27	220.27	31.99	17.0	359.5
82.5	29.15	28.92	28.50	-0.24	-0.65	-0.8	-2.2	338.70	220.74	-117.96	-34.8	346.6
83.0	28.38	28.01	27.50	-0.37	-0.88	-1.3	-3.1	166.36	221.21	54.85	33.0	359.8
83.5	27.58	27.50	26.70	-0.08	-0.88	-0.3	-3.2	214.84	221.83	6.98	3.3	380.6
84.0	26.77	26.97	26.00	0.20	-0.77	0.8	-2.9	250.32	222.14	-28.19	-11.3	371.1
84.5	26.05	26.28	25.30	0.23	-0.75	0.9	-2.9	220.60	221.98	1.38	0.6	386.9
85.0	25.22	25.05	24.60	-0.16	-0.62	-0.6	-2.5	256.16	221.67	-34.49	-13.5	347.1
85.5	24.69	24.17	23.70	-0.52	-0.99	-2.1	-4.0	125.14	221.75	96.61	77.2	327.4
86.0	23.98	24.05	23.30	0.07	-0.68	0.3	-2.8	382.56	222.14	-160.43	-41.9	350.8
86.5	23.40	22.50	22.50	-0.89	-0.90	-3.8	-3.8	156.44	222.37	65.93	42.1	344.0
87.0	22.74	22.53	21.90	-0.22	-0.84	-1.0	-3.7	232.30	222.44	-9.85	-4.2	390.8
87.5	22.03	21.80	21.20	-0.23	-0.83	-1.0	-3.8	217.41	222.67	5.27	2.4	383.1
88.0	21.45	21.11	20.60	-0.34	-0.85	-1.6	-4.0	209.56	223.36	13.80	6.6	383.2
88.5	20.78	20.44	19.80	-0.34	-0.98	-1.7	-4.7	178.43	224.04	45.61	25.6	390.9
89.0	20.21	19.84	19.40	-0.36	-0.81	-1.8	-4.0	307.62	224.57	-83.04	-27.0	392.7
89.5	19.58	19.51	18.80	-0.07	-0.78	-0.3	-4.0	226.92	224.95	-1.97	-0.9	370.7
90.0	19.10	19.03	18.30	-0.07	-0.80	-0.4	-4.2	204.99	224.95	19.96	9.7	386.1
90.5	18.46	18.48	17.70	0.01	-0.76	0.1	-4.1	229.64	224.57	-5.07	-2.2	420.4
91.0	17.92	17.63	17.30	-0.29	-0.62	-1.6	-3.4	292.96	224.27	-68.69	-23.4	413.0
91.5	17.34	17.12	16.50	-0.22	-0.84	-1.3	-4.8	156.40	224.27	67.87	43.4	393.9
92.0	16.88	16.87	16.00	0.00	-0.88	0.0	-5.2	196.36	224.65	28.29	14.4	376.1
92.5	16.37	16.19	15.60	-0.18	-0.77	-1.1	-4.7	268.50	225.10	-43.40	-16.2	385.1
93.0	15.92	16.00	15.20	0.09	-0.72	0.5	-4.5	244.46	225.55	-18.91	-7.7	400.2
93.5	15.41	14.97	14.70	-0.44	-0.71	-2.9	-4.6	218.68	226.15	7.46	3.4	412.9
94.0	14.96	15.14	14.20	0.19	-0.76	1.2	-5.1	196.02	226.89	30.87	15.7	406.1
94.5	14.50	14.81	13.80	0.31	-0.70	2.2	-4.8	247.86	227.34	-20.53	-8.3	423.7
95.0	14.03	13.96	13.40	-0.07	-0.63	-0.5	-4.5	251.05	227.34	-23.72	-9.4	442.3
95.5	13.57	13.05	12.90	-0.52	-0.67	-3.8	-4.9	202.86	227.34	24.48	12.1	421.9
96.0	13.17	13.08	12.50	-0.09	-0.67	-0.7	-5.1	212.33	227.48	15.15	7.1	415.9
96.5	12.74	12.87	12.10	0.12	-0.64	1.0	-5.1	230.92	227.56	-3.36	-1.5	405.8
97.0	12.39	12.17	11.70	-0.23	-0.69	-1.8	-5.6	188.74	227.41	38.67	20.5	403.1
97.5	12.00	11.66	11.30	-0.34	-0.70	-2.8	-5.8	213.21	227.71	14.49	6.8	430.4
98.0	11.62	11.50	10.90	-0.12	-0.72	-1.0	-6.2	201.95	228.52	26.57	13.2	420.3
98.5	11.27	11.13	10.60	-0.13	-0.67	-1.2	-5.9	253.38	229.40	-23.98	-9.5	420.1
99.0	10.92	10.52	10.30	-0.39	-0.62	-3.6	-5.6	253.27	230.21	-23.05	-9.1	474.9
99.5	10.50	10.50	10.00	0.00	-0.50	0.0	-4.8	302.04	230.66	-71.38	-23.6	489.7
100.0	10.15	10.25	9.60	0.10	-0.55	1.0	-5.4	190.88	230.66	39.78	20.8	430.0
100.5	9.85	9.71	9.40	-0.14	-0.45	-1.4	-4.6	327.17	230.73	-96.44	-29.5	406.2
101.0	9.56	9.51	9.10	-0.05	-0.46	-0.6	-4.8	215.22	231.54	16.32	7.6	403.6
101.5	9.29	8.87	8.80	-0.42	-0.49	-4.5	-5.2	202.78	232.93	30.15	14.9	391.5
102.0	9.03	8.83	8.50	-0.20	-0.53	-2.2	-5.9	189.33	234.46	45.13	23.8	377.1
102.5	8.79	8.63	8.30	-0.16	-0.49	-1.9	-5.6	264.86	235.69	-29.17	-11.0	403.5
103.0	8.52	8.51	7.90	-0.01	-0.62	-0.1	-7.2	151.22	236.77	85.55	56.6	406.8
103.5	8.29	8.25	7.70	-0.04	-0.59	-0.5	-7.1	250.27	237.90	-12.37	-4.9	405.5
104.0	8.04	8.12	7.50	0.08	-0.54	1.0	-6.7	282.20	238.88	-43.32	-15.4	430.9
104.5	7.80	7.81	7.20	0.01	-0.60	0.2	-7.6	178.40	239.50	61.09	34.2	428.9
105.0	7.56	7.59	6.90	0.03	-0.66	0.3	-8.7	172.93	239.43	66.50	38.5	455.0
105.5	7.31	7.08	6.70	-0.23	-0.61	-3.1	-8.3	277.93	239.09	-38.84	-14.0	435.4
106.0	7.10	7.08	6.50	-0.02	-0.60	-0.3	-8.5	220.78	239.02	18.24	8.3	409.8
106.5	6.89	6.57	6.20	-0.32	-0.69	-4.7	-10.0	154.45	239.36	84.91	55.0	428.8
107.0	6.68	6.71	6.00	0.03	-0.68	0.4	-10.2	223.90	239.90	16.01	7.1	415.7
107.5	6.49	6.34	5.70	-0.15	-0.79	-2.3	-12.2	133.53	240.88	107.35	80.4	425.2
108.0	6.29	6.31	5.50	0.02	-0.79	0.3	-12.6	214.62	241.83	27.21	12.7	440.3
108.5	6.10	6.10	5.30	0.00	-0.80	-0.1	-13.2	198.89	242.13	43.24	21.7	438.8
109.0	5.91	5.76	5.10	-0.16	-0.81	-2.7	-13.8	197.89	242.41	44.52	22.5	460.7
109.5	5.72	5.57	4.90	-0.15	-0.82	-2.7	-14.3	202.90	242.69	39.79	19.6	439.6
110.0	5.56	5.39	4.70	-0.17	-0.86	-3.1	-15.5	165.36	242.90	77.54	46.9	431.8
110.5	5.38	5.12	4.60	-0.26	-0.78	-4.8	-14.5	364.98	243.15	-121.82	-33.4	460.1
111.0	5.21	5.03	4.40	-0.18	-0.81	-3.4	-15.6	176.81	243.42	66.61	37.7	451.9
111.5	5.05	4.92	4.20	-0.14	-0.85	-2.7	-16.9	162.68	243.64	80.96	49.8	0.0

Table B-7

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNC TIME MIN	HD1 METERS	HD2 METERS	HD3 METERS	HD4 METERS	HD5 METERS	Q1 DEG	Q2 DEG	Q3 DEG	Q4 DEG	Q5 DEG	D1Q DEG	D2Q DEG	D3Q DEG	D4Q DEG
	HORIZONTAL DISTANCE					Q PARAMETERS								
1.0	3981.6	1349.1	1349.2	1350.0	1315.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	4181.2	1450.5	1450.6	1450.1	1459.7	57.2	61.1	61.1	61.2	57.8	3.9	3.9	4.0	0.6
2.0	4422.1	1627.5	1627.6	1627.8	1624.3	54.3	57.1	57.1	56.9	60.3	2.8	2.8	2.6	5.9
2.5	4654.8	1799.2	1799.3	1802.2	1769.9	47.2	49.5	49.5	49.4	49.5	2.3	2.3	2.3	2.4
3.0	4855.9	2010.6	2010.7	2011.3	2005.6	32.5	36.0	36.0	36.0	35.3	3.5	3.5	3.6	2.8
3.5	5025.6	2198.4	2198.6	2200.0	2188.5	29.1	30.8	30.8	30.8	30.7	1.7	1.7	1.7	1.6
4.0	5246.0	2436.2	2436.4	2436.2	2437.3	32.0	33.3	33.3	33.3	33.4	1.3	1.3	1.3	1.4
4.5	5456.7	2660.8	2661.0	2663.9	2642.8	32.4	36.2	36.2	36.3	36.0	3.9	3.9	3.9	3.7
5.0	5687.8	2882.9	2883.1	2881.3	2894.4	34.3	34.7	34.7	34.8	34.3	0.4	0.4	0.5	-0.1
5.5	5928.4	3134.3	3134.6	3132.6	3146.7	34.0	34.5	34.5	34.4	34.9	0.5	0.5	0.4	0.9
6.0	6154.8	3382.0	3382.3	3386.0	3359.9	27.5	31.4	31.4	31.3	31.7	3.9	3.9	3.8	4.2
6.5	6330.1	3591.7	3592.1	3596.8	3564.3	20.6	25.3	25.3	25.3	25.3	4.7	4.7	4.7	4.7
7.0	6500.6	3762.3	3762.8	3767.3	3737.9	17.7	22.0	22.0	21.9	22.4	4.3	4.3	4.2	4.7
7.5	6698.6	3982.7	3983.2	3982.4	3987.2	27.7	25.8	25.8	25.8	25.8	-1.9	-1.9	-1.9	-1.9
8.0	6962.0	4238.0	4238.6	4242.3	4218.8	38.5	38.0	38.0	38.0	38.1	-0.5	-0.5	-0.5	-0.4
8.5	7256.3	4519.9	4520.6	4520.7	4519.6	40.7	43.4	43.4	43.5	43.0	2.7	2.7	2.7	2.3
9.0	7547.5	4806.2	4807.0	4807.7	4802.7	40.9	41.3	41.3	41.3	41.7	0.4	0.4	0.4	0.7
9.5	7896.9	5134.8	5135.7	5139.0	5117.2	40.4	40.9	40.9	40.9	40.5	0.5	0.5	0.6	0.2
10.0	8208.9	5438.1	5439.1	5435.8	5455.9	42.4	45.0	45.0	45.0	45.2	2.7	2.7	2.6	2.9
10.5	8543.3	5788.3	5789.5	5795.0	5758.6	42.6	45.5	45.5	45.4	46.2	2.9	2.9	2.8	3.5
11.0	8947.7	6145.9	6147.1	6150.0	6130.3	40.4	43.2	43.2	43.3	42.9	2.8	2.8	2.9	2.5
11.5	9346.8	6555.2	6556.6	6558.3	6545.5	39.6	40.8	40.8	40.9	40.4	1.2	1.2	1.3	0.8
12.0	9732.4	6924.4	6926.0	6920.7	6954.5	40.0	40.7	40.7	40.9	40.1	0.8	0.8	0.9	0.1
12.5	10120.4	7313.0	7314.7	7302.1	7387.0	39.0	42.8	42.8	42.7	43.3	3.8	3.8	3.7	4.3
13.0	10499.7	7722.1	7724.0	7726.8	7705.1	40.2	43.0	43.0	42.9	43.9	2.8	2.8	2.7	3.6
13.5	10946.7	8110.0	8112.1	8111.6	8112.9	38.9	41.3	41.3	41.4	41.0	2.5	2.5	2.5	2.1
14.0	11371.4	8566.5	8568.8	8564.2	8595.8	37.2	39.3	39.3	39.3	39.2	2.1	2.1	2.1	2.0
14.5	11819.1	8988.4	8990.9	8986.7	9014.9	37.2	38.9	38.9	38.9	39.1	1.7	1.7	1.6	1.9
15.0	12220.4	9416.4	9419.1	9422.9	9391.6	39.3	41.1	41.1	41.1	41.2	1.7	1.7	1.7	1.9
15.5	12629.8	9837.5	9840.4	9838.9	9847.8	45.6	47.3	47.3	47.3	46.7	1.7	1.7	1.8	1.1
16.0	13057.6	10229.4	10232.6	10229.7	10248.2	50.1	51.7	51.7	51.7	51.7	1.6	1.6	1.6	1.6
16.5	13488.6	10646.9	10650.3	10648.4	10660.0	51.4	52.6	52.6	52.5	53.0	1.2	1.2	1.1	1.6
17.0	13950.3	11106.4	11110.1	11110.8	11101.8	51.1	52.7	52.7	52.6	53.4	1.6	1.6	1.5	2.3
17.5	14464.7	11583.5	11587.5	11591.7	11554.0	50.8	51.9	51.9	51.8	52.3	1.1	1.0	1.0	1.5
18.0	14978.6	12095.8	12100.2	12105.9	12055.4	52.2	52.8	52.8	52.9	52.2	0.5	0.5	0.6	0.0
18.5	15475.1	12582.1	12586.7	12584.8	12595.9	53.1	54.5	54.5	54.5	54.5	1.4	1.4	1.4	1.4
19.0	15987.2	13086.4	13091.4	13096.9	13045.7	51.0	56.0	56.0	55.9	57.1	5.1	5.1	4.9	6.1
19.5	16491.4	13571.7	13576.9	13583.9	13520.1	51.1	54.8	54.8	54.9	53.9	3.7	3.7	3.8	2.8
20.0	16981.4	14057.9	14063.5	14060.1	14083.5	52.3	54.0	54.0	54.1	53.7	1.8	1.8	1.8	1.5
20.5	17459.8	14545.6	14551.5	14555.2	14517.6	53.6	55.2	55.2	55.1	55.9	1.6	1.6	1.6	2.3
21.0	17956.4	15016.1	15022.4	15025.1	14994.9	56.3	57.0	57.0	57.1	56.4	0.7	0.7	0.8	0.1
21.5	18373.4	15454.9	15461.5	15460.2	15465.4	60.8	61.9	61.9	62.0	61.1	1.1	1.1	1.2	0.2
22.0	18751.8	15817.4	15824.3	15822.0	15836.0	64.2	63.9	63.9	63.9	63.9	-0.3	-0.3	-0.3	-0.3
22.5	19154.2	16206.5	16213.7	16212.6	16215.7	64.6	66.3	66.3	66.6	64.7	1.8	1.8	2.0	0.2
23.0	19626.6	16649.3	16656.9	16645.4	16741.8	64.6	66.9	66.9	66.8	67.9	2.3	2.3	2.2	3.3
23.5	20100.9	17114.6	17122.6	17126.5	17082.6	66.1	67.2	67.2	66.8	70.9	1.0	1.0	0.6	4.7
24.0	20564.8	17558.3	17566.7	17573.0	17506.7	72.0	73.8	73.8	73.9	73.5	1.8	1.8	1.8	1.4
24.5	21009.4	17992.6	18001.4	18003.7	17973.6	74.0	76.0	76.0	76.4	73.2	2.0	2.0	2.4	-0.8
25.0	21525.7	18484.7	18493.9	18486.2	18548.8	72.3	74.4	74.4	74.6	72.6	2.0	2.0	2.2	0.3
25.5	22067.3	18990.0	18999.7	18992.4	19051.0	70.1	71.4	71.4	71.5	71.0	1.4	1.4	1.4	0.9
26.0	22581.6	19507.9	19518.1	19507.4	19598.8	71.9	72.5	72.5	72.2	75.9	0.6	0.6	0.2	4.0
26.5	23092.5	19983.7	19994.4	20003.8	19904.3	77.8	78.5	78.5	78.5	78.2	0.7	0.7	0.7	0.4
27.0	23656.5	20566.4	20577.5	20565.1	20674.8	80.1	81.1	81.1	81.4	78.7	1.1	1.1	1.4	-1.4
27.5	24202.2	21074.9	21086.6	21082.9	21107.6	81.0	82.8	82.8	82.3	87.3	1.7	1.7	1.3	6.2
28.0	24742.6	21583.0	21595.2	21600.8	21534.1	81.9	82.8	82.8	83.0	81.5	0.9	0.9	1.0	-0.5
28.5	25294.8	22143.7	22156.4	22145.5	22241.0	86.7	86.1	86.1	86.3	84.3	-0.6	-0.7	-0.4	-2.4
29.0	25884.2	22703.4	22716.7	22713.3	22734.2	89.4	87.8	87.8	88.2	84.0	-1.6	-1.6	-1.2	-5.4
29.5	26449.4	23248.7	23262.6	23267.0	23209.0	87.1	89.9	89.9	89.8	87.9	2.9	2.9	2.8	0.8
30.0	27041.8	23814.2	23828.7	23834.2	23763.4	81.3	82.2	82.2	82.4	80.2	0.9	0.9	1.1	-1.1
30.5	27707.9	24449.3	24464.3	24456.6	24522.6	80.3	81.7	81.6	81.9	79.5	1.3	1.3	1.6	-0.8
31.0	28430.5	25166.3	25182.0	25172.2	25261.4	80.9	83.0	83.0	82.9	83.7	2.1	2.1	2.0	2.8
31.5	29140.5	25853.1	25869.5	25865.9	25889.3	82.6	84.0	84.0	83.9	85.7	1.4	1.4	1.2	3.1
32.0	29865.4	26585.7	26602.9	26603.1	26582.8	83.8	84.9	84.9	84.9	85.6	1.1	1.1	1.0	1.7
32.5	30628.9	27320.9	27338.9	27339.3	27316.3	84.1	85.1	85.1	85.3	83.4	1.0	1.0	1.1	-0.7
33.0	31315.6	28012.2	28030.8	28019.7	28128.8	85.8	86.4	86.4	86.5	85.4	0.6	0.6	0.7	-0.4
33.5	32015.9	28675.0	28694.4	28688.7	28735.4	87.8	89.3	89.3	89.2	89.6	1.5	1.5	1.4	1.8
34.0	32739.2	29428.1	29448.2	29442.9	29487.0	87.1	88.3	88.3	88.4	87.9	1.2	1.2	1.2	0.8
34.5	33446.5	30114.5	30135.4	30127.2	30205.7	85.9	87.2	87.2	87.3	86.3	1.3	1.3	1.4	0.4
35.0	34188.7	30838.3	30860.0	30848.8	30965.8	89.0	89.3	89.3	89.3	88.6	0.2	0.3	0.3	-0.4
35.5	34892.2	31551.6	31574.2	31569.3	31607.0	84.4	84.1	84.1	84.3	82.0	-0.3	-0.3	-0.1	-2.5
36.0	35547.5	32198.6	32221.9	32219.9	32222.2	86.2	83.8	83.8	83.8	84.5	-2.4	-2.4	-2.5	-1.7
36.5	36198.6	32863.0	32887.2	32879.1	32958.0	86.0	84.7	84.7	84.5	86.4	-1.3	-1.3	-1.5	0.4
37.0	36931.6	33567.9	33593.0	33582.6	33692.5	83.0	82.3	82.3	82.4	80.8	-0.7	-0.7	-0.6	-2.2
37.5	37734.3	34341.1	34367.3	34365.9	34357.3	82.5	81.9	81.9	81.9	81.3	-0.6	-0.6	-0.6	-1.2
38.0	38572.3	35152.4	35179.6	35171.9	35245.6	85.4	82.9	82.9	83.1	81.2	-2.5	-2.5	-2.3	-4.1
38.5	39453.9	36043.5	36071.9	36079.5	35947.9	89.2	86.9	86.9	87.1	84.6	-2.3	-2.3	-2.1	-4.5
39.0	40296.9	36886.3	36915.7	36921.4	36814.3	83.6	87.3	87.3	87.3	86.7	3.7	3.7	3.7	3.1
39.5	41212.6	37775.6	37806.2	37809.5	37733.4	79.7	82.3	82.2	82.3	81.8	2.6	2.6	2.6	2.1
40.0	42167.6	38734.2	38766.0	38766.0	38734.1	78.3	80.0	80.0	80.0	79.9	1.7	1.7	1.7	1.6
40.5	43042.8	39638.7	39671.6	39674.0	39606.3	79.8	81.6	81.6	81.6	81.8	1.8	1.8	1.8	2.0

Table B-7 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNC TIME MIN	HORIZONTAL DISTANCE HD1 METERS	HD2 METERS	HD3 METERS	HD4 METERS	HD5 METERS	Q PARAMETERS Q1 DEG	Q2 DEG	Q3 DEG	Q4 DEG	Q5 DEG	D1Q DEG	D2Q DEG	D3Q DEG	D4Q DEG
41.0	43850.0	40442.4	40476.6	40478.3	40419.2	82.4	84.7	84.7	84.7	84.2	2.2	2.2	2.3	1.8
41.5	44716.5	41289.1	41324.4	41322.8	41311.3	83.3	84.4	84.3	84.4	84.2	1.0	1.0	1.0	0.9
42.0	45568.6	42143.8	42180.3	42180.5	42141.0	83.8	85.2	85.2	85.2	84.9	1.4	1.4	1.4	1.1
42.5	46414.5	42989.9	43027.6	43023.0	43052.9	84.1	86.3	86.3	86.2	87.4	2.2	2.2	2.1	3.2
43.0	47256.7	43839.6	43878.6	43887.3	43717.0	84.4	86.6	86.6	86.4	88.9	2.2	2.2	2.0	4.5
43.5	48141.9	44693.6	44733.9	44745.9	44520.8	87.4	89.5	89.5	89.7	87.4	2.2	2.1	2.3	0.0
44.0	49064.7	45624.4	45665.8	45656.2	45764.5	88.1	89.7	89.6	89.8	87.2	1.6	1.6	1.8	-0.9
44.5	49877.1	46460.1	46502.7	46494.1	46587.2	86.5	88.6	88.6	88.6	89.5	2.2	2.2	2.1	3.1
45.0	50734.4	47309.6	47353.6	47350.0	47362.3	87.9	89.3	89.3	89.3	89.1	1.4	1.4	1.4	1.2
45.5	51617.4	48153.0	48198.4	48191.2	48261.6	89.2	89.8	89.7	89.6	88.3	0.5	0.5	0.4	-0.9
46.0	52571.9	49116.1	49163.0	49172.6	48968.2	88.9	86.9	86.9	86.9	86.0	-2.0	-2.0	-1.9	-2.9
46.5	53489.2	50035.5	50083.8	50082.4	50056.7	89.0	84.3	84.3	84.1	86.6	-4.7	-4.7	-4.8	-2.4
47.0	54419.2	50971.2	51020.8	51015.0	51061.2	87.1	90.0	90.0	89.9	88.8	2.9	2.9	2.8	1.7
47.5	55313.4	51869.6	51920.7	51328.1	51749.8	84.4	86.6	86.6	86.5	87.8	2.1	2.1	2.1	3.3
48.0	56165.3	52717.6	52770.1	52774.2	52650.2	85.3	86.4	86.4	86.4	85.8	1.1	1.1	1.1	0.5
48.5	56946.0	53530.3	53584.2	53586.3	53495.3	88.7	87.9	87.9	87.9	88.3	-0.8	-0.8	-0.8	-0.4
49.0	57735.2	54308.1	54363.3	54365.3	54273.6	83.3	82.3	82.4	82.3	83.0	-1.0	-1.0	-1.0	-0.3
49.5	58541.4	55101.3	55157.9	55157.0	55116.0	84.9	82.5	82.5	82.6	80.3	-2.4	-2.3	-2.2	-4.6
50.0	59430.8	55967.6	56025.9	56038.3	55761.0	88.8	85.7	85.7	85.8	84.2	-3.1	-3.0	-3.0	-4.6
50.5	60291.2	56846.7	56906.4	56914.2	56714.3	89.4	87.2	87.2	87.0	89.7	-2.2	-2.2	-2.4	0.3
51.0	61084.6	57673.7	57734.5	57728.2	57779.2	88.7	85.5	85.5	85.4	87.1	-3.3	-3.3	-3.4	-1.6
51.5	61790.8	58401.1	58463.3	58461.6	58428.6	87.1	86.2	86.3	86.2	87.7	-0.9	-0.9	-1.0	0.6
52.0	62452.6	59082.3	59145.8	59131.3	59329.5	83.3	81.8	81.9	81.7	84.5	-1.4	-1.4	-1.6	1.2
52.5	63083.4	59689.6	59754.4	59740.8	59919.8	82.1	79.3	79.3	79.3	78.9	-2.9	-2.8	-2.8	-3.3
53.0	63789.0	60386.1	60452.4	60439.0	60614.1	81.5	78.8	78.8	79.1	74.3	-2.7	-2.7	-2.5	-7.3
53.5	64527.9	61118.6	61186.6	61188.2	61089.6	83.4	79.5	79.5	79.6	78.6	-3.9	-3.9	-3.8	-4.8
54.0	65322.1	61897.6	61967.1	61957.2	62065.3	87.3	85.1	85.1	85.0	86.7	-2.2	-2.2	-2.3	-0.6
54.5	66118.0	62703.3	62774.5	62765.8	62850.4	88.6	86.5	86.5	86.4	88.3	-2.2	-2.2	-2.3	-0.3
55.0	66854.2	63478.2	63551.0	63527.7	63876.2	86.1	83.9	83.9	83.8	85.0	-2.3	-2.2	-2.3	-1.2
55.5	67493.8	64110.0	64184.5	64169.8	64360.8	82.5	78.4	78.4	78.9	67.2	-4.1	-4.1	-3.6	-15.3
56.0	68160.6	64735.0	64811.4	64815.5	64664.1	81.0	76.2	76.2	76.7	65.6	-4.8	-4.8	-4.3	-15.5
56.5	68861.5	65439.8	65518.1	65530.6	65225.9	79.7	78.0	78.0	77.9	79.7	-1.7	-1.7	-1.8	0.6
57.0	69479.4	66103.0	66182.3	66179.2	66154.3	76.7	77.0	77.0	76.5	83.1	0.3	0.3	-0.2	6.4
57.5	70092.5	66725.4	66805.7	66789.5	67001.7	72.7	70.7	70.7	70.6	72.2	-2.0	-2.0	-2.0	-0.4
58.0	70690.8	67324.3	67406.4	67398.5	67457.0	75.7	72.0	72.1	71.9	74.7	-3.7	-3.6	-3.8	-1.0
58.5	71313.0	67954.3	68037.5	68012.2	68387.6	84.0	80.0	80.0	80.1	79.4	-4.0	-4.0	-4.0	-4.7
59.0	71941.4	68564.7	68649.7	68644.1	68658.1	85.8	83.5	83.6	83.7	81.7	-2.3	-2.2	-2.2	-4.1
59.5	72449.7	69102.3	69188.7	69169.9	69420.3	77.2	78.2	78.2	78.2	78.3	1.0	1.0	1.0	1.1
60.0	72885.9	69546.8	69634.4	69628.4	69645.3	72.0	68.7	68.7	68.8	66.3	-3.3	-3.3	-3.2	-5.6
60.5	73368.7	70019.3	70108.0	70093.6	70261.9	73.3	69.7	69.8	69.0	78.6	-3.6	-3.6	-4.3	5.3
61.0	73911.0	70585.2	70674.8	70638.0	71214.1	77.2	74.7	74.7	74.5	77.4	-2.5	-2.5	-2.6	0.3
61.5	74412.2	71081.1	71172.4	71148.8	71481.1	80.3	77.0	77.0	77.7	51.3	-3.4	-3.3	-2.6	-29.0
62.0	74812.6	71480.2	71573.3	71569.3	71544.7	82.9	80.2	80.2	80.7	66.0	-2.7	-2.6	-2.1	-16.9
62.5	75177.1	71863.3	71957.8	71956.0	71890.1	84.9	84.0	84.1	84.7	42.3	-0.8	-0.8	-0.1	-42.5
63.0	75488.5	72154.1	72250.5	72280.5	71661.4	81.6	77.5	77.6	77.5	78.5	-4.2	-4.1	-4.2	-3.1
63.5	75748.2	72453.0	72550.4	72546.5	72512.7	73.0	68.1	68.2	67.8	73.7	-4.9	-4.8	-5.2	0.8
64.0	75922.6	72628.7	72727.9	72750.7	72262.4	61.7	60.4	60.5	58.4	70.7	-1.3	-1.2	-3.3	17.0
64.5	76122.0	72860.9	72960.0	72925.6	73406.6	70.8	69.4	69.5	67.2	85.4	-1.4	-1.3	-3.7	14.5
65.0	76311.8	73020.7	73122.1	73109.9	73205.5	87.8	80.8	80.9	80.6	84.2	-7.0	-7.0	-7.3	-3.6
65.5	76430.5	73187.2	73288.6	73247.5	73822.0	68.1	89.7	89.7	89.8	88.6	21.7	21.6	21.7	20.6
66.0	76566.5	73297.0	73400.2	73384.8	73528.0	84.9	78.8	78.8	79.1	87.0	-6.1	-6.1	-5.8	2.0
66.5	76662.4	73423.7	73528.1	73510.9	73677.4	33.9	38.9	39.4	44.8	47.3	5.1	5.5	10.9	13.4
67.0	76687.5	73427.3	73533.0	73547.4	73213.1	26.3	24.5	24.8	24.5	28.4	-1.8	-1.5	-1.8	2.1
67.5	76763.3	73522.9	73629.1	73609.6	73802.0	52.2	51.7	51.9	47.1	80.3	-0.5	-0.3	-5.2	28.1
68.0	76906.1	73649.4	73756.9	73736.1	73942.5	66.9	64.9	65.2	67.8	32.0	-2.1	-1.7	0.8	-34.9
68.5	76982.[illegible]	73721.3	73830.6	73832.3	73694.6	42.1	30.5	31.5	47.9	71.2	-11.7	-10.6	5.7	29.1
69.0	77033.2	73725.0	73836.6	73888.4	73027.2	37.1	27.5	27.8	27.2	35.2	-9.7	-9.3	-9.9	-1.9
69.5	77149.2	73851.5	73963.5	73960.8	73883.4	60.1	52.2	52.2	44.6	83.8	-8.0	-7.9	-15.5	23.7
70.0	77308.5	74056.4	74168.8	74142.7	74401.0	76.6	85.5	85.6	86.4	32.8	8.9	9.0	9.7	-43.8
70.5	77391.6	74095.6	74210.3	74224.5	73907.8	83.8	38.8	39.9	51.5	88.6	-45.0	-43.9	-32.3	4.8
71.0	77425.1	74137.4	74253.0	74271.5	73897.8	12.4	43.5	43.7	10.6	88.7	31.0	31.3	-1.8	76.3
71.5	77402.0	74171.0	74286.6	74230.4	74881.9	9.5	22.2	22.2	2.8	87.6	12.8	12.8	-6.7	78.1
72.0	77423.7	74223.7	74339.4	74213.9	75805.4	23.4	19.1	19.3	15.6	51.8	-4.3	-4.1	-7.8	28.4
72.5	77483.0	74255.5	74372.9	74289.4	75282.5	19.8	15.2	15.6	20.4	39.6	-4.5	-4.1	0.7	19.8
73.0	77485.0	74268.3	74386.2	74287.8	75469.6	15.8	5.2	5.8	9.6	37.2	-10.5	-10.0	-6.2	21.4
73.5	77504.2	74249.3	74368.6	74299.1	75078.6	5.5	19.3	18.5	1.6	72.3	13.7	12.9	-3.9	66.7
74.0	77431.8	74179.2	74300.1	74271.1	74515.2	50.1	40.3	39.9	34.9	65.9	-9.8	-10.1	-15.2	15.9
74.5	77285.1	74054.2	74175.6	74137.5	74489.7	81.[illegible]	67.5	67.4	70.5	87.7	-14.4	-14.4	-11.4	5.8
75.0	77049.3	73858.2	73979.7	73870.5	75089.8	76.7	84.8	84.8	84.6	81.2	8.1	8.1	7.9	4.5
75.5	76768.4	73577.0	73699.3	73582.6	74857.2	69.5	81.8	81.8	81.9	81.3	12.3	12.3	12.4	11.8
76.0	76533.9	73339.9	73462.7	73335.8	74704.8	66.6	67.8	67.8	67.1	73.2	1.3	1.2	0.6	6.7
76.5	76364.5	73160.1	73283.7	73185.4	74197.5	54.0	47.6	47.4	46.1	59.3	-6.4	-6.6	-7.9	5.3
77.0	76216.7	73038.9	73163.0	73050.3	74209.6	29.2	33.8	33.6	35.8	8.8	4.6	4.5	6.7	-20.4
77.5	76116.8	72921.7	73046.4	72929.3	74119.5	12.2	26.1	25.8	16.1	64.6	14.0	13.6	4.0	52.4
78.0	76080.3	72827.6	72954.3	72912.7	73238.8	18.0	19.1	18.6	11.7	57.2	1.1	0.6	-6.3	39.2
78.5	75999.0	72806.8	72933.6	72850.4	73626.4	36.2	25.3	24.8	30.4	39.7	-10.9	-11.3	-5.8	3.5
79.0	75960.7	72734.0	72862.3	72799.2	73340.1	38.6	29.7	29.1	23.4	59.8	-8.9	-9.5	-15.2	21.2
79.5	75884.8	72705.8	72834.6	72771.2	73309.7	89.8	72.1	72.0	70.9	77.6	-17.7	-17.8	-18.9	-12.1
80.0	75706.9	72489.5	72619.4	72578.2	72870.8	80.3	74.6	74.5	74.5	75.5	-5.6	-5.7	-5.7	-4.7
80.5	75470.9	72258.2	72388.4	72324.9	72836.6	87.9	75.2	75.1	76.7	39.9	-12.8	-12.8	-11.3	-48.1

Table B-7 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

SYNC TIME MIN	HORIZONTAL DISTANCE HD1 METERS	HD2 METERS	HD3 METERS	HD4 METERS	HD5 METERS	Q PARAMETERS Q1 DEG	Q2 DEG	Q3 DEG	Q4 DEG	Q5 DEG	D1Q DEG	D2Q DEG	D3Q DEG	D4Q DEG
81.0	75211.1	72030.7	72160.9	72080.6	72752.4	79.9	76.8	76.8	76.8	77.1	-3.1	-3.1	-3.1	-2.9
81.5	74999.9	71842.5	71973.3	71909.9	72402.4	80.4	76.1	76.1	75.7	78.5	-4.3	-4.3	-4.7	-1.9
82.0	74736.6	71564.0	71695.7	71638.0	72059.4	85.0	87.4	87.4	87.6	86.2	2.4	2.5	2.7	1.3
82.5	74458.3	71258.9	71391.1	71358.0	71535.5	88.5	88.6	88.6	88.3	89.5	0.2	0.1	-0.1	1.1
83.0	74341.7	71099.7	71232.7	71190.9	71442.6	80.3	83.7	83.7	83.7	83.7	3.4	3.4	3.4	3.4
83.5	74284.9	71082.1	71215.9	71148.0	71633.4	89.9	72.9	72.8	75.5	89.4	-16.9	-17.0	-14.3	-0.5
84.0	74138.0	70969.7	71104.0	71019.2	71649.1	75.7	84.0	84.0	84.7	75.0	8.4	8.3	9.0	-0.7
84.5	73911.0	70740.7	70875.4	70786.3	71441.1	76.2	72.4	72.3	70.6	80.9	-3.8	-3.9	-5.6	4.7
85.0	73578.8	70415.0	70550.9	70507.1	70747.8	74.5	71.9	71.8	70.4	79.5	-2.6	-2.7	-4.1	5.0
85.5	73283.6	70067.9	70204.4	70156.2	70423.7	66.8	68.1	68.0	69.5	51.9	1.3	1.3	2.8	-14.9
86.0	73056.7	69895.4	70031.8	69954.7	70461.1	57.9	45.7	45.6	42.7	59.2	-12.2	-12.4	-15.2	1.2
86.5	72857.1	69581.9	69720.1	69718.8	69588.2	61.4	59.8	59.7	59.3	63.2	-1.6	-1.8	-2.1	1.8
87.0	72573.4	69380.2	69517.9	69447.5	69872.7	76.8	36.2	36.1	39.0	12.4	-40.7	-40.7	-37.8	-64.4
87.5	72175.1	69001.4	69139.6	69068.5	69485.0	88.1	84.7	84.7	84.6	85.7	-3.4	-3.4	-3.5	-2.4
88.0	71743.6	68557.6	68696.1	68633.5	68971.4	83.6	88.5	88.5	88.4	88.9	4.9	4.9	4.9	5.3
88.5	71379.1	68156.3	68295.2	68212.6	68687.0	79.5	82.8	82.8	82.8	82.8	3.3	3.3	3.3	3.3
89.0	71026.4	67819.3	67958.6	67898.8	68194.4	89.8	88.8	88.8	88.7	89.7	-1.0	-1.0	-1.2	-0.2
89.5	70631.1	67485.1	67624.3	67525.2	68095.8	86.1	81.8	81.7	82.6	74.4	-4.3	-4.3	-3.5	-11.7
90.0	70191.9	67054.3	67193.5	67087.9	67688.9	83.2	90.0	90.0	89.8	89.3	6.8	6.8	6.7	6.1
90.5	69713.5	66570.5	66709.8	66592.1	67257.9	76.3	81.2	81.2	81.1	81.6	5.0	4.9	4.9	5.3
91.0	69367.4	66145.1	66285.1	66232.2	66443.2	82.5	80.9	80.9	80.8	81.1	-1.6	-1.6	-1.7	-1.4
91.5	69020.8	65835.6	65976.0	65871.8	66409.5	89.1	88.8	88.8	89.9	64.9	-0.3	-0.3	0.8	-24.2
92.0	68619.7	65458.2	65598.3	65446.4	66279.3	87.9	89.5	89.4	89.5	89.5	1.6	1.6	1.6	1.6
92.5	68278.8	65096.2	65237.0	65129.4	65661.0	83.8	84.6	84.6	84.6	84.5	0.8	0.8	0.8	0.7
93.0	67956.4	64809.4	64950.0	64799.1	65589.2	82.7	84.6	84.6	84.8	84.0	1.9	1.9	2.1	1.3
93.5	67698.4	64451.7	64593.8	64540.1	64717.5	77.3	82.6	82.6	82.6	82.6	5.3	5.3	5.3	5.3
94.0	67422.8	64277.3	64418.6	64225.7	65232.2	87.0	88.0	88.0	86.6	74.1	1.0	1.0	-0.4	-12.9
94.5	67059.4	63980.9	64122.3	63907.6	65022.1	86.8	88.9	88.8	88.1	88.6	2.0	2.0	1.3	1.8
95.0	66695.0	63469.3	63611.6	63484.8	64060.2	87.1	86.3	86.2	83.5	88.2	-0.8	-0.9	-3.6	1.1
95.5	66391.9	63091.4	63235.1	63199.4	63250.3	86.6	81.3	81.2	81.7	79.6	-5.4	-5.5	-4.9	-7.1
96.0	66110.5	62943.2	63086.5	62942.8	63581.8	87.2	85.4	85.4	88.5	60.5	-1.9	-1.9	1.3	-26.7
96.5	65760.6	62639.0	62782.2	62585.2	63499.1	88.6	89.1	89.0	88.9	89.9	0.5	0.4	0.3	1.3
97.0	65481.1	62225.5	62369.6	62242.4	62760.8	88.2	88.7	88.7	87.6	88.2	0.5	0.4	-0.7	0.0
97.5	65069.5	61822.6	61967.2	61862.9	62247.9	88.9	83.2	83.2	84.2	78.0	-5.7	-5.7	-4.7	-10.9
98.0	64696.5	61523.0	61667.4	61486.7	62247.5	84.6	84.7	84.7	85.8	78.4	0.1	0.1	1.2	-6.2
98.5	64371.3	61137.6	61282.2	61115.0	61790.2	84.9	86.1	86.1	84.2	39.6	1.2	1.2	-0.7	4.7
99.0	64024.0	60763.6	60909.1	60836.0	61038.6	86.4	87.1	87.1	87.2	87.2	0.8	0.7	0.8	0.9
99.5	63586.9	60424.7	60569.4	60397.7	61063.3	75.9	79.5	79.5	80.0	72.5	3.7	3.7	4.1	-3.4
100.0	63142.4	60000.3	60144.9	59911.4	60846.3	83.5	80.5	80.5	80.4	80.8	-3.0	-3.0	-3.1	-2.7
100.5	62755.7	59538.5	59683.7	59566.1	59949.6	87.3	87.8	87.8	86.9	89.6	0.6	0.5	-0.4	2.4
101.0	62295.5	59144.5	59289.4	59130.2	59688.5	88.7	87.4	87.4	86.3	89.9	-1.3	-1.3	-2.4	1.3
101.5	61846.9	58514.5	58660.1	58634.5	58596.7	89.8	88.7	88.7	88.5	89.3	-1.1	-1.1	-1.2	-0.5
102.0	61392.9	58177.8	58322.8	58177.3	58643.9	86.6	86.9	86.9	88.4	77.1	0.3	0.3	1.8	-9.5
102.5	60931.8	57715.4	57860.0	57711.8	58178.0	88.7	86.8	86.8	88.5	76.2	-1.9	-1.9	-0.2	-12.5
103.0	60465.4	57300.7	57444.6	57150.9	58196.2	89.6	87.7	87.7	89.0	80.6	-1.9	-2.0	-0.6	-9.0
103.5	59984.5	56829.6	56973.3	56697.1	57647.6	88.6	88.3	88.3	88.7	87.8	-0.3	-0.3	0.0	-0.8
104.0	59478.2	56372.6	56515.8	56194.9	57300.2	85.8	89.2	89.2	89.8	87.8	3.4	3.4	3.9	1.9
104.5	58965.5	55831.6	55974.6	55637.9	56770.1	84.5	87.2	87.2	86.8	88.2	2.7	2.7	2.3	3.7
105.0	58331.1	55256.6	55399.1	54998.4	56335.5	81.9	84.1	84.1	84.3	83.6	2.2	2.2	2.4	1.7
105.5	57578.1	54342.6	54484.8	54249.3	54941.4	78.3	80.0	80.0	80.0	80.1	1.7	1.7	1.6	1.7
106.0	56983.7	53852.5	53993.5	53614.9	54794.8	76.9	79.5	79.5	79.5	79.5	2.6	2.6	2.6	2.6
106.5	56385.6	53030.2	53171.3	52913.0	53636.7	79.6	81.6	81.6	81.6	81.8	2.1	2.1	2.0	2.2
107.0	55793.5	52678.1	52817.6	52303.9	53870.0	85.2	84.8	84.8	84.1	88.7	-0.4	-0.4	-1.1	3.5
107.5	55306.3	52038.3	52177.9	51676.2	53148.8	89.9	88.1	88.1	89.6	84.5	-1.8	-1.8	-0.4	-5.4
108.0	54850.7	51677.4	51816.1	51155.8	53109.7	79.6	79.8	79.8	83.5	66.5	0.2	0.2	3.9	-13.1
108.5	54456.2	51290.6	51429.3	50746.6	52728.3	74.5	75.7	75.7	74.6	79.3	1.2	1.1	0.0	4.8
109.0	53974.6	50713.2	50852.0	50252.6	51922.1	80.9	80.7	80.7	80.4	82.7	-0.1	-0.2	-0.5	1.8
109.5	53345.6	50087.7	50225.8	49580.6	51338.5	80.9	80.8	80.8	82.3	78.8	-0.1	-0.1	1.5	-2.1
110.0	52669.6	49393.0	49530.1	48822.8	50707.2	79.8	74.9	74.9	74.0	77.6	-4.9	-4.9	-5.8	-2.2
110.5	51894.7	48546.4	48682.5	48114.4	49550.2	84.4	78.8	78.8	79.4	79.3	-5.6	-5.6	-5.1	-5.2
111.0	51127.1	47846.4	47981.1	47252.4	49083.1	87.2	84.1	84.1	87.1	77.4	-3.1	-3.1	-0.1	-9.7
111.5	50354.5	47096.4	47229.6	46353.1	48518.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table B-8

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

ZONAL WIND

SYNC TIME MIN	ZONAL WIND SPEED VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC	DIFFERENCES D1VX M/SEC	D2VX M/SEC	D3VX M/SEC	D4VX M/SEC
1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.5	6.18	6.17	6.17	6.17	6.21	-0.01	-0.01	-0.01	0.03
2.0	6.41	6.32	6.32	6.34	6.10	-0.09	-0.09	-0.07	-0.31
2.5	5.33	5.49	5.49	5.49	5.47	0.16	0.16	0.16	0.14
3.0	3.54	4.00	4.00	3.99	4.12	0.45	0.46	0.45	0.57
3.5	3.44	3.65	3.65	3.65	3.69	0.21	0.21	0.21	0.25
4.0	4.04	4.27	4.27	4.29	4.21	0.24	0.24	0.25	0.17
4.5	4.15	4.46	4.47	4.45	4.54	0.31	0.31	0.30	0.39
5.0	4.60	4.54	4.54	4.50	4.77	-0.07	-0.07	-0.10	0.16
5.5	4.51	4.74	4.74	4.79	4.48	0.23	0.23	0.28	-0.03
6.0	3.31	3.98	3.98	4.03	3.67	0.67	0.67	0.72	0.35
6.5	2.28	2.72	2.72	2.72	2.70	0.44	0.44	0.44	0.42
7.0	2.14	2.45	2.45	2.41	2.70	0.31	0.31	0.27	0.56
7.5	3.77	3.45	3.45	3.44	3.49	-0.32	-0.32	-0.33	-0.28
8.0	5.83	5.59	5.59	5.60	5.56	-0.24	-0.24	-0.23	-0.27
8.5	6.39	6.72	6.73	6.70	6.84	0.34	0.34	0.31	0.45
9.0	7.01	6.91	6.92	6.94	6.77	-0.10	-0.10	-0.07	-0.25
9.5	7.16	7.01	7.01	6.97	7.19	-0.16	-0.15	-0.19	0.03
10.0	7.27	7.94	7.94	7.96	7.82	0.67	0.67	0.69	0.55
10.5	8.35	8.66	8.66	8.72	8.37	0.31	0.31	0.37	0.02
11.0	8.70	8.90	8.90	8.87	9.07	0.20	0.20	0.17	0.37
11.5	8.37	8.56	8.57	8.49	8.98	0.20	0.20	0.12	0.61
12.0	8.31	8.31	8.31	8.18	9.09	0.00	0.00	-0.13	0.78
12.5	8.08	9.13	9.13	9.21	8.69	1.05	1.05	1.13	0.61
13.0	8.91	9.16	9.17	9.28	8.50	0.25	0.25	0.37	-0.41
13.5	9.15	9.36	9.36	9.29	9.80	0.20	0.21	0.14	0.65
14.0	8.84	9.29	9.30	9.26	9.52	0.45	0.46	0.42	0.68
14.5	8.61	8.91	8.92	9.00	8.39	0.30	0.31	0.39	-0.22
15.0	8.58	9.34	9.35	9.37	9.19	0.76	0.76	0.79	0.60
15.5	9.97	10.15	10.15	10.09	10.57	0.17	0.18	0.11	0.60
16.0	11.06	10.97	10.98	10.98	11.00	-0.09	-0.08	-0.09	-0.06
16.5	11.74	12.05	12.05	12.09	11.81	0.30	0.31	0.34	0.07
17.0	12.77	12.86	12.87	12.93	12.42	0.09	0.09	0.16	-0.35
17.5	13.38	13.34	13.35	13.40	12.96	-0.04	-0.03	0.02	-0.42
18.0	13.44	13.64	13.65	13.59	14.10	0.20	0.21	0.15	0.66
18.5	13.59	13.91	13.92	13.92	13.89	0.32	0.33	0.33	0.30
19.0	13.23	14.22	14.23	14.32	13.51	0.98	0.99	1.09	0.28
19.5	12.97	13.64	13.65	13.55	14.36	0.67	0.68	0.58	1.39
20.0	12.86	13.47	13.48	13.45	13.72	0.61	0.62	0.58	0.86
20.5	13.21	13.49	13.50	13.57	12.97	0.28	0.29	0.36	-0.24
21.0	12.89	13.15	13.16	13.10	13.58	0.26	0.27	0.21	0.69
21.5	11.98	12.48	12.49	12.43	12.93	0.50	0.51	0.45	0.95
22.0	12.31	12.03	12.04	12.04	12.01	-0.28	-0.27	-0.27	-0.30
22.5	13.83	13.75	13.76	13.65	14.62	-0.08	-0.07	-0.18	0.79
23.0	14.94	15.08	15.09	15.15	14.60	0.14	0.15	0.21	-0.35
23.5	15.08	15.08	15.09	15.30	13.38	0.00	0.01	0.22	-1.70
24.0	15.76	15.93	15.94	15.93	16.08	0.17	0.19	0.17	0.32
24.5	17.04	17.22	17.23	17.06	18.62	0.18	0.20	0.03	1.58
25.0	18.26	17.98	17.99	17.87	18.96	-0.28	-0.27	-0.39	0.71
25.5	17.64	17.62	17.64	17.60	17.98	-0.01	0.00	-0.04	0.34
26.0	17.47	17.27	17.28	17.49	15.51	-0.20	-0.18	0.03	-1.96
26.5	19.63	19.77	19.79	19.76	20.02	0.15	0.16	0.14	0.40
27.0	20.72	20.93	20.95	20.78	22.36	0.22	0.23	0.07	1.64
27.5	20.38	19.73	19.75	19.98	17.70	-0.65	-0.63	-0.40	-2.68
28.0	20.59	20.58	20.59	20.50	21.45	-0.01	0.00	-0.09	0.86
28.5	22.60	22.24	22.25	22.14	23.29	-0.37	-0.35	-0.47	0.69
29.0	23.76	23.43	23.46	23.66	21.60	-0.33	-0.31	-0.11	-2.17
29.5	22.62	22.65	22.67	22.80	21.54	0.04	0.06	0.18	-1.08
30.0	22.88	22.12	22.14	21.98	23.69	-0.76	-0.74	-0.91	0.80
30.5	24.87	24.61	24.64	24.42	26.65	-0.25	-0.23	-0.45	1.78
31.0	25.69	25.77	25.80	25.85	25.26	0.08	0.11	0.16	-0.42
31.5	26.06	26.17	26.19	26.33	24.79	0.10	0.13	0.27	-1.27
32.0	27.23	27.13	27.16	27.22	26.56	-0.09	-0.07	-0.01	-0.67
32.5	26.46	26.25	26.27	26.11	27.98	-0.21	-0.19	-0.35	1.51
33.0	25.60	25.09	25.11	25.03	26.03	-0.51	-0.49	-0.57	0.43
33.5	26.64	26.79	26.82	26.90	25.97	0.16	0.18	0.26	-0.67
34.0	26.46	26.84	26.86	26.83	27.30	0.37	0.40	0.36	0.84
34.5	26.38	25.86	25.89	25.80	26.89	-0.51	-0.49	-0.58	0.51
35.0	27.40	27.04	27.07	27.12	26.52	-0.36	-0.33	-0.28	-0.88
35.5	26.70	26.61	26.64	26.78	25.07	-0.09	-0.06	0.08	-1.63
36.0	25.08	25.53	25.56	25.51	26.14	0.46	0.49	0.44	1.07
36.5	26.44	26.25	26.28	26.15	27.79	-0.19	-0.16	-0.29	1.35
37.0	29.91	28.71	28.74	28.84	27.52	-1.21	-1.17	-1.07	-2.40
37.5	31.83	30.61	30.65	30.69	30.15	-1.22	-1.19	-1.14	-1.68
38.0	32.36	32.36	32.40	32.54	30.63	-0.01	0.03	0.17	-1.74
38.5	31.00	31.81	31.85	32.05	29.26	0.81	0.85	1.05	-1.75
39.0	30.30	30.41	30.45	30.38	31.23	0.10	0.14	0.07	0.93
39.5	31.33	31.33	31.37	31.28	32.45	0.00	0.04	-0.05	1.12
40.0	30.33	31.09	31.13	31.12	31.25	0.76	0.80	0.79	0.91
40.5	28.16	28.78	28.82	28.85	28.42	0.62	0.66	0.69	0.26

Table B-8 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

ZONAL WIND

SYNC TIME MIN	ZONAL WIND SPEED VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC	DIFFERENCES D1VX M/SEC	D2VX M/SEC	D3VX M/SEC	D4VX M/SEC
41.0	28.47	28.31	28.35	28.28	29.16	-0.17	-0.13	-0.19	0.69
41.5	29.37	29.09	29.13	29.10	29.41	-0.29	-0.25	-0.27	0.03
42.0	29.07	29.18	29.22	29.18	29.83	0.11	0.15	0.11	0.76
42.5	28.92	29.24	29.29	29.42	27.35	0.32	0.36	0.50	-1.57
43.0	29.61	29.39	29.43	29.69	25.66	-0.22	-0.18	0.08	-3.95
43.5	31.53	31.26	31.30	31.02	35.42	-0.26	-0.22	-0.51	3.89
44.0	30.34	30.91	30.95	30.62	35.66	0.57	0.61	0.28	5.32
44.5	28.86	29.26	29.31	29.40	27.88	0.40	0.45	0.54	-0.98
45.0	30.29	29.68	29.73	29.75	29.39	-0.61	-0.56	-0.54	-0.90
45.5	32.18	31.46	31.51	31.72	28.26	-0.73	-0.68	-0.47	-3.92
46.0	33.09	33.29	33.34	33.43	31.90	0.21	0.26	0.35	-1.18
46.5	32.57	33.19	33.24	32.99	36.99	0.62	0.67	0.42	4.42
47.0	31.41	31.79	31.84	31.98	29.53	0.39	0.43	0.58	-1.87
47.5	29.60	29.73	29.78	29.94	27.21	0.13	0.18	0.34	-2.39
48.0	27.79	28.23	28.27	28.19	29.59	0.43	0.48	0.39	1.80
48.5	27.56	27.74	27.79	27.76	28.27	0.19	0.23	0.20	0.71
49.0	28.79	28.11	28.16	28.11	28.91	-0.68	-0.63	-0.68	0.12
49.5	30.27	29.59	29.65	29.81	26.81	-0.68	-0.62	-0.46	-3.46
50.0	30.55	30.60	30.65	30.79	28.22	0.05	0.11	0.25	-2.32
50.5	28.75	29.67	29.71	29.41	34.71	0.92	0.96	0.66	5.96
51.0	26.12	27.19	27.24	27.09	29.78	1.08	1.12	0.97	3.66
51.5	23.99	24.53	24.58	24.45	26.83	0.55	0.59	0.46	2.85
52.0	23.07	22.83	22.88	22.68	26.13	-0.24	-0.19	-0.38	3.06
52.5	23.94	23.32	23.37	23.39	23.02	-0.62	-0.57	-0.55	-0.92
53.0	25.90	25.55	25.61	25.85	21.34	-0.35	-0.29	-0.05	-4.56
53.5	27.20	26.90	26.96	27.01	25.92	-0.30	-0.25	-0.19	-1.28
54.0	27.66	27.53	27.58	27.41	30.40	-0.14	-0.08	-0.25	2.73
54.5	26.48	27.28	27.34	27.12	31.05	0.81	0.86	0.64	4.57
55.0	24.01	24.49	24.55	24.45	26.19	0.48	0.54	0.44	2.18
55.5	23.14	22.31	22.37	22.82	14.66	-0.83	-0.77	-0.32	-8.48
56.0	24.35	23.76	23.82	24.27	16.17	-0.59	-0.52	-0.08	-8.18
56.5	23.58	24.23	24.28	24.17	26.23	0.65	0.70	0.58	2.65
57.0	22.25	22.81	22.84	22.37	30.83	0.55	0.59	0.12	8.58
57.5	22.25	22.13	22.18	22.10	23.47	-0.12	-0.07	-0.15	1.22
58.0	22.06	22.10	22.15	22.00	24.69	0.04	0.09	-0.06	2.63
58.5	21.82	21.66	21.71	21.75	21.02	-0.16	-0.11	-0.07	-0.80
59.0	19.68	19.80	19.86	19.96	17.92	0.12	0.18	0.29	-1.76
59.5	16.89	17.21	17.26	17.25	17.30	0.32	0.36	0.36	0.40
60.0	16.77	16.57	16.61	16.68	15.33	-0.20	-0.16	-0.09	-1.44
60.5	18.56	18.65	18.69	18.18	27.38	0.09	0.12	-0.38	8.82
61.0	18.58	18.73	18.78	18.62	21.33	0.15	0.20	0.04	2.75
61.5	15.85	15.66	15.72	16.26	6.37	-0.19	-0.13	0.41	-9.48
62.0	13.31	13.55	13.60	13.96	7.40	0.23	0.29	0.65	-5.91
62.5	11.67	11.54	11.60	12.16	2.36	-0.13	-0.08	0.48	-9.31
63.0	9.97	10.28	10.33	10.29	10.82	0.31	0.36	0.32	0.85
63.5	7.82	8.50	8.55	8.43	10.58	0.68	0.73	0.61	2.76
64.0	7.05	7.49	7.52	7.02	15.51	0.44	0.47	-0.04	8.45
64.5	7.06	6.98	7.02	6.44	16.07	-0.08	-0.04	-0.62	9.01
65.0	5.27	5.62	5.66	5.55	7.10	0.36	0.40	0.28	1.83
65.5	4.02	4.65	4.68	4.63	5.41	0.63	0.66	0.61	1.39
66.0	3.87	3.87	3.92	4.32	-2.42	0.01	0.06	0.45	-6.28
66.5	2.83	2.66	2.70	3.19	-4.69	-0.17	-0.13	0.37	-7.51
67.0	2.71	2.41	2.44	2.40	2.83	-0.30	-0.27	-0.31	0.12
67.5	4.31	4.19	4.23	3.64	12.57	-0.11	-0.08	-0.66	8.26
68.0	4.02	3.57	3.62	3.97	-1.48	-0.45	-0.40	-0.05	-5.50
68.5	2.68	1.65	1.72	2.92	-14.72	-1.03	-0.96	0.24	-17.39
69.0	3.67	2.95	2.99	2.92	3.92	-0.73	-0.68	-0.75	0.24
69.5	5.18	6.21	6.22	4.93	23.43	1.03	1.04	-0.24	18.25
70.0	3.94	4.14	4.19	4.47	0.52	0.21	0.25	0.53	-3.42
70.5	1.94	1.17	1.23	1.96	-8.48	-0.76	-0.71	0.03	-10.42
71.0	0.81	1.47	1.48	0.32	16.32	0.66	0.67	-0.49	15.51
71.5	0.79	2.11	2.12	-0.27	32.23	1.32	1.32	-1.06	31.44
72.0	2.25	2.23	2.27	1.81	7.47	-0.01	0.02	-0.43	5.23
72.5	1.93	1.38	1.41	1.86	-4.90	-0.56	-0.52	-0.07	-6.84
73.0	0.86	0.32	0.35	0.58	-2.95	-0.55	-0.52	-0.29	-3.81
73.5	-0.33	-1.11	-1.06	0.09	-15.43	-0.78	-0.73	0.42	-15.09
74.0	-3.26	-2.87	-2.83	-2.32	-9.38	0.39	0.42	0.94	-6.13
74.5	-6.31	-5.14	-5.13	-6.45	9.69	1.18	1.19	-0.14	16.00
75.0	-8.40	-7.92	-7.91	-9.21	6.06	0.48	0.49	-0.81	14.46
75.5	-8.21	-8.55	-8.53	-8.82	-6.35	-0.35	-0.32	-0.62	1.86
76.0	-6.37	-6.68	-6.66	-6.35	-10.69	-0.30	-0.28	0.02	-4.32
76.5	-4.80	-4.57	-4.54	-4.31	-7.77	0.23	0.25	0.49	-2.98
77.0	-3.26	-3.41	-3.40	-3.71	-0.75	-0.16	-0.14	-0.45	2.50
77.5	-1.33	-2.88	-2.84	-1.66	-15.45	-1.55	-1.50	-0.33	-14.12
78.0	-1.35	-1.46	-1.42	-0.86	-7.72	-0.11	-0.08	0.48	-6.37
78.5	-1.67	-1.27	-1.25	-1.60	1.96	0.39	0.42	0.06	3.62
79.0	-1.62	-1.42	-1.39	-1.06	-4.99	0.20	0.23	0.56	-3.38
79.5	-4.28	-3.96	-3.93	-3.57	-7.68	0.32	0.35	0.71	-3.40
80.0	-7.17	-7.74	-7.71	-7.71	-8.16	0.57	-0.55	-0.55	-0.99
80.5	-8.31	-7.92	-7.92	-8.56	-2.28	0.39	0.40	-0.25	6.03

Table B-8 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
ZONAL WIND

SYNC TIME MIN	ZONAL WIND SPEED VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC	DIFFERENCES D1VX M/SEC	D2VX M/SEC	D3VX M/SEC	D4VX M/SEC
81.0	-7.73	-6.80	-6.78	-6.78	-7.10	0.94	0.95	0.95	0.63
81.5	-7.80	-7.62	-7.59	-7.22	-11.37	0.18	0.21	0.58	-3.57
82.0	-9.01	-9.74	-9.71	-9.21	-14.43	-0.73	-0.70	-0.20	-5.42
82.5	-6.63	-7.81	-7.78	-7.52	-10.33	-1.18	-1.15	-0.89	-3.70
83.0	-2.85	2.03	-2.90	-3.48	1.62	-0.08	-0.05	-0.63	4.47
83.5	-3.44	-2.11	-2.09	-2.80	3.47	1.33	1.35	0.64	6.90
84.0	-6.57	-5.79	-5.78	-6.13	-3.32	0.78	0.79	0.44	3.25
84.5	-9.81	-9.64	-9.62	-8.94	-15.39	0.17	0.19	0.87	-5.58
85.0	-11.07	-11.72	-11.69	-11.01	-17.43	-0.65	-0.62	0.06	-6.36
85.5	-9.46	-9.14	-9.13	-9.68	-5.29	0.32	0.33	-0.22	4.18
86.0	-8.02	-7.34	-7.31	-6.54	-13.13	0.68	0.71	1.48	-5.11
86.5	-8.97	-9.30	-9.28	-9.17	-10.52	-0.33	-0.31	-0.19	-1.54
87.0	-11.99	-11.61	-11.61	-12.77	-3.71	0.39	0.38	-0.77	8.28
87.5	-14.11	-13.98	-13.96	-13.83	-15.28	0.13	0.14	0.27	-1.17
88.0	-13.20	-14.15	-14.14	-14.33	-13.37	-0.94	-0.93	-1.12	-0.17
88.5	-11.76	-12.21	-12.20	-12.15	-12.85	-0.45	-0.44	-0.39	-1.09
89.0	-12.64	-11.25	-11.24	-11.52	-9.92	1.40	1.40	1.13	2.72
89.5	-14.28	-13.09	-13.10	-13.85	-8.81	1.18	1.18	0.43	5.47
90.0	-15.20	-15.37	-15.37	-15.67	-14.10	-0.16	-0.16	-0.47	1.10
90.5	-13.38	-14.98	-14.97	-14.10	-20.54	-1.60	-1.59	-0.72	-7.16
91.0	-11.45	-12.10	-12.08	-11.86	-13.98	-0.64	-0.63	-0.40	-2.52
91.5	-12.68	-11.57	-11.57	-13.21	-2.93	1.11	1.11	-0.53	9.75
92.0	-12.47	-12.44	-12.44	-12.49	-12.59	0.03	0.04	-0.02	-0.12
92.5	-11.01	-10.77	-10.76	-10.75	-11.45	0.24	0.25	0.27	-0.44
93.0	-9.60	-10.70	-10.68	-9.79	-15.64	-1.10	-1.07	-0.18	-6.04
93.5	-8.69	-8.79	-8.78	-9.48	-5.90	-0.11	-0.09	-0.79	2.79
94.0	-10.71	-7.88	-7.89	-10.55	4.93	2.83	2.82	0.16	15.65
94.5	-12.44	-13.62	-13.60	-12.51	-19.64	-1.18	-1.16	-0.07	-7.20
95.0	-11.40	-15.08	-15.05	-12.09	-29.67	-3.68	-3.65	-0.69	-18.27
95.5	-10.00	-9.03	-9.02	-9.29	-8.25	0.97	0.98	0.71	1.75
96.0	-10.78	-7.69	-7.70	-10.36	3.89	3.09	3.08	0.42	14.67
96.5	-10.71	-12.10	-12.09	-11.81	-13.81	-1.39	-1.38	-1.11	-3.10
97.0	-11.64	-13.78	-13.75	-12.22	-20.96	-2.13	-2.11	-0.58	-9.32
97.5	-13.34	-12.02	-12.01	-12.89	-8.90	1.32	1.33	0.45	4.44
98.0	-12.04	-11.68	-11.68	-12.72	-7.93	0.37	0.36	-0.67	4.12
98.5	-11.59	-12.91	-12.89	-11.11	-20.33	-1.31	-1.30	0.48	-8.73
99.0	-13.14	-12.09	-12.08	-12.16	-12.32	1.06	1.06	0.98	0.82
99.5	-14.28	-12.52	-12.54	-15.18	-3.10	1.76	1.74	-0.91	11.18
100.0	-13.80	-14.57	-14.56	-13.67	-18.33	-0.77	-0.76	0.13	-4.52
100.5	-14.49	-14.49	-14.48	-13.26	-19.47	0.00	0.01	1.24	-4.98
101.0	-15.48	-17.36	-17.35	-15.83	-22.79	-1.87	-1.87	-0.35	-7.30
101.5	-15.30	-16.34	-16.34	-16.11	-17.62	-1.03	-1.03	-0.81	-2.32
102.0	-15.36	-13.57	-13.59	-15.61	-7.30	1.79	1.77	-0.25	8.06
102.5	-15.68	-14.91	-14.92	-17.37	-7.83	0.77	0.75	-1.69	7.85
103.0	-16.11	-15.02	-15.03	-17.14	-9.17	1.09	1.07	-1.04	6.94
103.5	-16.69	-15.71	-15.73	-16.17	-15.19	0.98	0.96	0.52	1.50
104.0	-17.07	-16.86	-16.88	-17.87	-14.89	0.20	0.19	-0.80	2.18
104.5	-19.13	-18.68	-18.69	-20.00	-16.19	0.45	0.44	-0.88	2.94
105.0	-22.93	-24.72	-24.73	-23.07	-30.32	-1.79	-1.80	-0.14	-7.39
105.5	-21.99	-23.05	-23.08	-22.71	-25.30	-1.06	-1.08	-0.72	-3.31
106.0	-19.37	-21.51	-21.53	-21.91	-21.39	-2.15	-2.17	-2.54	-2.02
106.5	-19.51	-19.37	-19.39	-21.61	-15.25	0.14	0.12	-2.10	4.26
107.0	-18.04	-16.50	-16.53	-20.53	-8.20	1.55	1.52	-2.49	9.84
107.5	-16.03	-16.97	-16.99	-19.39	-13.03	-0.94	-0.96	-3.37	3.00
108.0	-15.03	-12.99	-13.01	-15.98	-7.62	2.04	2.02	-0.95	7.41
108.5	-15.83	-16.99	-16.99	-15.97	-20.69	-1.16	-1.16	-0.15	-4.87
109.0	-19.59	-20.89	-20.90	-20.27	-23.99	-1.30	-1.31	-0.68	-4.40
109.5	-23.07	-22.97	-23.00	-24.76	-21.27	0.10	0.06	-1.69	1.79
110.0	-25.81	-27.40	-27.44	-26.15	-31.50	-1.59	-1.63	-0.34	-5.70
110.5	-26.96	-27.19	-27.23	-27.56	-28.51	-0.23	-0.27	-0.59	-1.54
111.0	-26.67	-25.09	-25.14	-30.17	-18.27	1.58	1.53	-3.50	8.40
111.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table B-9

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
MERIDIONAL WIND

SYNC TIME MIN	MERIDIONAL WIND SPEED VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC	DIFFERENCES D1VZ M/SEC	D2VZ M/SEC	D3VZ M/SEC	D4VZ M/SEC
1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.5	-3.99	-3.41	-3.41	-3.40	-3.91	0.58	0.58	0.59	0.08
2.0	-4.60	-4.08	-4.08	-4.14	-3.48	0.52	0.52	0.47	1.12
2.5	-4.95	-4.70	-4.70	-4.70	-4.67	0.25	0.25	0.24	0.28
3.0	-5.57	-5.51	-5.51	-5.49	-5.81	0.06	0.06	0.08	-0.24
3.5	-6.18	-6.12	-6.12	-6.11	-6.22	0.06	0.06	0.07	-0.03
4.0	-6.46	-6.49	-6.50	-6.52	-6.38	-0.04	-0.04	-0.06	0.08
4.5	-6.55	-6.09	-6.09	-6.07	-6.25	0.45	0.45	0.48	0.30
5.0	-6.74	-6.54	-6.54	-6.47	-6.99	0.20	0.19	0.27	-0.26
5.5	-6.69	-6.90	-6.90	-6.99	-6.41	-0.21	-0.22	-0.30	0.28
6.0	-6.36	-6.52	-6.52	-6.62	-5.93	-0.16	-0.16	-0.26	0.43
6.5	-6.07	-5.74	-5.74	-5.75	-5.70	0.33	0.33	0.32	0.36
7.0	-6.70	-6.08	-6.08	-5.99	-6.54	0.62	0.62	0.70	0.15
7.5	-7.19	-7.14	-7.15	-7.14	-7.22	0.04	0.04	0.05	-0.03
8.0	-7.33	-7.16	-7.16	-7.18	-7.09	0.17	0.17	0.16	0.24
8.5	-7.42	-7.11	-7.11	-7.07	-7.34	0.31	0.31	0.35	0.08
9.0	-8.09	-7.86	-7.86	-7.91	-7.61	0.23	0.23	0.18	0.48
9.5	-8.43	-8.10	-8.10	-8.05	-8.40	0.33	0.33	0.38	0.02
10.0	-7.97	-7.93	-7.93	-7.96	-7.76	0.04	0.04	0.01	0.21
10.5	-9.06	-8.51	-8.51	-8.60	-8.03	0.56	0.56	0.47	1.03
11.0	-10.23	-9.48	-9.48	-9.43	-9.76	0.76	0.75	0.81	0.47
11.5	-10.11	-9.90	-9.91	-9.79	-10.54	0.21	0.20	0.32	-0.43
12.0	-9.91	-9.64	-9.64	-9.45	-10.80	0.27	0.26	0.46	-0.89
12.5	-9.98	-9.87	-9.88	-9.99	-9.22	0.10	0.10	-0.01	0.75
13.0	-10.54	-9.82	-9.82	-9.99	-8.84	0.72	0.71	0.55	1.70
13.5	-11.35	-10.63	-10.64	-10.53	-11.26	0.72	0.71	0.81	0.09
14.0	-11.66	-11.36	-11.36	-11.31	-11.68	0.30	0.29	0.34	-0.02
14.5	-11.33	-11.04	-11.05	-11.16	-10.31	0.29	0.28	0.17	1.02
15.0	-10.47	-10.72	-10.72	-10.76	-10.49	-0.24	-0.25	-0.28	-0.02
15.5	-9.78	-9.37	-9.38	-9.29	-9.96	0.40	0.40	0.49	-0.19
16.0	-9.24	-8.66	-8.67	-8.66	-8.69	0.58	0.58	0.58	0.55
16.5	-9.36	-9.21	-9.22	-9.26	-8.90	0.16	0.15	0.10	0.47
17.0	-10.29	-9.78	-9.79	-9.87	-9.22	0.51	0.51	0.43	1.07
17.5	-10.90	-10.47	-10.48	-10.54	-10.01	0.43	0.43	0.36	0.90
18.0	-10.41	-10.37	-10.37	-10.29	-10.33	0.05	0.04	0.12	-0.52
18.5	-10.21	-9.92	-9.93	-9.92	-9.93	0.29	0.28	0.29	0.29
19.0	-10.73	-9.58	-9.58	-9.69	-8.75	1.15	1.15	1.03	1.98
19.5	-10.46	-9.62	-9.63	-9.52	-10.46	0.84	0.83	0.94	0.00
20.0	-9.95	-9.77	-9.78	-9.74	-10.07	0.18	0.18	0.22	-0.12
20.5	-9.75	-9.37	-9.38	-9.45	-8.79	0.38	0.37	0.29	0.96
21.0	-8.60	-8.54	-8.54	-8.48	-9.01	0.06	0.05	0.12	-0.42
21.5	-6.68	-6.66	-6.67	-6.61	-7.15	0.02	0.01	0.08	-0.47
22.0	-5.95	-5.89	-5.90	-5.90	-5.88	0.06	0.05	0.05	0.08
22.5	-6.58	-6.02	-6.03	-5.92	-6.90	0.56	0.55	0.66	-0.32
23.0	-7.09	-6.43	-6.43	-6.49	-5.94	0.67	0.66	0.60	1.15
23.5	-6.67	-6.35	-6.35	-6.56	-4.64	0.33	0.32	0.11	2.03
24.0	-5.10	-4.62	-4.63	-4.61	-4.78	0.49	0.48	0.50	0.33
24.5	-4.88	-4.29	-4.29	-4.13	-5.61	0.59	0.58	0.74	-0.74
25.0	-5.81	-5.03	-5.04	-4.93	-5.93	0.78	0.78	0.88	-0.11
25.5	-6.40	-5.92	-5.92	-5.89	-6.19	0.48	0.47	0.50	0.20
26.0	-5.69	-5.43	-5.44	-5.62	-3.89	0.26	0.25	0.07	1.80
26.5	-4.24	-4.02	-4.02	-4.01	-4.17	0.22	0.21	0.23	0.07
27.0	-3.63	-3.26	-3.27	-3.13	-4.46	0.36	0.36	0.50	-0.84
27.5	-3.22	-2.50	-2.51	-2.70	-0.85	0.72	0.71	0.52	2.37
28.0	-2.91	-2.58	-2.59	-2.52	-3.22	0.33	0.33	0.39	-0.31
28.5	-1.30	-1.53	-1.53	-1.44	-2.33	-0.23	-0.24	-0.15	-1.04
29.0	0.27	0.92	0.91	0.76	2.28	0.65	0.65	0.50	2.01
29.5	-1.16	0.03	0.02	-0.06	0.81	1.19	1.18	1.10	1.96
30.0	-3.51	-3.04	-3.05	-2.94	-4.10	0.47	0.46	0.57	-0.59
30.5	-4.24	-3.61	-3.62	-3.48	-4.94	0.63	0.62	0.76	-0.70
31.0	-4.12	-3.17	-3.17	-3.21	-2.81	0.95	0.95	0.91	1.31
31.5	-3.36	-2.73	-2.74	-2.83	-1.85	0.63	0.63	0.54	1.51
32.0	-2.93	-2.41	-2.41	-2.45	-2.05	0.53	0.52	0.49	0.89
32.5	-2.72	-2.25	-2.26	-2.16	-3.24	0.47	0.47	0.56	-0.52
33.0	-1.86	-1.57	-1.57	-1.52	-2.10	0.30	0.29	0.34	-0.23
33.5	-1.02	-0.32	-0.32	-0.37	0.18	0.70	0.70	0.65	1.20
34.0	-1.32	-0.77	-0.78	-0.76	-0.99	0.55	0.54	0.56	0.33
34.5	-1.89	-1.25	-1.25	-1.21	-1.75	0.64	0.64	0.68	0.14
35.0	0.47	0.35	0.34	0.32	0.64	-0.12	-0.13	-0.15	0.17
35.5	2.61	2.75	2.75	2.68	3.54	0.14	0.13	0.06	0.93
36.0	1.65	2.76	2.76	2.78	2.51	1.11	1.11	1.13	0.85
36.5	1.85	2.45	2.44	2.50	1.77	0.60	0.59	0.65	-0.08
37.0	3.69	3.91	3.90	3.85	4.46	0.21	0.21	0.16	0.77
37.5	4.18	4.37	4.37	4.35	4.63	0.19	0.19	0.17	0.45
38.0	2.61	4.02	4.02	3.96	4.72	1.41	1.41	1.35	2.11
38.5	-0.45	1.73	1.73	1.64	2.76	2.18	2.18	2.10	3.21
39.0	-3.39	-1.44	-1.44	-1.41	-1.77	1.96	1.95	1.98	1.62
39.5	-5.71	-4.26	-4.27	-4.24	-4.69	1.44	1.43	1.47	1.01
40.0	-6.30	-5.50	-5.51	-5.50	-5.56	0.80	0.79	0.80	0.74
40.5	-5.04	-4.23	-4.23	-4.24	-4.09	0.82	0.81	0.80	0.95

Table B-9 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
MERIDIONAL WIND

SYNC TIME MIN	MERIDIONAL WIND SPEED VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC	DIFFERENCES D1VZ M/SEC	D2VZ M/SEC	D3VZ M/SEC	D4VZ M/SEC
41.0	-3.77	-2.63	-2.64	-2.62	-2.95	1.14	1.13	1.16	0.83
41.5	-3.43	-2.87	-2.88	-2.87	-2.99	0.56	0.55	0.56	0.44
42.0	-3.16	-2.45	-2.45	-2.44	-2.67	0.71	0.71	0.72	0.50
42.5	-2.98	-1.91	-1.91	-1.96	-1.26	1.08	1.07	1.03	1.72
43.0	-2.90	-1.75	-1.76	-1.85	-0.50	1.15	1.14	1.05	2.40
43.5	-1.43	-0.25	-0.25	-0.16	-1.63	1.19	1.18	1.28	-0.19
44.0	-1.01	-0.19	-0.19	-0.08	-1.74	0.82	0.82	0.93	-0.73
44.5	-1.79	-0.69	-0.70	-0.73	-0.23	1.10	1.09	1.06	1.55
45.0	-1.13	0.37	0.36	0.35	0.48	1.50	1.49	1.48	1.61
45.5	-0.44	-0.13	-0.14	-0.20	0.84	0.31	0.30	0.24	1.28
46.0	0.66	1.82	1.81	1.78	2.25	1.15	1.15	1.12	1.59
46.5	0.59	3.32	3.32	3.39	2.20	2.73	2.73	2.80	1.61
47.0	-1.60	0.00	0.00	-0.05	0.64	1.60	1.59	1.55	2.24
47.5	-2.88	-1.77	-1.78	-1.82	-1.06	1.11	1.10	1.05	1.82
48.0	-2.26	-1.77	-1.78	-1.76	-2.16	0.49	0.48	0.51	0.10
48.5	0.62	1.00	1.00	1.01	0.85	0.38	0.38	0.39	0.23
49.0	3.38	3.78	3.78	3.79	3.57	0.40	0.40	0.42	0.19
49.5	2.72	3.89	3.89	3.85	4.59	1.17	1.17	1.13	1.87
50.0	0.64	2.28	2.28	2.24	2.88	1.64	1.64	1.60	2.24
50.5	0.32	1.47	1.46	1.54	0.20	1.14	1.14	1.22	-0.12
51.0	0.57	2.15	2.15	2.19	1.51	1.58	1.57	1.61	0.94
51.5	1.20	1.61	1.61	1.64	1.08	0.41	0.41	0.44	-0.12
52.0	2.72	3.27	3.27	3.32	2.52	0.55	0.55	0.60	-0.20
52.5	3.30	4.41	4.41	4.41	4.52	1.11	1.11	1.10	1.22
53.0	3.85	5.05	5.05	4.99	6.02	1.20	1.20	1.14	2.17
53.5	3.15	4.99	4.99	4.97	5.24	1.83	1.83	1.82	2.09
54.0	1.28	2.35	2.35	2.38	1.74	1.07	1.07	1.10	0.46
54.5	0.63	1.68	1.68	1.72	0.92	1.06	1.05	1.10	0.29
55.0	1.62	2.63	2.63	2.65	2.30	1.01	1.00	1.02	0.68
55.5	3.05	4.59	4.59	4.50	6.17	1.54	1.54	1.45	3.13
56.0	3.85	5.83	5.83	5.74	7.35	1.99	1.99	1.90	3.50
56.5	4.31	5.17	5.17	5.20	4.78	0.86	0.87	0.89	0.47
57.0	5.25	5.26	5.26	5.35	3.74	0.01	0.01	0.10	-1.51
57.5	6.94	7.75	7.76	7.77	7.52	0.81	0.82	0.83	0.58
58.0	5.62	7.16	7.17	7.19	6.75	1.55	1.55	1.57	1.14
58.5	2.28	3.82	3.82	3.81	3.94	1.54	1.54	1.53	1.66
59.0	1.44	2.24	2.24	2.22	2.60	0.80	0.80	0.78	1.16
59.5	3.84	3.60	3.60	3.60	3.60	-0.24	-0.24	-0.24	-0.24
60.0	5.45	6.48	6.48	6.47	6.72	1.02	1.03	1.01	1.27
60.5	5.56	6.88	6.89	6.97	5.52	1.32	1.33	1.41	-0.04
61.0	4.23	5.13	5.14	5.16	4.76	0.90	0.90	0.92	0.52
61.5	2.70	3.63	3.63	3.54	5.10	0.93	0.93	0.84	2.40
62.0	1.67	2.34	2.34	2.28	3.30	0.67	0.67	0.61	1.63
62.5	1.05	1.21	1.20	1.12	2.59	0.16	0.15	0.07	1.54
63.0	1.46	2.28	2.28	2.28	2.20	0.82	0.81	0.82	0.74
63.5	2.39	3.42	3.42	3.44	3.09	1.03	1.03	1.05	0.69
64.0	3.80	4.25	4.25	4.32	3.10	0.45	0.45	0.53	-0.70
64.5	2.45	2.63	2.63	2.71	1.31	0.17	0.17	0.26	-1.15
65.0	0.20	0.91	0.91	0.92	0.72	0.71	0.71	0.72	0.52
65.5	-1.62	-0.02	-0.02	-0.02	-0.13	1.60	1.59	1.60	1.49
66.0	-0.34	-0.77	-0.77	-0.83	0.13	-0.42	-0.43	-0.49	0.47
66.5	4.21	3.29	3.29	3.22	4.33	-0.92	-0.92	-0.99	0.12
67.0	5.49	5.27	5.28	5.28	5.23	-0.21	-0.21	-0.20	-0.25
67.5	3.34	3.31	3.31	3.39	2.15	-0.03	-0.03	0.05	-1.19
68.0	1.71	1.67	1.67	1.62	2.37	-0.04	-0.04	-0.09	0.66
68.5	2.96	2.80	2.80	2.64	5.01	-0.15	-0.16	-0.32	2.05
69.0	4.85	5.67	5.67	5.68	5.54	0.81	0.82	0.83	0.69
69.5	2.97	4.82	4.83	5.00	2.53	1.84	1.85	2.02	-0.44
70.0	-0.94	0.33	0.32	0.28	0.80	1.26	1.26	1.22	1.74
70.5	-0.21	-1.46	-1.47	-1.56	-0.20	-1.25	-1.26	-1.35	0.01
71.0	3.59	1.55	1.55	1.70	-0.37	-2.14	-2.14	-1.99	-4.06
71.5	4.76	5.17	5.18	5.48	1.35	0.41	0.42	0.72	-3.41
72.0	5.20	6.46	6.47	6.52	5.88	1.26	1.27	1.32	0.68
72.5	5.38	5.05	5.06	4.99	5.93	-0.33	-0.33	-0.39	0.55
73.0	3.06	3.44	3.44	3.41	3.89	0.39	0.39	0.36	0.83
73.5	3.45	3.18	3.18	3.04	4.94	-0.27	-0.27	-0.41	1.49
74.0	2.72	3.38	3.38	3.32	4.19	0.66	0.66	0.60	1.46
74.5	0.90	2.13	2.13	2.29	0.38	1.23	1.23	1.39	-0.52
75.0	1.99	0.72	0.72	0.87	-0.94	-1.27	-1.27	-1.11	-2.92
75.5	3.07	1.23	1.22	1.26	0.97	-1.84	-1.84	-1.81	-2.10
76.0	2.76	2.72	2.72	2.68	3.22	-0.04	-0.04	-0.08	0.46
76.5	3.49	4.18	4.18	4.15	4.61	0.69	0.69	0.66	1.13
77.0	5.83	5.10	5.10	5.13	4.86	-0.73	-0.73	-0.70	-0.97
77.5	6.18	5.88	5.88	5.74	7.35	-0.31	-0.30	-0.44	1.17
78.0	4.13	4.21	4.22	4.15	4.97	0.08	0.08	0.02	0.83
78.5	2.28	2.69	2.70	2.73	2.36	0.42	0.42	0.45	0.08
79.0	2.03	2.50	2.50	2.46	2.91	0.47	0.47	0.43	0.88
79.5	-0.02	1.28	1.28	1.24	1.68	1.29	1.29	1.25	1.70
80.0	-1.23	-2.13	-2.14	-2.13	-2.11	-0.90	-0.91	-0.90	-0.88
80.5	0.30	-2.10	-2.10	-2.03	-2.73	-2.40	-2.40	-2.33	-3.03

Table B-9 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

MERIDIONAL WIND

SINC	MERIDIONAL WIND SPEED					DIFFERENCES			
TIME	VZ1	VZ2	VZ3	VZ4	VZ5	D1VZ	D2VZ	D3VZ	D4VZ
MIN	M/SEC	M/SEC	M/SEC	M/SEC	M/SEC	M/SEC	M/SEC	M/SEC	M/SEC
81.0	1.37	1.59	1.59	1.59	1.63	0.22	0.22	0.22	0.26
81.5	1.32	1.89	1.88	1.84	2.31	0.57	0.56	0.52	0.99
82.0	0.79	0.44	0.44	0.38	0.95	-0.35	-0.36	-0.41	0.16
82.5	0.18	-0.19	-0.19	-0.22	0.08	-0.37	-0.37	-0.40	-0.10
83.0	0.49	0.32	0.32	0.38	-0.18	-0.17	-0.17	-0.11	-0.67
83.5	-0.01	0.65	0.65	0.72	0.04	0.66	0.65	0.73	0.05
84.0	-1.68	-0.61	-0.61	-0.57	-0.89	1.07	1.07	1.11	0.79
84.5	-2.41	-3.06	-3.07	-3.15	-2.45	-0.66	-0.67	-0.74	-0.05
85.0	-3.07	-3.83	-3.84	-3.91	-3.22	-0.76	-0.77	-0.84	-0.15
85.5	-4.06	-3.67	-3.68	-3.61	-4.15	0.39	0.38	0.45	-0.09
86.0	-5.02	7.16	7.17	7.08	7.83	12.19	12.20	12.11	12.85
86.5	-4.88	-5.41	-5.43	-5.43	-5.32	-0.53	-0.54	-0.55	-0.43
87.0	-2.81	-15.89	-15.92	-15.78	-16.88	-13.08	-13.11	-12.97	-14.07
87.5	-0.48	-1.30	-1.30	-1.32	-1.15	-0.82	-0.82	-0.84	-0.68
88.0	1.49	0.37	0.36	0.39	0.26	-1.12	-1.12	-1.10	-1.23
88.5	2.18	1.53	1.53	1.53	1.61	-0.64	-0.64	-0.65	-0.56
89.0	0.03	0.23	0.23	0.26	0.05	0.20	0.20	0.23	0.02
89.5	-0.98	-1.89	-1.90	-1.80	-2.47	-0.91	-0.92	-0.82	-1.48
90.0	1.82	0.00	0.00	0.04	-0.18	-1.82	-1.83	-1.78	-2.00
90.5	3.27	2.32	2.32	2.20	3.04	-0.96	-0.96	-1.07	-0.24
91.0	1.51	1.95	1.95	1.92	2.19	0.44	0.43	0.41	0.68
91.5	-0.21	-0.24	-0.24	-0.03	-1.37	-0.04	-0.04	0.18	-1.17
92.0	0.46	-0.12	-0.12	-0.11	-0.11	-0.58	-0.58	-0.57	-0.58
92.5	1.21	1.02	1.02	1.02	1.10	-0.18	-0.19	-0.19	-0.10
93.0	1.24	1.02	1.01	0.90	1.66	-0.22	-0.23	-0.34	0.42
93.5	1.96	1.15	1.15	1.24	0.77	-0.81	-0.81	-0.72	-1.19
94.0	0.57	0.28	0.28	0.63	-1.41	-0.29	-0.29	0.06	-1.98
94.5	-0.69	-0.27	-0.28	-0.42	0.49	0.42	0.41	0.28	1.19
95.0	-0.58	-0.98	-0.99	-1.38	0.93	-0.40	-0.42	-0.80	1.50
95.5	-0.59	-1.39	-1.40	-1.36	-1.52	-0.80	-0.81	-0.77	-0.93
96.0	-0.52	-0.62	-0.63	-0.26	-2.20	-0.10	-0.10	0.26	-1.68
96.5	-0.26	-0.20	-0.20	-0.23	0.02	0.07	0.06	0.03	0.28
97.0	0.36	-0.31	-0.32	-0.52	0.65	-0.66	-0.67	-0.88	0.30
97.5	-0.25	-1.43	-1.44	-1.31	-1.89	-1.18	-1.18	-1.05	-1.64
98.0	-1.15	-1.08	-1.09	-0.94	-1.63	0.07	0.06	0.21	-0.48
98.5	-1.04	-0.87	-0.88	-1.13	0.15	0.16	0.15	-0.09	1.19
99.0	0.84	-0.61	-0.61	-0.60	-0.60	-1.45	-1.45	-1.44	-1.44
99.5	3.60	2.31	2.31	2.69	0.98	-1.28	-1.28	-0.91	-2.62
100.0	1.56	2.43	2.43	2.30	2.97	0.87	0.87	0.74	1.41
100.5	-0.69	-0.55	-0.56	-0.73	0.13	0.14	0.13	-0.03	0.82
101.0	-0.35	-0.79	-0.80	-1.02	-0.02	-0.44	-0.45	-0.66	0.33
101.5	0.06	-0.38	-0.38	-0.41	-0.21	-0.43	-0.44	-0.46	-0.27
102.0	0.91	-0.73	-0.74	-0.44	-1.67	-1.64	-1.65	-1.34	-2.58
102.5	0.36	-0.84	-0.84	-0.47	-1.93	-1.20	-1.20	-0.83	-2.29
103.0	-0.11	-0.61	-0.61	-0.28	-1.52	-0.50	-0.51	-0.18	-1.41
103.5	0.40	-0.45	-0.46	-0.38	-0.58	-0.85	-0.86	-0.77	-0.98
104.0	1.24	-0.23	-0.24	-0.07	-0.58	-1.48	-1.48	-1.32	-1.82
104.5	1.84	0.92	0.91	1.13	0.50	-0.92	-0.93	-0.71	-1.34
105.0	3.26	2.55	2.55	2.29	3.40	-0.71	-0.71	-0.97	0.14
105.5	4.54	4.06	4.07	4.01	4.42	-0.47	-0.47	-0.53	-0.12
106.0	4.51	3.99	3.99	4.05	3.97	-0.52	-0.52	-0.46	-0.54
106.5	3.59	2.85	2.85	3.20	2.21	-0.74	-0.74	-0.40	-1.39
107.0	1.51	1.49	1.49	2.13	0.18	-0.01	-0.01	0.62	-1.33
107.5	0.02	-0.56	-0.56	-0.15	-1.26	-0.58	-0.59	-0.17	-1.28
108.0	-2.76	-2.34	-2.35	-1.83	-3.31	0.42	0.41	0.93	-0.55
108.5	-4.38	-4.32	-4.34	-4.42	-3.90	0.06	0.04	-0.04	0.48
109.0	-3.14	-3.41	-3.42	-3.44	-3.07	-0.26	-0.28	-0.29	0.07
109.5	-3.71	-3.73	-3.74	-3.34	-4.21	-0.02	-0.03	0.37	-0.50
110.0	-4.63	-7.37	-7.40	-7.47	-6.92	-2.74	-2.77	-2.84	-2.29
110.5	-2.62	-5.37	-5.39	-5.18	-5.40	-2.75	-2.77	-2.55	-2.78
111.0	-1.32	-2.59	-2.61	-1.54	-4.08	-1.27	-1.28	-0.21	-2.75
111.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table B-10

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
WIND DATA

SYNC	WIND DIRECTION					WIND SPEED				
TIME MIN	WD1 DEG	WD2 DEG	WD3 DEG	WD4 DEG	WD5 DEG	V1 M/SEC	V2 M/SEC	V3 M/SEC	V4 M/SEC	V5 M/SEC
1.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
1.5	302.8	298.9	298.9	298.8	302.2	7.35	7.05	7.05	7.04	7.34
2.0	305.7	302.9	302.9	303.1	299.7	7.89	7.53	7.53	7.57	7.03
2.5	312.8	310.5	310.5	310.6	310.5	7.28	7.22	7.23	7.23	7.19
3.0	327.5	324.0	324.0	324.0	324.7	6.60	6.81	6.81	6.78	7.12
3.5	330.9	329.2	329.2	329.2	329.3	7.07	7.13	7.13	7.12	7.23
4.0	328.0	326.7	326.7	326.7	326.6	7.61	7.77	7.78	7.80	7.64
4.5	327.6	323.8	323.8	323.7	324.0	7.75	7.55	7.55	7.53	7.72
5.0	325.7	325.3	325.3	325.2	325.7	8.16	7.96	7.96	7.88	8.46
5.5	326.0	325.5	325.5	325.6	325.1	8.07	8.37	8.38	8.47	7.82
6.0	332.5	328.6	328.6	328.7	328.3	7.17	7.64	7.64	7.75	6.98
6.5	339.4	334.7	334.7	334.7	334.7	6.48	6.35	6.35	6.36	6.31
7.0	342.3	338.0	338.0	338.1	337.6	7.03	6.55	6.55	6.46	7.08
7.5	332.3	334.2	334.2	334.2	334.2	8.12	7.93	7.94	7.92	8.02
8.0	321.5	322.0	322.0	322.0	321.9	9.37	9.09	9.09	9.10	9.01
8.5	319.3	316.6	316.6	316.5	317.0	9.79	9.79	9.79	9.74	10.04
9.0	319.1	318.7	318.7	318.7	318.3	10.71	10.47	10.47	10.52	10.18
9.5	319.6	319.1	319.1	319.1	319.5	11.06	10.71	10.71	10.65	11.06
10.0	317.6	315.0	315.0	315.0	314.8	10.78	11.22	11.22	11.26	11.02
10.5	317.4	314.5	314.5	314.6	313.8	12.32	12.14	12.14	12.24	11.60
11.0	319.6	316.8	316.8	316.7	317.1	13.43	13.00	13.00	12.94	13.33
11.5	320.4	319.2	319.2	319.1	319.6	13.13	13.09	13.10	12.96	13.85
12.0	320.0	319.3	319.3	319.1	319.9	12.93	12.72	12.73	12.49	14.11
12.5	321.0	317.2	317.2	317.3	316.7	12.84	13.45	13.45	13.59	12.67
13.0	319.8	317.0	317.0	317.1	316.1	13.80	13.43	13.44	13.63	12.26
13.5	321.1	318.7	318.7	318.6	319.0	14.58	14.16	14.17	14.05	14.93
14.0	322.8	320.7	320.7	320.7	320.8	14.63	14.68	14.68	14.62	15.07
14.5	322.8	321.1	321.1	321.1	320.9	14.23	14.19	14.20	14.34	13.29
15.0	320.7	318.9	318.9	318.9	318.8	13.54	14.22	14.22	14.27	13.95
15.5	314.4	312.7	312.7	312.7	313.3	13.97	13.81	13.82	13.71	14.53
16.0	309.9	308.3	308.3	308.3	308.3	14.42	13.98	13.99	13.98	14.02
16.5	308.6	307.4	307.4	307.5	307.0	15.02	15.16	15.17	15.23	14.79
17.0	308.9	307.3	307.3	307.4	306.6	16.40	16.16	16.17	16.27	15.47
17.5	309.2	308.1	308.1	308.2	307.7	17.26	16.96	16.97	17.05	16.37
18.0	307.8	307.2	307.2	307.1	307.8	17.00	17.13	17.14	17.04	17.84
18.5	306.9	305.5	305.5	305.5	305.5	17.00	17.08	17.09	17.09	17.07
19.0	309.0	304.0	304.0	304.1	302.9	17.04	17.14	17.15	17.30	16.10
19.5	308.9	305.2	305.2	305.1	306.1	16.66	16.69	16.70	16.56	17.77
20.0	307.7	306.0	306.0	305.9	306.3	16.26	16.64	16.65	16.60	17.02
20.5	306.4	304.8	304.8	304.9	304.1	16.42	16.43	16.44	16.54	15.67
21.0	303.7	303.0	303.0	302.9	303.6	15.49	15.68	15.69	15.61	16.30
21.5	299.2	298.1	298.1	298.0	298.9	13.72	14.15	14.16	14.08	14.77
22.0	295.8	296.1	296.1	296.1	296.1	13.67	13.39	13.40	13.41	13.37
22.5	295.4	293.7	293.7	293.4	295.3	15.32	15.01	15.02	14.88	16.17
23.0	295.4	293.1	293.1	293.2	292.1	16.54	16.39	16.41	16.48	15.76
23.5	293.9	292.8	292.8	293.2	289.1	16.49	16.36	16.37	16.65	14.16
24.0	288.0	286.2	286.2	286.1	286.5	16.56	16.59	16.60	16.58	16.77
24.5	286.0	284.0	284.0	283.6	286.8	17.72	17.75	17.76	17.56	19.45
25.0	287.7	285.6	285.6	285.4	287.4	19.16	18.67	18.68	18.54	19.87
25.5	289.9	288.6	288.6	288.5	289.0	18.76	18.59	18.61	18.56	19.01
26.0	288.1	287.5	287.5	287.8	284.1	18.37	18.10	18.12	18.37	15.99
26.5	282.2	281.5	281.5	281.5	281.8	20.08	20.17	20.19	20.16	20.45
27.0	279.9	278.9	278.9	278.6	281.3	21.03	21.18	21.20	21.02	22.80
27.5	279.0	277.2	277.2	277.7	272.7	20.63	19.89	19.91	20.16	17.72
28.0	278.1	277.2	277.2	277.0	278.5	20.80	20.74	20.76	20.65	21.69
28.5	273.3	273.9	273.9	273.7	275.7	22.64	22.29	22.31	22.18	23.41
29.0	269.4	267.8	267.8	268.2	264.0	23.77	23.45	23.47	23.67	21.72
29.5	272.9	269.9	269.9	270.2	267.9	22.65	22.65	22.67	22.80	21.55
30.0	278.7	277.8	277.8	277.6	279.8	23.15	22.33	22.35	22.17	24.04
30.5	279.7	278.3	278.4	278.1	280.5	25.23	24.88	24.90	24.67	27.10
31.0	279.1	277.0	277.0	277.1	276.3	26.02	25.97	25.99	26.05	25.42
31.5	277.4	276.0	276.0	276.1	274.3	26.28	26.31	26.33	26.48	24.86
32.0	276.2	275.1	275.1	275.1	274.4	27.38	27.24	27.27	27.33	26.64
32.5	275.9	274.9	274.9	274.7	276.6	26.60	26.35	26.37	26.20	28.17
33.0	274.2	273.6	273.6	273.5	274.6	25.67	25.14	25.16	25.07	26.12
33.5	272.2	270.7	270.7	270.8	269.6	26.66	26.80	26.82	26.90	25.97
34.0	272.9	271.7	271.7	271.6	272.1	26.50	26.85	26.88	26.84	27.32
34.5	274.1	272.8	272.8	272.7	273.7	26.45	25.89	25.92	25.83	26.95
35.0	269.0	269.3	269.3	269.3	268.6	27.40	27.04	27.07	27.12	26.53
35.5	264.4	264.1	264.1	264.3	262.0	26.83	26.76	26.78	26.91	25.32
36.0	266.2	263.8	263.8	263.8	264.5	25.13	25.68	25.71	25.66	26.26
36.5	266.0	264.7	264.7	264.5	266.4	26.51	26.36	26.39	26.27	27.85
37.0	263.0	262.3	262.3	262.4	260.8	30.14	28.97	29.00	29.10	27.88
37.5	262.5	261.9	261.9	261.9	261.3	32.11	30.92	30.96	31.00	30.50
38.0	265.4	262.9	262.9	263.1	261.2	32.47	32.61	32.64	32.78	30.99
38.5	270.8	266.9	266.9	267.1	264.6	31.01	31.86	31.90	32.10	29.39
39.0	276.4	272.7	272.7	272.7	273.3	30.49	30.44	30.48	30.41	31.28
39.5	280.3	277.7	277.8	277.7	278.2	31.85	31.62	31.66	31.56	32.78
40.0	281.7	280.0	280.0	280.0	280.1	30.98	31.58	31.62	31.60	31.74
40.5	280.2	278.4	278.4	278.4	278.2	28.61	29.09	29.13	29.16	28.72

Table B- 10 (cont'd)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z
WIND DATA

SYNC	WIND DIRECTION					WIND SPEED				
TIME MIN	WD1 DEG	WD2 DEG	WD3 DEG	WD4 DEG	WD5 DEG	V1 M/SEC	V2 M/SEC	V3 M/SEC	V4 M/SEC	V5 M/SEC
41.0	277.6	275.3	275.3	275.3	275.8	28.72	28.43	28.47	28.40	29.31
41.5	276.7	275.6	275.7	275.6	275.8	29.57	29.23	29.27	29.24	29.56
42.0	276.2	274.8	274.8	274.8	275.1	29.24	29.28	29.32	29.28	29.95
42.5	275.9	273.7	273.7	273.8	272.6	29.08	29.31	29.35	29.49	27.38
43.0	275.6	273.4	273.4	273.6	271.1	29.75	29.44	29.48	29.75	25.67
43.5	272.6	270.5	270.5	270.3	272.6	31.56	31.27	31.31	31.02	35.46
44.0	271.9	270.3	270.4	270.2	272.8	30.36	30.91	30.95	30.62	35.70
44.5	273.5	271.4	271.4	271.4	270.5	28.91	29.27	29.32	29.41	27.88
45.0	272.1	269.3	269.3	269.3	269.1	30.31	29.68	29.73	29.75	29.40
45.5	270.8	270.2	270.3	270.4	268.3	32.19	31.46	31.51	31.72	28.27
46.0	268.9	266.9	266.9	266.9	266.0	33.09	33.34	33.39	33.48	31.98
46.5	269.0	264.3	264.3	264.1	266.6	32.58	33.36	33.40	33.17	37.06
47.0	272.9	270.0	270.0	270.1	268.8	31.45	31.79	31.84	31.98	29.54
47.5	275.6	273.4	273.4	273.5	272.2	29.74	29.79	29.84	30.00	27.23
48.0	274.7	273.6	273.6	273.6	274.2	27.89	28.28	28.33	28.24	29.67
48.5	268.7	267.9	267.9	267.9	268.3	27.57	27.76	27.81	27.78	28.28
49.0	263.3	262.3	262.4	262.3	263.0	28.98	28.36	28.41	28.36	29.13
49.5	264.9	262.5	262.5	262.6	260.3	30.39	29.85	29.90	30.06	27.20
50.0	268.8	265.7	265.7	265.8	264.2	30.55	30.69	30.74	30.88	28.37
50.5	269.4	267.2	267.2	267.0	269.7	28.75	29.70	29.75	29.45	34.72
51.0	268.7	265.5	265.5	265.4	267.1	26.12	27.28	27.32	27.17	29.82
51.5	267.1	266.2	266.3	266.2	267.7	24.02	24.59	24.63	24.50	26.86
52.0	263.3	261.8	261.9	261.7	264.5	23.23	23.06	23.11	22.92	26.25
52.5	262.1	259.3	259.3	259.3	258.9	24.17	23.74	23.78	23.80	23.46
53.0	261.5	258.8	258.8	259.1	254.3	26.19	26.05	26.10	26.33	22.17
53.5	263.4	259.5	259.5	259.6	258.6	27.39	27.36	27.41	27.47	26.45
54.0	267.3	265.1	265.1	265.0	266.7	27.69	27.63	27.68	27.52	30.45
54.5	268.6	266.5	266.5	266.4	268.3	26.48	27.33	27.39	27.17	31.06
55.0	266.1	263.9	263.9	263.8	265.0	24.07	24.63	24.69	24.59	26.29
55.5	262.5	258.4	258.4	258.9	247.2	23.34	22.78	22.84	23.26	15.91
56.0	261.0	256.2	256.2	256.7	245.6	24.65	24.47	24.53	24.94	17.76
56.5	259.7	258.0	258.0	257.9	259.7	23.97	24.78	24.83	24.72	26.66
57.0	256.7	257.0	257.0	256.5	263.1	22.86	23.41	23.44	23.00	31.06
57.5	252.7	250.7	250.7	250.6	252.2	23.31	23.45	23.50	23.43	24.64
58.0	255.7	252.0	252.1	251.9	254.7	22.77	23.23	23.28	23.15	25.60
58.5	264.0	260.0	260.0	260.1	259.4	21.94	21.99	22.04	22.08	21.39
59.0	265.8	263.5	263.6	263.7	261.7	19.73	19.93	19.98	20.09	18.10
59.5	257.2	258.2	258.2	258.2	258.3	17.32	17.59	17.63	17.62	17.67
60.0	252.0	248.7	248.7	248.8	246.3	17.63	17.79	17.83	17.89	18.74
60.5	253.3	249.7	249.8	249.0	258.6	19.38	19.88	19.92	19.47	27.93
61.0	257.2	254.7	254.7	254.5	257.4	19.06	19.42	19.47	19.32	21.85
61.5	260.3	257.0	257.0	257.7	231.3	16.08	16.08	16.13	16.84	8.16
62.0	262.9	260.2	260.2	260.7	246.0	13.42	13.75	13.80	14.15	8.10
62.5	264.9	264.0	264.1	264.7	222.3	11.72	11.61	11.66	12.21	3.51
63.0	261.6	257.5	257.6	257.5	258.5	10.08	10.53	10.58	10.54	11.04
63.5	253.0	248.1	248.2	247.8	253.7	8.18	9.17	9.21	9.11	11.02
64.0	241.7	240.4	240.5	238.4	258.7	8.01	8.61	8.64	8.24	15.82
64.5	250.8	249.4	249.5	247.2	265.4	7.47	7.46	7.49	6.99	16.12
65.0	267.8	260.8	260.9	260.6	264.2	5.27	5.70	5.74	5.63	7.13
65.5	291.9	270.3	270.3	270.2	271.4	4.33	4.65	4.68	4.63	5.41
66.0	275.1	281.2	281.2	280.9	93.0	3.88	3.95	4.00	4.39	2.42
66.5	213.9	218.9	219.4	224.8	132.7	5.07	4.23	4.25	4.53	6.38
67.0	206.3	204.5	204.8	204.5	208.4	6.12	5.80	5.81	5.80	5.95
67.5	232.2	231.7	231.9	227.1	260.3	5.45	5.34	5.37	4.98	12.75
68.0	246.9	244.9	245.2	247.8	148.0	4.37	3.94	3.98	4.29	2.79
68.5	222.1	210.5	211.5	227.9	108.8	3.99	3.25	3.29	3.93	15.55
69.0	217.1	207.5	207.8	207.2	215.2	6.09	6.39	6.41	6.39	6.78
69.5	240.1	232.2	232.2	224.6	263.8	5.97	7.86	7.87	7.02	23.57
70.0	283.4	265.5	265.6	266.4	212.8	4.05	4.16	4.20	4.48	0.95
70.5	276.2	321.2	320.1	308.5	88.6	1.95	1.87	1.91	2.51	8.49
71.0	192.4	223.5	223.7	190.6	271.3	3.78	2.14	2.15	1.73	16.33
71.5	189.5	202.2	202.2	177.2	267.6	4.82	5.58	5.59	5.48	32.26
72.0	203.4	199.1	199.3	195.6	231.8	5.67	6.84	6.86	6.77	9.51
72.5	199.8	195.2	195.6	200.4	140.4	5.72	5.24	5.25	5.33	7.69
73.0	195.8	185.2	185.8	189.6	142.8	3.18	3.46	3.46	3.46	4.88
73.5	174.5	160.7	161.5	181.6	107.7	3.46	3.37	3.35	3.04	16.20
74.0	129.9	139.7	140.1	145.1	114.1	4.25	4.44	4.41	4.05	10.28
74.5	98.1	112.5	112.6	109.5	267.7	6.38	5.56	5.55	6.85	9.70
75.0	103.3	95.2	95.2	95.4	278.8	8.63	7.96	7.94	9.25	6.13
75.5	110.5	98.2	98.2	98.1	98.7	8.76	8.64	8.62	8.91	6.42
76.0	113.4	112.2	112.2	112.9	106.8	6.95	7.21	7.19	6.89	11.17
76.5	126.0	132.4	132.6	133.9	120.7	5.93	6.19	6.17	5.98	9.04
77.0	150.8	146.2	146.4	144.2	171.2	6.68	6.14	6.13	6.33	4.92
77.5	167.8	153.9	154.2	163.9	115.4	6.32	6.54	6.53	5.98	17.11
78.0	162.0	160.9	161.4	168.3	122.8	4.35	4.46	4.45	4.24	9.18
78.5	143.8	154.7	155.2	149.6	219.7	2.82	2.98	2.97	3.17	3.07
79.0	141.4	150.3	150.9	156.6	120.2	2.59	2.87	2.86	2.68	5.78
79.5	89.8	107.9	108.0	109.1	102.4	4.28	4.16	4.14	3.78	7.87
80.0	80.3	74.6	74.5	74.5	75.5	7.27	8.02	8.00	8.00	8.43
80.5	92.1	75.2	75.1	76.7	39.9	8.32	8.19	8.19	8.80	3.56

Table B- 10 (cont'd)

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

WIND DATA

SYNC	WIND DIRECTION					WIND SPEED				
TIME MIN	WD1 DEG	WD2 DEG	WD3 DEG	WD4 DEG	WD5 DEG	V1 M/SEC	V2 M/SEC	V3 M/SEC	V4 M/SEC	V5 M/SEC
81.0	100.1	103.2	103.2	103.2	102.9	7.85	6.98	6.97	6.97	7.29
81.5	99.6	103.9	103.9	104.3	101.5	7.91	7.85	7.82	7.45	11.60
82.0	95.0	92.6	92.6	92.4	93.8	9.04	9.75	9.72	9.22	14.46
82.5	91.5	88.6	88.6	88.3	90.5	6.63	7.81	7.79	7.52	10.33
83.0	99.7	96.3	96.3	96.3	276.3	2.89	2.95	2.92	3.50	1.63
83.5	89.9	107.1	107.2	104.5	269.4	3.44	2.20	2.19	2.89	3.47
84.0	75.7	84.0	84.0	84.7	75.0	6.78	5.82	5.81	6.15	3.44
84.5	76.2	72.4	72.3	70.6	80.9	10.10	10.12	10.10	9.48	15.58
85.0	74.5	71.9	71.8	70.4	79.5	11.49	12.33	12.30	11.69	17.72
85.5	66.8	68.1	68.0	69.5	51.9	10.30	9.85	9.85	10.34	6.72
86.0	57.9	134.3	134.4	137.3	120.8	9.46	10.26	10.24	9.64	15.29
86.5	61.4	59.8	59.7	59.3	63.2	10.22	10.76	10.75	10.66	11.78
87.0	76.8	36.2	36.1	39.0	12.4	12.32	19.68	19.71	20.29	17.28
87.5	88.1	84.7	84.7	84.6	85.7	14.12	14.04	14.02	13.90	15.32
88.0	96.4	91.5	91.5	91.6	91.1	13.29	14.15	14.14	14.33	13.37
88.5	100.5	97.2	97.2	97.2	97.2	11.96	12.30	12.29	12.25	12.95
89.0	90.2	91.2	91.2	91.3	90.3	12.64	11.25	11.24	11.52	9.92
89.5	86.1	81.8	81.7	82.6	74.4	14.31	13.23	13.23	13.97	9.14
90.0	96.8	90.0	90.0	90.2	89.3	15.31	15.37	15.37	15.67	14.10
90.5	103.7	98.8	98.8	98.9	98.4	13.78	15.16	15.14	14.27	20.77
91.0	97.5	99.1	99.1	99.2	98.9	11.55	12.25	12.24	12.01	14.15
91.5	89.1	88.8	88.8	89.9	64.9	12.68	11.58	11.58	13.21	3.24
92.0	92.1	89.5	89.4	89.5	89.5	12.48	12.44	12.44	12.49	12.59
92.5	96.2	95.4	95.4	95.4	95.5	11.08	10.82	10.81	10.79	11.51
93.0	97.3	95.4	95.4	95.2	96.0	9.68	10.75	10.73	9.83	15.73
93.5	102.7	97.4	97.4	97.4	97.4	8.90	8.87	8.86	9.56	5.95
94.0	93.0	92.0	92.0	93.4	285.9	10.73	7.88	7.89	10.57	5.13
94.5	86.8	88.9	88.8	88.1	91.4	12.46	13.62	13.61	12.52	19.64
95.0	87.1	86.3	86.2	83.5	91.8	11.42	15.12	15.08	12.17	29.68
95.5	86.6	81.3	81.2	81.7	79.6	10.02	9.14	9.12	9.39	8.39
96.0	87.2	85.4	85.4	88.5	299.5	10.80	7.72	7.73	10.37	4.47
96.5	88.6	89.1	89.0	88.9	90.1	10.71	12.10	12.09	11.82	13.81
97.0	91.8	88.7	88.7	87.6	91.8	11.65	13.78	13.76	12.23	20.97
97.5	88.9	83.2	83.2	84.2	78.0	13.34	12.10	12.10	12.96	9.10
98.0	84.6	84.7	84.7	85.8	78.4	12.10	11.73	11.73	12.75	8.09
98.5	84.9	86.1	86.1	84.2	90.4	11.64	12.94	12.92	11.17	20.33
99.0	93.6	87.1	87.1	87.2	87.2	13.17	12.10	12.10	12.17	12.34
99.5	104.1	100.5	100.5	100.0	107.5	14.72	12.73	12.75	15.42	3.25
100.0	96.5	99.5	99.5	99.6	99.2	13.89	14.77	14.77	13.87	18.57
100.5	87.3	87.8	87.8	86.9	90.4	14.51	14.50	14.49	13.28	19.48
101.0	88.7	87.4	87.4	86.3	89.9	15.49	17.38	17.37	15.87	22.79
101.5	90.2	88.7	88.7	88.5	89.3	15.30	16.34	16.34	16.11	17.63
102.0	93.4	86.9	86.9	88.4	77.1	15.38	13.59	13.61	15.62	7.49
102.5	91.3	86.8	86.8	88.5	76.2	15.68	14.93	14.95	17.37	8.06
103.0	89.6	87.7	87.7	89.0	80.6	16.11	15.03	15.05	17.15	9.29
103.5	91.4	88.3	88.3	88.7	87.8	16.69	15.72	15.73	16.18	15.20
104.0	94.2	89.2	89.2	89.8	87.8	17.11	16.86	16.88	17.87	14.90
104.5	95.5	92.8	92.8	93.2	91.8	19.22	18.70	18.71	20.04	16.20
105.0	98.1	95.9	95.9	95.7	96.4	23.16	24.85	24.86	23.18	30.51
105.5	101.7	100.0	100.0	100.0	99.9	22.46	23.41	23.43	23.06	25.68
106.0	103.1	100.5	100.5	100.5	100.5	19.88	21.88	21.90	22.28	21.76
106.5	100.4	98.4	98.4	98.4	98.2	19.84	19.57	19.60	21.85	15.41
107.0	94.8	95.2	95.2	95.9	91.3	18.11	16.57	16.59	20.64	8.20
107.5	90.1	88.1	88.1	89.6	84.5	16.03	16.98	16.99	19.39	13.09
108.0	79.6	79.8	79.8	83.5	66.5	15.28	13.20	13.22	16.08	8.31
108.5	74.5	75.7	75.7	74.6	79.3	16.42	17.53	17.53	16.57	21.06
109.0	80.9	80.7	80.7	80.4	82.7	19.84	21.16	21.18	20.56	24.19
109.5	80.9	80.8	80.8	82.3	78.8	23.36	23.27	23.30	24.98	21.69
110.0	79.8	74.9	74.9	74.0	77.6	26.22	28.37	28.42	27.20	32.25
110.5	84.4	78.8	78.8	79.4	79.3	27.09	27.71	27.76	28.04	29.01
111.0	87.2	84.1	84.1	87.1	77.4	26.70	25.23	25.28	30.21	18.72
111.5	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00

Table B-11

RAWINSONDE COMPARISON PROJECT

POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

RMS FOR RANGES OF FPS-16 ELEVATION ANGLE

	E1=0 TO 8	8 TO 12	12 TO 360	ALL E1
RMSDE	0.03352	0.05158	0.10320	0.10355
RMS1CDE	0.04264	0.06526	[illegible]	[illegible]
RMS2CDE	0.05715	0.06761	0.13832	0.13641
RMS4CDE	0.05102	0.06866	0.13868	0.13678
RMSDA	0.14215	0.14807	0.28151	0.35030
RMS1CDA	0.12169	0.18474	0.06582	0.07948
RMS2CDA	0.18250	0.14202	0.07640	0.10095
RMS4CDA	0.14875	0.19116	0.11525	0.14217
RMSD1Q	0.68799	1.31337	6.56341	6.47045
RMSD2Q	0.68786	1.31322	6.52283	6.43072
RMSD3Q	0.76333	1.31387	5.69852	5.63000
RMSD4Q	2.20633	1.27425	[illegible]	[illegible]
RMSD1VX	[illegible]	0.17051	[illegible]	[illegible]
RMSD2VX	0.10255	0.17046	0.79772	0.78402
RMSD3VX	0.04693	0.18043	0.69103	0.68039
RMSD4VX	0.19085	0.15403	5.66132	5.55784
RMSD1VZ	0.14377	0.17113	1.50353	1.47855
RMSD2VZ	0.14383	0.17114	1.50805	1.48037
RMSD3VZ	0.14333	0.18741	[illegible]	[illegible]
RMSD4VZ	0.45060	0.20861	[illegible]	[illegible]

RMS FOR RANGES OF FPS-16 SLANT RANGE

	RI OVER 183	183 TO 91	91 TO 0	ALL RI
RMSDR	0.00000	0.00000	73.38845	73.38845
RMS1CDR	0.00000	0.00000	23.52750	23.52750
RMS2CDR	0.00000	0.00000	26.19766	26.19766
RMS4CDR	0.00000	0.00000	31.16211	31.16211

RMS FOR RANGES OF FPS-16 PRESSURE

	PI OVER 400	400 TO 100	100 TO 10	10 TO 0
RMS1DP	0.89224	1.05001	0.59089	0.12288
RMS2DP	0.77012	0.65113	0.57923	0.13378

STANDARD DEVIATIONS WITH VARIABLE MEAN

	EM=0 TO 8	8 TO 12	12 TO 360	ALL EM
SD(E1)	0.01938	[illegible]	[illegible]	0.00835
SD(E2*)	0.05507	[illegible]	0.13722	[illegible]
SD(A1)	0.01597	0.00834	0.00730	0.00754
SD(A2*)	0.37996	0.83317	1.73713	1.70909

	RM OVER 183	183 TO 91	91 TO 0	ALL RM
SD(R1)	0.00000	0.00000	1.57873	1.57873
SD(R2*)	0.00000	0.00000	85.35874	85.35874

Table B-12

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

CONSTANT PRESSURE DATA

RAOB PRESSURE MB	GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	HEIGHT DIFFERENCE 1DG GPM	2DG GPM
850	1463.6	1467.2	1449.2	3.6	-14.4
700	2963.5	2950.0	2964.0	-13.5	0.5
500	5433.3	5434.1	5425.9	0.9	-7.3
400	6958.4	6943.5	6972.8	-15.0	14.4
300	8914.0	8927.0	8945.4	13.0	31.4
250	10152.3	10225.4	10193.2	73.1	40.9
200	11619.3	11731.1	11694.5	111.7	75.2
150	13516.9	13653.7	13601.8	136.8	84.9
100	16158.7	16118.0	16216.3	-40.7	57.6
50	20414.4	20447.2	20640.8	32.8	226.4
30	23755.1	23749.3	23931.1	-5.8	176.1
10	30847.9	30847.6	31170.1	-0.3	322.2

ZONAL WIND SPEED

PRESSURE MB	VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC
850	2.62	3.14	3.14	3.16	3.02
700	8.19	8.72	8.72	8.69	8.89
500	12.34	12.75	12.76	12.70	13.19
400	20.72	20.93	20.95	20.78	22.36
300	26.39	26.03	26.05	25.97	26.96
250	30.77	31.34	31.38	31.50	29.91
200	31.29	31.19	31.23	30.94	35.47
150	29.95	30.29	30.34	30.33	30.39
100	21.82	21.66	21.71	21.75	21.02
50	0.79	2.11	2.12	-0.27	32.23
30	-7.80	-7.62	-7.59	-7.22	-11.37
10	-14.28	-12.52	-12.54	-15.18	-3.10

MERIDIONAL WIND SPEED

PRESSURE MB	VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC
850	-6.16	-6.00	-6.00	-6.04	-5.78
700	-9.94	-9.76	-9.76	-9.72	-10.01
500	-7.45	-7.41	-7.42	-7.36	-7.89
400	-3.63	-3.26	-3.27	-3.13	-4.46
300	-1.79	-1.17	-1.17	-1.14	-1.62
250	-1.43	0.68	0.67	0.63	1.25
200	-1.35	-0.23	-0.24	-0.14	-1.65
150	0.54	2.01	2.01	2.01	1.98
100	2.28	3.82	3.82	3.81	3.94
50	4.76	5.17	5.18	5.48	1.35
30	1.32	1.89	1.88	1.84	2.31
10	3.60	2.31	2.31	2.69	0.98

CONSTANT ALTITUDE DATA

ALTITUDE FPS-16 METERS	PRESSURE FPS-16 MB	GMD-2 MB	RAOB MB	PRESSURE DIFFERENCE 1DP MB	2DP MB
1000	900.7	900.1	899.8	-0.6	-0.9
2000	794.5	793.2	792.8	-1.3	-1.7
3000	698.2	699.5	696.8	1.3	-1.4
4000	610.8	609.7	608.9	-1.2	-1.9
5000	532.2	531.4	532.1	-0.8	-0.1
6000	461.8	460.3	461.0	-1.5	-0.8
7000	399.6	399.9	398.1	0.3	-1.5
8000	345.3	344.8	343.4	-0.5	-1.9
9000	298.7	298.1	296.8	-0.6	-1.9
10000	258.2	256.3	255.8	-1.9	-2.4
11000	222.8	220.9	220.9	-1.9	-1.9
12000	192.0	189.9	189.4	-2.0	-2.5
13000	165.2	162.5	162.9	-2.7	-2.3
14000	142.0	140.9	140.4	-1.0	-1.5
15000	121.7	121.6	120.7	-0.1	-1.1
16000	104.2	103.8	103.1	-0.4	-1.1
17000	89.1	89.1	87.9	-0.1	-1.3
18000	76.3	76.2	75.9	-0.1	-0.4
19000	65.3	65.1	65.1	-0.3	-0.2
20000	55.9	55.8	55.1	-0.1	-0.8
21000	47.8	47.8	45.6	0.0	-2.2
22000	41.0	40.8	38.4	-0.2	-2.6
23000	35.1	34.9	33.7	-0.3	-1.4
24000	30.1	30.0	29.2	-0.1	-0.9
25000	25.9	26.0	25.1	0.1	-0.7
26000	22.2	22.0	21.4	-0.2	-0.8
27000	19.1	19.0	18.3	-0.1	-0.8
28000	16.4	16.3	15.6	-0.2	-0.8
29000	14.1	14.2	13.5	0.0	-0.6
30000	12.2	11.9	11.5	-0.3	-0.7

APPENDIX C

This Appendix is given to summarize the FPS-16, GMD-2, and GMD-1 geopotential heights and wind components at standard pressure levels and FPS-16, GMD-2, and GMD-1 pressure at FPS-16 height levels for each of the 16 usable tests.

Table C-1

USABLE RAWINSONDE COMPARISON TESTS (Test 1)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 43 Z

CONSTANT PRESSURE DATA

RAOB PRESSURE MB	GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	HEIGHT DIFFERENCE 1DG GPM	2DG GPM
850	1472.6	1504.8	1445.8	32.2	-26.8
700	3012.9	3090.1	2980.7	77.2	-32.2
500	5529.2	5788.3	5505.2	259.1	-23.9
400	7214.5	7684.0	7115.9	469.6	-98.5
300	9171.0	9847.3	9083.4	676.4	-87.5
250	10349.6	11432.7	10285.6	1083.1	-64.0
200	11830.0	12752.1	11736.2	922.1	-93.8
150	13655.3	14964.7	13595.3	1309.5	-59.9
100	16307.3	17846.4	16181.8	1539.1	-125.4
50	20369.4	21647.8	20503.2	1278.4	133.9
30	23833.4	25303.3	23691.8	1469.9	-141.5
10	31067.8	32139.0	30754.3	1071.2	-313.5

ZONAL WIND SPEED

PRESSURE MB	VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC
850	13.25	13.11	13.12	13.18	12.22
700	14.19	13.71	13.72	13.71	13.94
500	45.36	45.99	46.02	46.18	40.52
400	50.65	50.86	50.90	50.92	47.10
300	53.30	52.81	52.88	52.89	50.13
250	62.67	61.82	61.90	62.10	52.09
200	48.36	47.91	48.01	48.61	21.21
150	39.92	40.18	40.24	39.90	54.32
100	13.41	14.33	14.38	14.00	33.12
50	5.18	4.37	4.48	5.63	-27.93
30	-2.62	-3.15	-3.08	-2.38	-15.17
10	-8.10	-7.89	-7.86	-7.82	-5.80

MERIDIONAL WIND SPEED

PRESSURE MB	VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC
850	-8.64	-7.94	-7.95	-7.99	-7.44
700	-8.63	-8.10	-8.11	-8.10	-8.23
500	-10.95	-9.78	-9.79	-9.83	-7.93
400	-2.95	-0.56	-0.57	-0.54	-0.55
300	4.59	5.66	5.66	5.69	5.02
250	-1.86	1.62	1.62	1.60	2.26
200	4.05	4.29	4.29	4.24	6.25
150	-0.74	2.65	2.66	2.69	1.22
100	2.89	1.87	1.87	1.89	0.78
50	4.14	3.12	3.12	3.08	4.24
30	-4.25	-4.94	-4.95	-4.99	-4.17
10	-6.39	-4.93	-4.94	-4.96	-4.82

CONSTANT ALTITUDE DATA

ALTITUDE FPS-16 METERS	PRESSURE FPS-16 MB	GMD-2 MB	RAOB MB	PRESSURE DIFFERENCE 1DP MB	2DP MB
1000	897.9	897.1	900.8	-0.8	3.0
2000	793.3	787.9	794.5	-5.4	1.2
3000	698.4	691.0	701.5	-7.4	3.1
4000	612.3	602.6	615.0	-9.7	2.7
5000	535.4	520.7	536.7	-14.7	1.3
6000	467.9	446.2	472.3	-21.7	4.5
7000	407.3	380.0	412.4	-27.3	5.1
8000	353.1	328.8	357.3	-24.3	4.3
9000	304.7	277.6	308.8	-27.2	4.0
10000	262.3	245.8	264.4	-16.5	2.1
11000	224.9	202.5	228.1	-22.4	3.2
12000	193.0	165.7	196.2	-27.3	3.2
13000	165.5	136.1	166.8	-29.4	1.3
14000	141.7	122.3	146.1	-19.4	4.4
15000	121.3	103.1	122.9	-18.2	1.7
16000	103.7	80.3	105.0	-23.4	1.2
17000	88.6	69.7	88.9	-18.9	0.3
18000	75.5	61.6	76.8	-13.9	1.3
19000	64.4	54.0	64.6	-10.5	0.2
20000	54.9	46.8	55.6	-8.1	0.8
21000	46.7	38.1	46.8	-8.7	0.1
22000	39.7	32.4	40.4	-7.3	0.7
23000	33.9	28.1	34.4	-5.8	0.5
24000	29.0	23.2	29.7	-5.8	0.7
25000	24.8	20.6	25.3	-4.2	0.5
26000	21.2	17.6	21.7	-3.6	0.5
27000	18.2	15.4	18.5	-2.8	0.3
28000	15.6	13.2	16.1	-2.4	0.5
29000	13.4	11.6	14.1	-1.8	0.7
30000	11.5	9.8	12.2	-1.7	0.7

Table C-2

USABLE RAWINSONDE COMPARISON TESTS (Test 2)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1105 Z

CONSTANT PRESSURE DATA

RAOB PRESSURE MB	GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	HEIGHT DIFFERENCE 1DG GPM	2DG GPM
850	1434.6	1459.7	1446.8	25.0	12.2
700	2946.5	3029.1	2963.5	82.6	17.0
500	5437.5	5659.1	5441.3	221.6	3.7
400	7005.4	7394.7	7031.3	389.2	25.9
300	8925.6	9596.6	8985.6	671.1	60.1
250	10128.3	10751.9	10201.2	623.6	73.0
200	11588.1	12422.1	11682.7	834.0	94.6
150	13492.0	14712.1	13566.9	1220.1	74.9
100	16130.2	17527.5	16156.3	1397.3	26.1
50	20567.3	21878.2	20526.9	1310.9	-40.3
30	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0

ZONAL WIND SPEED

PRESSURE MB	VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC
850	6.00	6.17	6.17	6.21	5.91
700	13.00	13.40	13.41	13.56	12.01
500	34.83	34.69	34.71	34.90	31.58
400	52.68	52.14	52.18	52.13	50.89
300	51.06	50.24	50.30	50.48	41.97
250	46.75	46.70	46.75	46.70	46.44
200	45.42	43.14	43.31	45.54	-54.74
150	26.86	27.03	27.08	26.71	45.01
100	23.21	22.52	22.60	22.91	9.54
50	-0.80	-1.49	-1.41	-0.69	-20.37
30	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00

MERIDIONAL WIND SPEED

PRESSURE MB	VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC
850	-8.99	-8.68	-8.68	-8.73	-8.35
700	-8.02	-8.40	-8.40	-8.54	-7.11
500	-7.63	-7.25	-7.26	-7.33	-5.82
400	5.99	8.31	8.31	8.38	7.61
300	15.53	16.17	16.18	16.20	15.61
250	2.26	4.82	4.83	4.84	4.51
200	-1.45	-1.18	-1.18	-1.18	-1.29
150	-1.76	0.42	0.42	0.41	0.92
100	6.23	7.40	7.41	7.43	6.49
50	3.53	1.40	1.41	1.45	0.22
30	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00

CONSTANT ALTITUDE DATA

ALTITUDE FPS-16 METERS	PRESSURE FPS-16 MB	GMD-2 MB	RAOB MB	PRESSURE DIFFERENCE 1DP MB	2DP MB
1000	897.7	898.0	899.1	0.3	1.4
2000	791.9	791.0	790.6	-0.9	-1.3
3000	696.0	689.9	696.1	-6.1	0.1
4000	609.2	599.9	608.7	-9.3	-0.4
5000	531.1	520.7	530.8	-10.3	-0.3
6000	462.3	448.9	462.6	-13.4	0.3
7000	401.6	382.0	400.9	-19.6	-0.7
8000	347.5	327.2	345.8	-20.3	-1.7
9000	299.3	269.3	297.0	-30.1	-2.3
10000	257.7	234.2	256.0	-23.5	-1.7
11000	222.1	194.6	219.3	-27.5	-2.8
12000	190.8	170.3	189.1	-20.5	-1.7
13000	163.8	144.2	162.6	-19.7	-1.2
14000	140.7	121.6	139.9	-19.0	-0.8
15000	120.5	97.4	118.4	-23.1	-2.1
16000	102.9	86.9	102.5	-16.0	-0.4
17000	87.8	76.3	86.3	-11.5	-1.5
18000	75.0	60.5	74.3	-14.5	-0.7
19000	64.1	50.7	64.0	-13.4	0.0
20000	54.7	42.5	54.8	-12.2	0.1
21000	46.8	37.7	47.4	-9.1	0.6
22000	0.0	0.0	0.0	0.0	0.0
23000	0.0	0.0	0.0	0.0	0.0
24000	0.0	0.0	0.0	0.0	0.0
25000	0.0	0.0	0.0	0.0	0.0
26000	0.0	0.0	0.0	0.0	0.0
27000	0.0	0.0	0.0	0.0	0.0
28000	0.0	0.0	0.0	0.0	0.0
29000	0.0	0.0	0.0	0.0	0.0
30000	0.0	0.0	0.0	0.0	0.0

Table C-3

USABLE RAWINSONDE COMPARISON TESTS (Test 3)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 7 MAR 64 1659 Z

CONSTANT PRESSURE DATA

RAOB PRESSURE MB	GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	HEIGHT DIFFERENCE 1DG GPM	2DG GPM
850	1463.6	1467.2	1449.2	3.6	-14.4
700	2963.5	2950.0	2964.0	-13.5	0.5
500	5433.3	5434.1	5425.9	0.9	-7.3
400	6958.4	6943.5	6972.8	-15.0	14.4
300	8914.0	8927.0	8945.4	13.0	31.4
250	10152.3	10225.4	10193.2	73.1	40.9
200	11619.3	11731.1	11694.5	111.7	75.2
150	13516.9	13653.7	13601.8	136.8	84.9
100	16158.7	16118.0	16216.3	-40.7	57.6
50	20414.4	20447.2	20640.8	32.8	226.4
30	23755.1	23749.3	23931.1	-5.8	176.1
10	30847.9	30847.6	31170.1	-0.3	322.2

ZONAL WIND SPEED

PRESSURE MB	VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC
850	2.62	3.14	3.14	3.16	3.02
700	8.19	8.72	8.72	8.69	8.89
500	12.34	12.75	12.76	12.70	13.19
400	20.72	20.93	20.95	20.78	22.36
300	26.39	26.03	26.05	25.97	26.96
250	30.77	31.34	31.38	31.50	29.91
200	31.29	31.19	31.23	30.94	35.47
150	29.95	30.29	30.34	30.33	30.39
100	21.82	21.66	21.71	21.75	21.02
50	0.79	2.11	2.12	-0.27	32.23
30	-7.80	-7.62	-7.59	-7.22	-11.37
10	-14.28	-12.52	-12.54	-15.18	-3.10

MERICIONAL WIND SPEED

PRESSURE MB	VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC
850	-6.16	-6.00	-6.00	-6.04	-5.78
700	-9.94	-9.76	-9.76	-9.72	-10.01
500	-7.45	-7.41	-7.42	-7.36	-7.89
400	-3.63	-3.26	-3.27	-3.13	-4.46
300	-1.79	-1.17	-1.17	-1.14	-1.62
250	-1.43	0.68	0.67	0.63	1.25
200	-1.35	-0.23	-0.24	-0.14	-1.65
150	0.54	2.01	2.01	2.01	1.98
100	2.28	3.82	3.82	3.81	3.94
50	4.76	5.17	5.18	5.48	1.35
30	1.32	1.89	1.88	1.84	2.31
10	3.60	2.31	2.31	2.69	0.98

CONSTANT ALTITUDE DATA

ALTITUDE FPS-16 METERS	PRESSURE FPS-16 MB	GMD-2 MB	RAOB MB	PRESSURE DIFFERENCE 1DP MB	2DP MB
1000	900.7	900.1	899.8	-0.6	-0.9
2000	794.5	793.2	792.8	-1.3	-1.7
3000	698.2	699.5	696.8	1.3	-1.4
4000	610.8	609.7	608.9	-1.2	-1.9
5000	532.2	531.4	532.1	-0.8	-0.1
6000	461.8	460.3	461.0	-1.5	-0.8
7000	399.6	399.9	398.1	0.3	-1.5
8000	345.3	344.8	343.4	-0.5	-1.9
9000	298.7	298.1	296.8	-0.6	-1.9
10000	258.2	256.3	255.8	-1.9	-2.4
11000	222.8	220.9	220.9	-1.9	-1.9
12000	192.0	189.9	189.4	-2.0	-2.5
13000	165.2	162.5	162.9	-2.7	-2.3
14000	142.0	140.9	140.4	-1.0	-1.5
15000	121.7	121.6	120.7	-0.1	-1.1
16000	104.2	103.8	103.1	-0.4	-1.1
17000	89.1	89.1	87.9	-0.1	-1.3
18000	76.3	76.2	75.9	-0.1	-0.4
19000	65.3	65.1	65.1	-0.3	-0.2
20000	55.9	55.8	55.1	-0.1	-0.8
21000	47.8	47.8	45.6	0.0	-2.2
22000	41.0	40.8	38.4	-0.2	-2.6
23000	35.1	34.9	33.7	-0.3	-1.4
24000	30.1	30.0	29.2	-0.1	-0.9
25000	25.9	26.0	25.1	0.1	-0.7
26000	22.2	22.0	21.4	-0.2	-0.8
27000	19.1	19.0	18.3	-0.1	-0.8
28000	16.4	16.3	15.6	-0.2	-0.8
29000	14.1	14.2	13.5	0.0	-0.6
30000	12.2	11.9	11.5	-0.3	-0.7

Table C-4

USABLE RAWINSONDE COMPARISON TESTS (Test 4)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 2 MAR 64 2345 Z

CONSTANT PRESSURE DATA

RAOB PRESSURE MB	GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	HEIGHT DIFFERENCE 1DG GPM	2DG GPM
850	1416.4	1418.7	1397.4	2.3	-19.0
700	2942.7	2941.0	2916.1	-1.7	-26.6
500	5477.3	5505.4	5444.3	28.1	-33.0
400	7087.6	7194.8	7045.0	107.1	-42.6
300	9060.1	8942.2	9019.1	-118.0	-41.0
250	10275.0	10524.4	10224.9	249.4	-50.1
200	11678.6	12925.6	11654.7	1247.0	-23.8
150	13609.9	14875.5	13505.8	1265.6	-104.2
100	16305.1	17564.0	16093.2	1259.0	-211.9
50	20915.7	20560.3	20481.3	-355.4	-434.4
30	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0

ZONAL WIND SPEED

PRESSURE MB	VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC
850	2.92	3.16	3.16	3.18	2.94
700	7.53	7.90	7.90	7.93	7.60
500	22.81	23.75	23.76	23.68	25.75
400	33.80	35.01	35.04	35.08	32.27
300	32.84	34.36	34.40	34.50	27.50
250	41.17	42.80	42.88	43.32	4.28
200	44.25	44.85	44.91	44.91	43.73
150	30.47	31.65	31.69	31.57	39.92
100	20.35	18.87	19.02	19.94	-39.06
50	0.24	-0.02	0.01	-0.12	7.07
30	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00

MERIDIONAL WIND SPEED

PRESSURE MB	VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC
850	-10.22	-9.95	-9.95	-10.00	-9.44
700	-19.13	-18.86	-18.87	-18.95	-18.10
500	-36.45	-35.77	-35.79	-35.65	-39.55
400	-50.42	-49.45	-49.49	-49.57	-44.98
300	-55.11	-53.61	-53.68	-53.83	-42.24
250	-49.62	-47.61	-47.72	-48.43	14.52
200	-34.70	-33.78	-33.84	-33.80	-35.42
150	-17.82	-16.40	-16.43	-16.23	-29.61
100	-5.51	-3.40	-3.55	-4.66	65.80
50	-7.66	-9.00	-9.03	-8.90	-16.62
30	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00

CONSTANT ALTITUDE DATA

ALTITUDE FPS-16 METERS	PRESSURE FPS-16 MB	GMD-2 MB	RAOB MB	PRESSURE DIFFERENCE 1DP MB	2DP MB
1000	893.7	894.6	895.9	0.9	2.2
2000	789.0	789.8	791.7	0.8	2.7
3000	693.3	693.7	695.7	0.4	2.3
4000	607.8	606.7	607.7	-1.1	-0.1
5000	532.2	528.2	534.4	-3.9	2.3
6000	464.1	459.3	467.3	-4.8	3.2
7000	403.6	396.5	405.6	-7.2	2.0
8000	349.7	340.6	351.6	-9.1	1.9
9000	302.0	305.1	303.3	3.1	1.3
10000	259.9	277.8	260.9	17.9	1.0
11000	222.7	196.6	223.6	-26.1	0.9
12000	190.6	153.6	192.5	-37.0	1.9
13000	163.2	134.1	164.7	-29.1	1.5
14000	139.8	122.0	141.7	-17.8	1.9
15000	119.7	111.7	122.2	-8.0	2.5
16000	102.4	110.9	104.9	8.5	2.5
17000	87.3	77.7	88.9	-9.6	1.6
18000	74.6	66.8	77.2	-7.8	2.7
19000	63.9	62.8	67.3	-1.1	3.4
20000	34.5	53.9	57.5	-0.6	3.0
21000	46.7	49.0	50.0	2.3	3.3
22000	0.0	0.0	0.0	0.0	0.0
23000	0.0	0.0	0.0	0.0	0.0
24000	0.0	0.0	0.0	0.0	0.0
25000	0.0	0.0	0.0	0.0	0.0
26000	0.0	0.0	0.0	0.0	0.0
27000	0.0	0.0	0.0	0.0	0.0
28000	0.0	0.0	0.0	0.0	0.0
29000	0.0	0.0	0.0	0.0	0.0
30000	0.0	0.0	0.0	0.0	0.0

Table C-5

USABLE RAWINSONDE COMPARISON TESTS (Test 6)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 17 MAR 64 221 Z

CONSTANT PRESSURE DATA

RAOB PRESSURE MB	GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	HEIGHT DIFFERENCE 1DG GPM	2DG GPM
850	1511.6	1551.6	1495.7	40.0	-15.9
700	3088.4	3148.0	3081.2	59.6	-7.2
500	5649.3	5709.8	5647.1	60.5	-2.2
400	7272.8	7334.8	7256.0	61.9	-16.8
300	9218.1	9358.1	9212.1	140.0	-6.1
250	10388.5	10650.8	10406.1	262.3	17.7
200	11826.5	12154.6	11832.4	328.1	5.9
150	13572.1	14128.5	13676.7	556.4	104.6
100	16193.0	16516.7	16230.2	323.7	37.2
50	20588.6	20737.4	20544.0	148.7	-44.6
30	23741.2	23925.3	23766.0	184.2	24.8
10	0.0	0.0	0.0	0.0	0.0

ZONAL WIND SPEED

PRESSURE MB	VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC
850	-11.57	-11.23	-11.23	-11.24	-11.11
700	-16.09	-15.87	-15.87	-15.89	-15.75
500	-27.53	-27.79	-27.81	-27.76	-28.17
400	-32.50	-30.95	-30.97	-30.97	-30.45
300	-27.65	-26.34	-26.36	-25.89	-43.89
250	-31.07	-29.86	-29.93	-30.79	9.03
200	-8.16	-7.38	-7.43	-7.90	12.95
150	1.44	2.56	2.56	2.88	-9.37
100	4.05	4.35	4.34	4.40	2.11
50	-6.57	-5.88	-5.90	-5.94	-5.32
30	-14.28	-13.81	-13.84	-13.59	-18.84
10	0.00	0.00	0.00	0.00	0.00

MERIDIONAL WIND SPEED

PRESSURE MB	VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC
850	-10.97	-11.30	-11.30	-11.29	-11.44
700	-8.14	-8.59	-8.60	-8.61	-8.63
500	-24.66	-26.56	-26.57	-26.53	-26.91
400	-31.39	-32.66	-32.69	-32.69	-32.14
300	-41.87	-43.70	-43.73	-43.23	-62.70
250	-42.73	-41.98	-42.07	-43.11	4.63
200	-10.10	-8.37	-8.43	-8.99	16.07
150	-25.85	-26.13	-26.15	-25.75	-40.74
100	-12.91	-13.60	-13.64	-13.55	-16.84
50	-0.50	-0.34	-0.37	-0.42	0.42
30	-0.99	-2.14	-2.16	-1.80	-9.36
10	0.00	0.00	0.00	0.00	0.00

CONSTANT ALTITUDE DATA

ALTITUDE FPS-16 METERS	PRESSURE FPS-16 MB	GMD-2 MB	RAOB MB	PRESSURE DIFFERENCE 1DP MB	2DP MB
1000	900.6	897.7	900.8	-2.9	0.2
2000	799.2	797.3	801.7	-1.9	2.5
3000	706.6	702.6	707.5	-4.0	0.9
4000	622.3	618.0	623.0	-4.3	0.8
5000	545.4	542.6	547.4	-2.8	1.9
6000	476.4	471.8	477.1	-4.7	0.7
7000	414.8	409.4	415.4	-5.4	0.6
8000	359.6	351.0	360.1	-8.6	0.4
9000	310.1	304.5	311.2	-5.6	1.2
10000	266.5	259.8	265.8	-6.7	-0.7
11000	228.3	218.5	228.5	-9.8	0.1
12000	195.3	179.8	194.2	-15.5	-1.1
13000	167.3	165.8	167.6	-1.5	0.2
14000	143.1	144.0	142.4	0.9	-0.7
15000	122.3	121.5	121.8	-0.8	-0.5
16000	104.3	102.2	103.8	-2.1	-0.5
17000	88.8	88.6	88.5	-0.3	-0.3
18000	75.6	74.3	74.6	-1.3	-1.0
19000	64.4	63.9	64.2	-0.6	-0.2
20000	55.0	52.8	54.5	-2.2	-0.5
21000	46.9	45.7	47.2	-1.2	0.3
22000	40.1	39.0	40.2	-1.0	0.1
23000	34.2	33.2	34.2	-1.0	0.0
24000	29.3	28.6	29.4	-0.7	0.1
25000	0.0	0.0	0.0	0.0	0.0
26000	0.0	0.0	0.0	0.0	0.0
27000	0.0	0.0	0.0	0.0	0.0
28000	0.0	0.0	0.0	0.0	0.0
29000	0.0	0.0	0.0	0.0	0.0
30000	0.0	0.0	0.0	0.0	0.0

Table C-6

USABLE RAWINSONDE COMPARISON TESTS (Test 9)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 24 MAR 64 1109 Z

CONSTANT PRESSURE DATA

RAOB PRESSURE MB	GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	HEIGHT DIFFERENCE 1DG GPM	2DG GPM
850	1422.9	1433.6	1397.5	10.7	-25.4
700	2953.0	2971.7	2917.7	18.7	-35.4
500	5434.0	5524.6	5422.1	90.6	-11.9
400	7023.8	7179.3	7018.3	155.5	-5.6
300	8979.6	9313.5	8974.8	333.9	-4.7
250	10170.1	10910.1	10169.9	739.9	-0.2
200	11603.2	11926.4	11611.8	323.2	8.6
150	13419.9	14361.6	13473.3	941.7	53.4
100	15998.0	16677.7	16068.7	679.7	70.7
50	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0

ZONAL WIND SPEED

PRESSURE MB	VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC
850	11.28	11.46	11.46	11.38	12.03
700	11.24	11.52	11.52	11.52	11.58
500	34.48	34.53	34.55	34.52	34.19
400	39.89	40.41	40.44	40.59	35.07
300	38.64	39.75	39.79	39.70	42.83
250	39.72	39.26	39.35	40.08	-4.30
200	40.38	39.79	39.91	40.77	-20.14
150	26.37	27.03	27.08	27.11	25.49
100	16.07	17.80	17.81	17.49	38.96
50	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00

MERIDIONAL WIND SPEED

PRESSURE MB	VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC
850	-5.81	-5.41	-5.41	-5.35	-5.80
700	-1.81	-1.78	-1.78	-1.77	-1.86
500	-11.73	-10.68	-10.69	-10.68	-10.57
400	-17.03	-15.29	-15.30	-15.35	-13.51
300	-19.26	-18.10	-18.11	-18.08	-19.17
250	-11.01	-8.89	-8.92	-9.20	7.50
200	-7.16	-5.68	-5.71	-5.99	13.65
150	4.22	6.33	6.33	6.33	5.93
100	-0.70	8.57	8.58	8.65	3.87
50	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00

CONSTANT ALTITUDE DATA

ALTITUDE FPS-16 METERS	PRESSURE FPS-16 MB	GMD-2 MB	RAOB MB	PRESSURE DIFFERENCE 1DP MB	2DP MB
1000	0.0	0.0	0.0	0.0	0.0
2000	790.4	789.8	790.0	-0.6	-0.4
3000	694.9	693.4	696.0	-1.5	1.1
4000	608.6	604.7	606.8	-3.9	-1.9
5000	531.8	526.3	530.7	-5.5	-1.1
6000	463.5	456.5	462.3	-6.9	-1.2
7000	402.8	394.2	402.1	-8.6	-0.7
8000	348.6	340.5	347.8	-8.0	-0.7
9000	300.4	286.5	299.8	-13.8	-0.6
10000	258.1	253.3	257.2	-4.7	-0.9
11000	221.2	208.6	219.9	-12.6	-1.3
12000	189.5	170.5	187.8	-19.0	-1.6
13000	162.5	139.3	161.1	-23.3	-1.5
14000	139.3	124.7	139.2	-14.6	-0.1
15000	119.3	108.0	118.4	-11.2	-0.9
16000	102.0	91.7	100.5	-10.3	-1.5
17000	87.2	87.5	85.6	0.3	-1.7
18000	0.0	0.0	0.0	0.0	0.0
19000	0.0	0.0	0.0	0.0	0.0
20000	0.0	0.0	0.0	0.0	0.0
21000	0.0	0.0	0.0	0.0	0.0
22000	0.0	0.0	0.0	0.0	0.0
23000	0.0	0.0	0.0	0.0	0.0
24000	0.0	0.0	0.0	0.0	0.0
25000	0.0	0.0	0.0	0.0	0.0
26000	0.0	0.0	0.0	0.0	0.0
27000	0.0	0.0	0.0	0.0	0.0
28000	0.0	0.0	0.0	0.0	0.0
29000	0.0	0.0	0.0	0.0	0.0
30000	0.0	0.0	0.0	0.0	0.0

Table C-7

USABLE RAWINSONDE COMPARISON TESTS (Test 12)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 29 JUL 64 334 Z

CONSTANT PRESSURE DATA

RAOB PRESSURE MB	GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	HEIGHT DIFFERENCE 1DG GPM	2DG GPM
850	1561.0	1563.1	1530.9	2.2	-30.0
700	3239.7	3219.6	3187.6	-20.0	-52.1
500	5972.2	5982.3	5903.5	10.1	-68.7
400	7648.4	7716.7	7605.3	68.3	-43.1
300	9787.7	9898.1	9684.9	110.4	-102.9
250	11044.4	11142.4	10938.1	98.0	-106.2
200	12509.6	12659.5	12401.2	149.9	-108.4
150	14251.5	14384.9	14177.8	133.4	73.7
100	0.0	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0

ZONAL WIND SPEED

PRESSURE MB	VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC
850	-0.48	-0.58	-0.58	-0.52	-0.59
700	-0.02	0.00	0.01	0.82	-0.18
500	4.54	4.35	4.35	4.40	4.22
400	3.79	3.47	3.47	3.45	3.49
300	3.16	2.83	2.84	2.81	2.90
250	1.73	1.33	1.34	1.33	1.31
200	2.19	2.16	2.17	2.18	2.04
150	1.31	1.27	1.27	1.24	1.51
100	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00

MERIDIONAL WIND SPEED

PRESSURE MB	VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC
850	3.90	3.94	3.94	3.90	3.92
700	5.98	6.04	6.04	6.52	5.93
500	11.29	11.45	11.46	11.61	11.03
400	12.61	12.31	12.32	12.23	12.38
300	16.61	16.45	16.47	16.39	16.55
250	16.56	16.71	16.73	16.73	16.42
200	15.04	15.04	15.07	15.13	14.40
150	7.55	7.54	7.55	7.42	8.77
100	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00

CONSTANT ALTITUDE DATA

ALTITUDE FPS-16 METERS	PRESSURE FPS-16 MB	GMD-2 MB	RAOB MB	PRESSURE DIFFERENCE 1DP MB	2DP MB
1000	903.2	903.9	903.9	0.7	0.7
2000	805.1	806.1	808.0	0.9	2.9
3000	716.0	719.4	719.6	3.4	3.6
4000	634.8	637.6	639.1	2.7	4.3
5000	561.2	562.2	565.8	1.1	4.6
6000	494.4	494.3	498.9	-0.1	4.4
7000	434.3	432.7	438.2	-1.6	3.9
8000	380.1	377.3	383.7	-2.8	3.6
9000	331.4	328.7	335.2	-2.7	3.8
10000	287.8	283.3	291.2	-4.5	3.4
11000	248.9	246.0	252.6	-2.8	3.8
12000	214.1	210.0	216.7	-4.1	2.6
13000	183.2	180.1	185.1	-3.1	1.9
14000	155.8	153.2	158.5	-2.6	2.6
15000	0.0	0.0	0.0	0.0	0.0
16000	0.0	0.0	0.0	0.0	0.0
17000	0.0	0.0	0.0	0.0	0.0
18000	0.0	0.0	0.0	0.0	0.0
19000	0.0	0.0	0.0	0.0	0.0
20000	0.0	0.0	0.0	0.0	0.0
21000	0.0	0.0	0.0	0.0	0.0
22000	0.0	0.0	0.0	0.0	0.0
23000	0.0	0.0	0.0	0.0	0.0
24000	0.0	0.0	0.0	0.0	0.0
25000	0.0	0.0	0.0	0.0	0.0
26000	0.0	0.0	0.0	0.0	0.0
27000	0.0	0.0	0.0	0.0	0.0
28000	0.0	0.0	0.0	0.0	0.0
29000	0.0	0.0	0.0	0.0	0.0
30000	0.0	0.0	0.0	0.0	0.0

Table C-8

USABLE RAWINSONDE COMPARISON TESTS (Test 14)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 3 MAR 64 1745 Z

CONSTANT PRESSURE DATA

RAOB PRESSURE MB	GEOPOTENTIAL HEIGHT FFS-16 GPM	GMD-2 GPM	RAOB GPM	HEIGHT DIFFERENCE 1DG GPM	2DG GPM
850	1472.0	1471.4	1413.0	-0.6	-58.9
700	3119.1	3125.5	2953.2	6.4	-165.9
500	5760.1	5693.7	5550.1	-66.4	-210.0
400	7375.7	7216.8	7186.7	-158.8	-189.0
300	9369.1	9232.2	9181.4	-136.9	-187.7
250	10553.0	10127.2	10373.2	-425.7	-179.8
200	11972.6	11803.4	11769.1	-169.2	-203.5
150	13719.3	13466.9	13530.0	-252.4	-189.3
100	16086.6	16399.0	16022.2	312.4	-64.5
50	20652.9	20840.8	20359.7	187.9	-293.2
30	23971.0	23705.0	23603.8	-266.1	-367.2
10	0.0	0.0	0.0	0.0	0.0

ZONAL WIND SPEED

PRESSURE MB	VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC
850	-2.35	-2.36	-2.36	-2.41	-2.29
700	0.41	1.43	1.43	1.57	1.05
500	6.50	7.97	7.97	7.98	7.82
400	11.82	13.40	13.41	13.39	14.04
300	17.78	17.87	17.68	17.87	18.32
250	23.93	25.01	25.03	24.94	29.49
200	15.92	16.99	17.00	16.91	22.88
150	26.21	28.44	28.49	28.55	24.42
100	13.10	12.97	13.00	13.05	10.42
50	1.18	3.00	2.97	2.23	32.06
30	-5.07	-7.35	-7.30	-6.82	-21.73
10	0.00	0.00	0.00	0.00	0.00

MERIDIONAL WIND SPEED

PRESSURE MB	VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC
850	-2.83	-3.04	-3.04	-3.13	-3.08
700	-23.35	-23.39	-23.40	-23.12	-23.35
500	-41.78	-41.45	-41.48	-41.36	-43.11
400	-42.55	-41.99	-42.03	-41.83	-48.92
300	-42.18	-41.73	-41.77	-41.72	-44.11
250	-42.79	-42.52	-42.56	-42.21	-61.27
200	-40.55	-40.13	-40.17	-39.84	-60.07
150	-28.61	-27.08	-27.15	-27.35	-15.04
100	-19.20	-19.29	-19.35	-19.47	-13.01
50	0.29	-0.97	-0.90	0.76	-66.43
30	4.26	4.29	4.16	3.02	38.41
10	0.00	0.00	0.00	0.00	0.00

CONSTANT ALTITUDE DATA

ALTITUDE FFS-16 METERS	PRESSURE FFS-16 MB	GMD-2 MB	RAOB MB	PRESSURE DIFFERENCE 1DP MB	2DP MB
1000	896.8	896.7	901.8	-0.1	5.0
2000	791.4	791.0	795.8	-0.4	4.4
3000	697.7	696.1	711.6	-1.6	14.0
4000	614.4	616.4	625.8	2.0	11.4
5000	539.7	542.9	550.4	3.2	10.8
6000	472.8	475.9	481.8	3.1	9.0
7000	412.7	414.8	421.6	2.1	8.9
8000	358.8	362.6	365.2	3.8	6.3
9000	310.6	315.6	317.3	4.9	6.7
10000	267.3	275.0	272.3	7.7	5.0
11000	228.9	230.6	232.7	1.7	3.8
12000	194.9	199.7	200.0	4.8	5.1
13000	165.4	168.1	170.8	2.7	5.4
14000	140.8	149.7	144.0	8.9	3.1
15000	120.0	132.4	122.2	12.4	2.2
16000	101.9	98.9	101.9	-3.0	0.0
17000	86.7	86.6	88.7	-0.1	2.0
18000	74.0	76.0	77.1	2.0	3.1
19000	63.0	60.4	65.4	-2.6	2.3
20000	53.9	58.3	55.9	4.5	2.0
21000	46.0	51.6	48.2	5.7	2.2
22000	39.3	40.1	40.8	0.8	1.5
23000	33.6	34.2	34.4	0.6	0.8
24000	28.8	30.3	30.4	1.5	1.6
25000	0.0	0.0	0.0	0.0	0.0
26000	0.0	0.0	0.0	0.0	0.0
27000	0.0	0.0	0.0	0.0	0.0
28000	0.0	0.0	0.0	0.0	0.0
29000	0.0	0.0	0.0	0.0	0.0
30000	0.0	0.0	0.0	0.0	0.0

Table C-9

USABLE RAWINSONDE COMPARISON TESTS (Test 15)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 5 MAR 64 2220 Z

CONSTANT PRESSURE DATA

RAOB PRESSURE MB	GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	HEIGHT DIFFERENCE 1DG GPM	2DG GPM
850	1518.2	1551.8	1506.2	33.6	-12.0
700	3120.5	3211.9	3084.7	91.4	-35.8
500	5742.6	6010.9	5685.7	268.3	-56.9
400	7399.0	7797.0	7295.9	398.0	-103.2
300	9420.8	9947.5	9254.6	526.7	-166.2
250	10638.1	11395.6	10434.5	757.5	-203.6
200	12112.0	12815.4	11844.4	703.5	-267.6
150	14127.0	15106.0	13667.0	979.0	-460.1
100	16786.5	17951.6	16198.1	1165.1	-588.4
50	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0

ZONAL WIND SPEED

PRESSURE MB	VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC
850	4.31	4.64	4.64	4.64	4.80
700	20.51	21.00	21.01	21.06	20.01
500	29.34	29.33	29.35	29.51	25.53
400	27.92	28.34	28.37	28.63	21.88
300	46.37	45.06	45.11	45.32	37.32
250	46.53	46.93	46.99	47.06	42.08
200	46.48	45.69	45.77	46.05	34.46
150	35.82	36.40	36.49	37.03	15.91
100	21.68	22.08	22.13	21.90	30.97
50	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00

MERIDIONAL WIND SPEED

PRESSURE MB	VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC
850	-5.77	-5.34	-5.34	-5.34	-5.58
700	-15.94	-15.46	-15.47	-15.50	-14.67
500	-11.98	-11.16	-11.17	-11.25	-9.04
400	-12.77	-11.07	-11.09	-11.23	-7.58
300	-3.85	-3.87	-3.88	-3.94	-1.43
250	-4.32	-2.48	-2.49	-2.48	-1.86
200	-1.48	-0.25	-0.26	-0.32	2.01
150	-4.97	-1.66	-1.68	-1.80	3.02
100	-4.07	-3.27	-3.28	-3.22	5.69
50	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00

CONSTANT ALTITUDE DATA

ALTITUDE FPS-16 METERS	PRESSURE FPS-16 MB	GMD-2 MB	RAOB MB	PRESSURE DIFFERENCE 1DP MB	2DP MB
1000	904.9	904.3	908.1	-0.6	3.2
2000	801.8	798.1	803.4	-3.7	1.6
3000	708.9	701.3	710.5	-7.5	1.7
4000	625.2	614.7	627.6	-10.5	2.5
5000	549.3	536.0	551.6	-13.3	2.3
6000	480.6	461.7	484.2	-19.0	3.6
7000	418.6	399.7	423.8	-18.9	5.2
8000	363.1	346.8	368.3	-16.3	5.2
9000	313.5	292.8	320.5	-20.7	7.0
10000	269.4	247.1	275.6	-22.3	6.2
11000	230.5	211.1	237.8	-19.4	7.4
12000	196.8	176.4	204.9	-20.4	8.1
13000	168.3	145.6	176.5	-22.6	8.3
14000	143.7	126.5	153.0	-17.2	9.3
15000	122.7	101.5	130.5	-21.3	7.8
16000	104.6	86.8	112.7	-17.7	8.1
17000	89.1	75.5	97.1	-13.6	8.0
18000	76.1	59.8	85.1	-16.2	9.0
19000	64.9	51.8	74.1	-13.0	9.2
20000	0.0	0.0	0.0	0.0	0.0
21000	0.0	0.0	0.0	0.0	0.0
22000	0.0	0.0	0.0	0.0	0.0
23000	0.0	0.0	0.0	0.0	0.0
24000	0.0	0.0	0.0	0.0	0.0
25000	0.0	0.0	0.0	0.0	0.0
26000	0.0	0.0	0.0	0.0	0.0
27000	0.0	0.0	0.0	0.0	0.0
28000	0.0	0.0	0.0	0.0	0.0
29000	0.0	0.0	0.0	0.0	0.0
30000	0.0	0.0	0.0	0.0	0.0

Table C-10

USABLE RAWINSONDE COMPARISON TESTS (Test 16)

RAWINSONDE COMPARISON PROJECT
POINT MUGU CALIFORNIA 12 MAR 64 1748 Z

CONSTANT PRESSURE DATA

RAOB PRESSURE MB	GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	HEIGHT DIFFERENCE 1DG GPM	2DG GPM
850	1487.0	1497.2	1464.4	10.2	-22.5
700	3024.6	3046.7	3020.9	22.2	-3.7
500	5611.8	5604.3	5620.9	-7.5	9.1
400	7269.2	7224.4	7256.8	-44.8	-12.4
300	9230.9	9280.9	9258.8	50.1	28.0
250	10439.5	10626.7	10454.7	187.2	15.2
200	11815.6	12360.1	11856.3	544.5	40.8
150	13579.8	14206.9	13669.4	627.1	89.6
100	0.0	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0

ZONAL WIND SPEED

PRESSURE MB	VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC
850	7.41	7.03	7.03	6.21	7.10
700	18.08	18.45	18.46	18.18	19.88
500	29.68	29.78	29.80	29.76	30.50
400	28.15	28.25	28.28	28.55	20.42
300	33.92	34.62	34.66	34.69	32.89
250	41.39	41.73	41.79	42.19	22.24
200	33.75	34.60	34.63	34.39	46.77
150	28.38	28.69	28.77	29.06	13.41
100	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00

MERIDIONAL WIND SPEED

PRESSURE MB	VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC
850	3.96	4.43	4.43	4.49	4.40
700	-0.48	0.36	0.36	0.35	0.46
500	-2.47	-1.25	-1.26	-1.25	-1.30
400	-14.98	-14.01	-14.02	-14.05	-13.17
300	-16.17	-14.20	-14.22	-14.23	-13.76
250	-14.56	-12.15	-12.16	-12.26	-7.39
200	-8.41	-6.40	-6.40	-6.34	-9.73
150	-11.55	-9.86	-9.88	-9.96	-6.00
100	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00

CONSTANT ALTITUDE DATA

ALTITUDE FPS-16 METERS	PRESSURE FPS-16 MB	GMD-2 MB	RAOB MB	PRESSURE DIFFERENCE 1DP MB	2DP MB
1000	899.8	898.6	903.8	-1.2	4.0
2000	795.2	795.8	797.3	0.6	2.0
3000	701.8	701.8	702.7	0.0	0.9
4000	617.8	618.5	619.1	0.7	1.3
5000	542.8	542.4	545.2	-0.3	2.4
6000	475.5	477.0	475.8	1.4	0.3
7000	414.9	412.6	415.5	-2.3	0.6
8000	360.8	353.4	361.9	-7.3	1.1
9000	312.2	308.0	311.3	-4.3	-0.9
10000	268.8	261.3	268.3	-7.5	-0.4
11000	230.0	233.6	229.7	3.6	-0.3
12000	196.1	183.4	195.3	-12.6	-0.8
13000	167.4	153.8	166.7	-13.6	-0.7
14000	143.0	135.5	141.8	-7.5	-1.2
15000	0.0	0.0	0.0	0.0	0.0
16000	0.0	0.0	0.0	0.0	0.0
17000	0.0	0.0	0.0	0.0	0.0
18000	0.0	0.0	0.0	0.0	0.0
19000	0.0	0.0	0.0	0.0	0.0
20000	0.0	0.0	0.0	0.0	0.0
21000	0.0	0.0	0.0	0.0	0.0
22000	0.0	0.0	0.0	0.0	0.0
23000	0.0	0.0	0.0	0.0	0.0
24000	0.0	0.0	0.0	0.0	0.0
25000	0.0	0.0	0.0	0.0	0.0
26000	0.0	0.0	0.0	0.0	0.0
27000	0.0	0.0	0.0	0.0	0.0
28000	0.0	0.0	0.0	0.0	0.0
29000	0.0	0.0	0.0	0.0	0.0
30000	0.0	0.0	0.0	0.0	0.0

Table C-11

USABLE RAWINSONDE COMPARISON TESTS (Test 102)

RAWINSONDE COMPARISON PROJECT
WALLOPS ISLAND VIRGINIA 27 JAN 64 2022 Z

CONSTANT PRESSURE DATA

RAOB PRESSURE MB	GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	HEIGHT DIFFERENCE 1DG GPM	2DG GPM
850	1428.0	1441.2	1471.0	13.2	43.0
700	2987.9	3026.2	3019.6	38.3	31.7
500	5559.5	5601.4	5572.2	41.9	12.6
400	7186.0	7260.9	7186.2	74.9	0.2
300	9187.4	9271.1	9173.1	83.8	-14.3
250	10405.6	10494.8	10368.9	89.3	-36.7
200	11898.9	12062.6	11784.2	163.6	-114.7
150	13755.7	13878.3	13631.7	122.6	-124.0
100	16400.7	16875.1	16181.7	474.4	-219.0
50	20756.4	21239.2	20437.6	482.8	-318.8
30	24197.3	24322.3	23627.6	125.0	-569.7
10	31637.0	31301.3	30734.8	-335.7	-902.2

ZONAL WIND SPEED

PRESSURE MB	VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC
850	13.10	14.24	14.25	14.32	13.66
700	25.13	25.46	25.47	25.53	24.57
500	32.78	32.94	32.96	32.95	33.08
400	38.56	38.44	38.47	38.24	45.91
300	64.50	65.10	65.16	65.16	64.64
250	73.41	73.46	73.54	73.72	62.63
200	61.06	60.40	60.48	60.54	56.15
150	48.29	47.24	47.32	47.27	50.78
100	36.29	36.93	37.02	37.00	39.49
50	10.84	10.90	11.02	11.57	-18.04
30	11.24	11.77	11.97	12.85	-27.01
10	12.04	11.75	11.90	11.54	25.25

MERIDIONAL WIND SPEED

PRESSURE MB	VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC
850	8.81	9.37	9.37	9.44	8.78
700	5.65	5.39	5.39	5.42	4.97
500	7.50	7.32	7.33	7.32	7.38
400	8.67	8.71	8.72	8.66	10.70
300	2.72	1.97	1.98	1.98	1.93
250	9.98	9.57	9.58	9.61	7.62
200	-2.47	-2.49	-2.49	-2.48	-2.99
150	-5.37	-5.10	5.10	-5.11	-4.53
100	3.78	2.99	3.00	3.00	3.28
50	-0.39	-10.00	-10.00	-9.97	-11.86
30	2.82	-1.17	-1.16	-1.10	-4.01
10	-9.11	-5.43	-5.43	-5.46	-4.59

CONSTANT ALTITUDE DATA

ALTITUDE FPS-16 METERS	PRESSURE FPS-16 MB	GMD-2 MB	RAOB MB	PRESSURE DIFFERENCE 1DP MB	2DP MB
1000	900.6	901.3	898.2	0.6	-2.4
2000	796.2	794.8	793.9	-1.4	-2.3
3000	701.8	699.0	699.1	-2.8	-2.7
4000	616.5	612.2	614.5	-4.4	-2.0
5000	540.0	539.0	538.5	-1.0	-1.5
6000	471.8	469.6	472.0	-2.2	0.2
7000	410.8	404.8	411.3	-5.9	0.5
8000	356.5	354.8	356.6	-1.7	0.1
9000	308.2	307.4	308.6	-0.8	0.4
10000	265.1	263.6	267.1	-1.6	1.9
11000	226.9	220.9	228.9	-6.0	2.0
12000	193.9	190.0	197.9	-3.9	4.0
13000	166.0	174.4	169.8	8.4	3.8
14000	142.1	140.7	145.7	-1.5	3.6
15000	121.5	113.0	126.1	-8.4	4.6
16000	103.6	95.5	106.8	-8.1	3.2
17000	88.2	83.6	92.0	-4.6	3.8
18000	74.9	78.6	77.7	3.7	2.8
19000	63.7	73.7	67.1	10.0	3.4
20000	54.1	52.6	57.1	-1.5	3.0
21000	46.1	43.1	48.9	-3.0	2.7
22000	39.3	40.5	41.6	1.2	2.3
23000	33.5	31.5	36.0	-2.0	2.5
24000	28.6	29.6	31.4	0.9	2.8
25000	24.5	23.9	26.5	-0.5	2.1
26000	20.9	21.1	22.6	0.2	1.6
27000	17.9	18.5	19.5	0.6	1.5
28000	15.4	15.8	17.2	0.4	1.8
29000	13.2	13.4	15.0	0.2	1.8
30000	11.3	11.8	12.7	0.5	1.3

Table C-12

USABLE RAWINSONDE COMPARISON TESTS (Test 105)

RAWINSONDE COMPARISON PROJECT
WALLOPS ISLAND VIRGINIA 16 MAR 64 2316 Z

CONSTANT PRESSURE DATA

RAOB PRESSURE MB	GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	HEIGHT DIFFERENCE 1DG GPM	2DG GPM
850	1557.1	1565.2	1572.6	8.1	15.5
700	3137.0	3163.5	3116.1	26.6	-20.9
500	5695.9	5849.4	5697.3	153.5	1.4
400	7326.7	7495.7	7320.6	169.0	-6.1
300	9333.0	9606.3	9303.6	273.3	-29.3
250	10567.3	10905.9	10515.2	338.7	-52.0
200	12103.8	12373.1	11989.0	269.3	-114.8
150	13988.0	14318.8	13859.4	330.8	-128.6
100	16469.9	16574.2	16389.6	104.3	-80.4
50	21058.5	21005.7	20691.4	-52.7	-367.1
30	24308.1	24054.4	23917.7	-253.6	-390.3
10	0.0	0.0	0.0	0.0	0.0

ZONAL WIND SPEED

PRESSURE MB	VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC
850	12.22	11.51	11.51	11.35	12.18
700	18.38	17.57	17.58	17.69	16.50
500	37.28	37.60	37.62	37.72	35.06
400	45.34	46.44	46.48	46.54	43.94
300	55.91	55.77	55.83	56.05	45.94
250	56.49	56.56	56.62	56.69	51.73
200	50.82	50.45	50.52	50.52	49.92
150	38.14	37.47	37.55	37.78	23.87
100	29.75	29.01	29.09	29.00	34.71
50	3.02	3.11	3.17	3.10	7.59
30	-7.42	-8.13	-8.08	-8.08	-8.14
10	0.00	0.00	0.00	0.00	0.00

MERIDIONAL WIND SPEED

PRESSURE MB	VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC
850	-3.95	-4.47	-4.47	-4.48	-4.42
700	-9.02	-10.27	-10.28	-10.34	-9.64
500	-1.87	-3.11	-3.12	-3.14	-2.46
400	1.63	-0.86	-0.86	-0.87	-0.50
300	4.95	3.58	3.58	3.56	4.58
250	3.42	0.47	0.47	0.47	0.78
200	-0.50	-2.42	-2.42	-2.42	-2.41
150	2.10	-2.08	-2.09	-2.11	-1.18
100	-5.90	-8.31	-8.32	-8.31	-8.64
50	-5.72	-2.35	-2.36	-2.35	-2.63
30	-1.57	-1.46	-1.46	-1.46	-1.45
10	0.00	0.00	0.00	0.00	0.00

CONSTANT ALTITUDE DATA

ALTITUDE FPS-16 METERS	PRESSURE FPS-16 MB	GMD-2 MB	RAOB MB	PRESSURE DIFFERENCE 1DP MB	2DP MB
1000	911.9	911.9	910.3	0.0	-1.6
2000	805.6	803.9	804.8	-1.7	-0.8
3000	710.1	709.1	712.1	-1.0	1.9
4000	625.1	620.3	626.1	-4.8	1.0
5000	548.6	542.2	549.7	-6.4	1.0
6000	480.0	470.5	482.0	-9.5	2.0
7000	418.5	408.6	417.7	-9.9	-0.8
8000	363.5	353.4	364.9	-10.1	1.4
9000	314.2	303.2	317.2	-11.0	3.0
10000	270.7	263.5	273.2	-7.2	2.5
11000	232.8	223.2	232.7	-9.7	-0.1
12000	200.2	193.8	204.2	-6.3	4.1
13000	171.9	167.6	175.0	-4.4	3.1
14000	147.4	141.0	150.4	-6.4	3.1
15000	125.9	120.8	127.4	-5.1	1.5
16000	107.2	104.9	106.1	-2.3	0.9
17000	91.2	93.9	91.1	2.7	-0.2
18000	77.7	73.1	77.6	-4.6	0.1
19000	66.2	65.3	66.5	-0.8	0.3
20000	56.4	56.0	57.3	-0.3	0.9
21000	48.1	48.6	50.7	0.5	2.7
22000	41.0	42.8	42.7	1.8	1.6
23000	35.1	35.3	33.8	0.3	-1.3
24000	30.0	30.3	30.3	0.2	0.3
25000	0.0	0.0	0.0	0.0	0.0
26000	0.0	0.0	0.0	0.0	0.0
27000	0.0	0.0	0.0	0.0	0.0
28000	0.0	0.0	0.0	0.0	0.0
29000	0.0	0.0	0.0	0.0	0.0
30000	0.0	0.0	0.0	0.0	0.0

Table C-13

USABLE RAWINSONDE COMPARISON TESTS (Test 107)

RAWINSONDE COMPARISON PROJECT
WALLOPS ISLAND VIRGINIA 19 MAR 64 1145 Z

CONSTANT PRESSURE DATA

RAOB PRESSURE MB	GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	HEIGHT DIFFERENCE 1DG GPM	2DG GPM
850	1417.5	1479.8	1425.9	62.3	8.4
700	2907.9	3054.8	2942.3	146.9	34.4
500	5475.9	5873.4	5469.9	397.5	-6.0
400	7075.6	7667.2	7080.5	591.6	4.9
300	9093.8	9843.5	9052.8	749.7	-41.0
250	10299.6	11014.6	10236.9	715.0	-62.7
200	11758.1	12785.7	11688.7	1027.7	-69.4
150	13645.7	14762.1	13571.1	1116.3	-74.6
100	16263.2	17334.5	16181.7	1071.3	-81.5
50	20650.8	21446.1	20596.0	795.3	-54.8
30	23863.8	24608.3	23867.4	744.5	3.6
10	0.0	0.0	0.0	0.0	0.0

ZONAL WIND SPEED

PRESSURE MB	VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC
850	7.74	8.40	8.40	8.52	7.28
700	17.27	16.90	16.91	16.98	15.80
500	36.02	36.35	36.37	36.42	32.92
400	38.45	39.74	39.77	39.93	32.04
300	48.23	48.29	48.34	48.30	48.03
250	47.73	47.31	47.37	47.51	38.21
200	39.60	36.68	36.75	36.92	27.64
150	29.31	27.11	27.16	26.98	37.80
100	23.47	22.11	22.18	22.25	20.59
50	0.10	2.66	2.72	3.09	-8.65
30	-11.19	-15.83	-15.80	-15.52	-20.44
10	0.00	0.00	0.00	0.00	0.00

MERIDIONAL WIND SPEED

PRESSURE MB	VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC
850	-13.99	-14.86	-14.86	-15.09	-12.78
700	-16.02	-16.41	-16.41	-16.49	-15.17
500	-31.60	-36.53	-36.55	-36.60	-32.99
400	-36.49	-33.87	-33.91	-34.06	-26.27
300	-28.42	-29.46	-29.50	-29.45	-30.38
250	-26.11	-27.66	-27.70	-27.80	-20.74
200	-18.78	-19.71	-19.75	-19.88	-13.22
150	-11.10	-13.50	-13.53	-13.38	-22.30
100	-3.43	-6.61	-6.65	-6.68	-6.12
50	1.20	-1.81	-1.86	-2.11	5.90
30	-0.30	-0.68	-0.72	-0.93	3.07
10	0.00	0.00	0.00	0.00	0.00

CONSTANT ALTITUDE DATA

ALTITUDE FPS-16 METERS	PRESSURE FPS-16 MB	GMD-2 MB	RAOB MB	PRESSURE DIFFERENCE 1DP MB	2DP MB
1000	897.0	895.1	897.5	-1.9	0.5
2000	789.6	780.1	791.2	-9.5	1.6
3000	694.3	681.9	692.4	-12.4	-1.9
4000	609.0	594.4	609.3	-14.6	0.3
5000	532.6	512.9	531.9	-19.7	-0.7
6000	464.8	441.0	465.2	-23.8	0.3
7000	404.5	376.2	404.9	-28.3	0.5
8000	350.8	325.6	352.5	-25.1	1.7
9000	302.6	273.1	304.5	-29.5	1.9
10000	259.7	234.4	261.1	-25.3	1.4
11000	222.3	192.8	224.9	-29.5	2.6
12000	191.2	162.0	192.9	-29.2	1.7
13000	164.2	138.0	166.0	-26.2	1.9
14000	140.8	119.2	141.4	-21.6	0.6
15000	120.6	104.1	122.0	-16.5	1.4
16000	103.3	88.2	104.5	-15.1	1.2
17000	88.5	74.0	89.5	-14.4	1.0
18000	75.7	63.2	77.3	-12.5	1.6
19000	64.8	57.1	64.8	-7.6	0.0
20000	55.3	48.8	55.4	-6.6	0.1
21000	47.3	43.1	49.1	-4.2	1.8
22000	40.5	36.8	40.4	-3.6	-0.1
23000	34.7	30.8	35.2	-3.9	0.5
24000	29.7	26.6	29.8	-3.1	0.1
25000	25.4	22.1	24.1	-3.3	-1.3
26000	21.8	19.1	20.2	-2.7	-1.6
27000	18.7	16.4	17.6	-2.3	-1.1
28000	16.1	13.7	15.0	-2.4	-1.1
29000	13.8	11.9	13.7	-1.9	-0.1
30000	0.0	0.0	0.0	0.0	0.0

Table C-14

USABLE RAWINSONDE COMPARISON TESTS (Test 111)

RAWINSONDE COMPARISON PROJECT
WALLOPS ISLAND VIRGINIA 13 MAY 64 241 Z

CONSTANT PRESSURE DATA

RAOB PRESSURE MB	GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	HEIGHT DIFFERENCE 1DG GPM	2DG GPM
850	1546.0	1561.8	1539.9	15.8	-6.2
700	3148.6	3162.1	3164.4	13.5	15.7
500	5821.5	5863.5	5836.5	42.0	15.0
400	7481.7	7566.8	7516.1	85.1	34.5
300	9543.3	9615.4	9579.4	72.1	36.1
250	10776.7	10939.0	10816.9	162.3	40.2
200	12248.0	12506.4	12256.8	258.4	8.8
150	13994.1	14102.2	14048.0	108.0	53.9
100	16513.7	16452.0	16547.9	-61.7	34.3
50	20754.7	20857.2	20788.5	102.5	33.8
30	24080.6	24126.4	24041.9	45.8	-38.7
10	31786.7	31745.1	31357.2	-41.6	-429.6

ZONAL WIND SPEED

PRESSURE MB	VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC
850	13.19	12.74	12.74	13.07	11.92
700	17.37	16.65	16.66	16.61	17.00
500	18.17	18.22	18.24	18.23	18.31
400	24.72	25.12	25.14	25.09	25.56
300	28.84	28.77	28.80	28.67	30.55
250	26.97	27.60	27.64	27.96	22.56
200	31.93	32.48	32.54	32.57	31.58
150	28.40	30.12	30.17	30.01	33.38
100	20.07	20.26	20.31	20.01	26.06
50	0.88	2.14	2.17	1.66	9.45
30	1.55	0.83	0.88	0.80	1.77
10	0.00	0.00	0.00	0.00	0.00

MERIDIONAL WIND SPEED

PRESSURE MB	VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC
850	0.82	0.42	0.43	0.75	-0.37
700	-0.73	-1.23	-1.23	-1.24	-1.17
500	0.89	0.14	0.15	0.14	0.16
400	11.27	10.41	10.42	10.41	10.43
300	3.96	3.24	3.25	3.22	3.61
250	8.34	5.35	5.36	5.42	4.39
200	7.94	6.82	6.83	6.84	6.64
150	1.41	-0.50	-0.50	-0.53	0.19
100	4.76	4.11	4.12	4.06	5.29
50	3.83	4.96	4.97	4.86	6.51
30	-6.52	-3.18	-3.18	-3.20	-2.97
10	0.00	0.00	0.00	0.00	0.00

CONSTANT ALTITUDE DATA

ALTITUDE FPS-16 METERS	PRESSURE FPS-16 MB	GMD-2 MB	RAOB MB	PRESSURE DIFFERENCE 1DP MB	2DP MB
1000	904.4	905.5	905.7	1.1	1.3
2000	804.7	804.2	804.8	-0.6	0.0
3000	713.7	713.3	712.6	-0.4	-1.1
4000	631.0	631.3	630.4	0.3	-0.6
5000	556.2	554.8	555.3	-1.4	-1.0
6000	489.2	487.4	488.3	-1.9	-0.9
7000	428.7	422.5	428.5	-6.2	-0.2
8000	374.4	369.5	372.6	-4.8	-1.8
9000	325.9	322.3	326.1	-3.6	0.3
10000	282.3	280.5	280.6	-1.8	-1.7
11000	243.3	236.5	243.2	-6.8	-0.1
12000	208.5	201.4	209.1	-7.1	0.6
13000	177.8	171.7	177.8	-6.2	0.0
14000	151.5	149.8	150.8	-1.7	-0.7
15000	129.2	130.0	128.8	0.8	-0.4
16000	109.8	109.7	109.9	-0.1	0.1
17000	93.2	95.0	93.2	1.7	0.0
18000	79.1	80.8	78.8	1.7	-0.3
19000	67.1	67.8	66.3	0.7	-0.8
20000	57.1	56.4	57.4	-0.7	0.3
21000	48.7	48.4	48.5	-0.3	-0.2
22000	41.6	40.9	41.8	-0.7	0.2
23000	35.6	34.8	35.4	-0.8	-0.2
24000	30.5	30.8	30.9	0.3	0.4
25000	26.2	26.6	26.6	0.4	0.4
26000	22.5	22.4	22.8	0.0	0.3
27000	19.3	19.4	20.0	0.1	0.7
28000	16.6	16.7	17.5	0.1	0.8
29000	14.3	14.4	15.4	0.1	1.1
30000	12.4	12.3	13.7	-0.1	1.3

Table C-15

USABLE RAWINSONDE COMPARISON TESTS (Test 405)

RAWINSONDE COMPARISON PROJECT
EGLIN AFB FLORIDA 5 MAR 64 1653 Z

CONSTANT PRESSURE DATA

RAOB PRESSURE MB	GEOPOTENTIAL HEIGHT FPS-16 GPM	GMD-2 GPM	RAOB GPM	HEIGHT DIFFERENCE 1DG GPM	2DG GPM
850	0.0	0.0	0.0	0.0	0.0
700	3131.1	3008.3	2953.7	-122.8	-177.5
500	5796.4	6153.7	5604.7	357.2	-191.7
400	7443.8	8093.2	7273.7	649.4	-170.2
300	9619.4	10136.0	9347.9	516.6	-271.5
250	10864.8	11808.5	10591.7	943.7	-273.1
200	12420.9	13090.9	12042.0	670.0	-378.9
150	14287.8	14121.4	13849.9	-166.4	-437.9
100	0.0	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0

ZONAL WIND SPEED

PRESSURE MB	VX1 M/SEC	VX2 M/SEC	VX3 M/SEC	VX4 M/SEC	VX5 M/SEC
850	0.00	0.00	0.00	0.00	0.00
700	33.48	35.25	35.27	35.33	33.06
500	42.90	41.82	41.86	42.17	27.19
400	52.46	53.36	53.41	53.49	44.86
300	44.14	44.84	44.85	44.14	89.45
250	48.19	48.59	48.66	48.79	36.97
200	52.58	51.30	51.37	51.40	47.78
150	44.41	45.14	45.16	44.87	70.06
100	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00

MERIDIONAL WIND SPEED

PRESSURE MB	VZ1 M/SEC	VZ2 M/SEC	VZ3 M/SEC	VZ4 M/SEC	VZ5 M/SEC
850	0.00	0.00	0.00	0.00	0.00
700	21.39	21.82	21.83	21.84	21.51
500	26.72	26.33	26.35	26.50	19.16
400	35.26	34.47	34.50	34.56	29.37
300	45.75	45.06	45.08	44.68	69.80
250	46.73	45.31	45.37	45.47	36.47
200	41.74	41.16	41.21	41.24	38.33
150	41.78	40.92	40.95	40.74	58.01
100	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00

CONSTANT ALTITUDE DATA

ALTITUDE FPS-16 METERS	PRESSURE FPS-16 MB	GMD-2 MB	RAOB MB	PRESSURE DIFFERENCE 1DP MB	2DP MB
1000	0.0	0.0	0.0	0.0	0.0
2000	807.1	807.1	806.5	-0.1	-0.7
3000	712.9	708.9	711.6	-4.1	-1.3
4000	629.4	618.9	628.9	-10.5	-0.5
5000	554.5	534.3	555.2	-20.1	0.8
6000	487.3	449.6	488.0	-37.7	0.7
7000	426.6	388.4	427.7	-38.2	1.2
8000	372.7	330.6	373.9	-42.1	1.3
9000	324.6	296.3	326.6	-28.2	2.0
10000	281.5	251.4	282.2	-30.2	0.6
11000	242.9	206.0	247.1	-36.9	4.2
12000	208.5	192.1	211.4	-16.4	2.9
13000	178.0	149.5	182.5	-28.6	4.5
14000	152.0	150.2	157.6	-1.9	5.6
15000	129.6	136.8	135.2	7.2	5.6
16000	0.0	0.0	0.0	0.0	0.0
17000	0.0	0.0	0.0	0.0	0.0
18000	0.0	0.0	0.0	0.0	0.0
19000	0.0	0.0	0.0	0.0	0.0
20000	0.0	0.0	0.0	0.0	0.0
21000	0.0	0.0	0.0	0.0	0.0
22000	0.0	0.0	0.0	0.0	0.0
23000	0.0	0.0	0.0	0.0	0.0
24000	0.0	0.0	0.0	0.0	0.0
25000	0.0	0.0	0.0	0.0	0.0
26000	0.0	0.0	0.0	0.0	0.0
27000	0.0	0.0	0.0	0.0	0.0
28000	0.0	0.0	0.0	0.0	0.0
29000	0.0	0.0	0.0	0.0	0.0
30000	0.0	0.0	0.0	0.0	0.0

Table C-16

USABLE RAWINSONDE COMPARISON TESTS (Test 406)

RAWINSONDE COMPARISON PROJECT
EGLIN AFB FLORIDA 5 MAR 64 1855 Z

CONSTANT PRESSURE DATA

RAOB	GEOPOTENTIAL HEIGHT			HEIGHT DIFFERENCE	
PRESSURE	FPS-16	GMD-2	RAOB	1DG	2DG
MB	GPM	GPM	GPM	GPM	GPM
850	1580.0	1668.2	1643.9	88.2	63.9
700	3117.7	3229.3	3203.8	111.6	86.0
500	5831.7	6256.1	5866.6	424.4	34.9
400	7499.9	7974.4	7529.1	474.6	29.2
300	9588.5	10374.5	9584.6	786.0	-3.9
250	10857.6	11553.5	10826.1	696.0	-31.5
200	12440.8	13680.5	12270.5	1239.7	-170.2
150	0.0	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0

ZONAL WIND SPEED

PRESSURE	VX1	VX2	VX3	VX4	VX5
MB	M/SEC	M/SEC	M/SEC	M/SEC	M/SEC
850	19.78	19.22	19.22	19.08	20.17
700	32.53	33.06	33.07	33.17	31.14
500	43.59	43.87	43.91	44.11	36.38
400	50.30	48.68	48.73	48.93	38.47
300	49.78	48.79	48.89	49.91	-4.17
250	46.65	47.46	47.51	47.26	57.81
200	50.62	52.12	52.18	51.84	70.26
150	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00

MERIDIONAL WIND SPEED

PRESSURE	VZ1	VZ2	VZ3	VZ4	VZ5
MB	M/SEC	M/SEC	M/SEC	M/SEC	M/SEC
850	-9.39	-9.84	-9.84	-9.70	-10.72
700	12.68	11.62	11.62	11.60	11.93
500	15.36	14.93	14.94	14.97	14.00
400	17.50	18.22	18.24	18.28	16.18
300	37.78	36.88	36.92	37.23	20.97
250	44.13	43.65	43.69	43.64	45.07
200	44.26	37.88	37.92	37.79	44.32
150	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00

CONSTANT ALTITUDE DATA

ALTITUDE	PRESSURE			PRESSURE DIFFERENCE	
FPS-16	FPS-16	GMD-2	RAOB	1DP	2DP
METERS	MB	MB	MB	MB	MB
1000	912.5	911.9	912.4	-0.6	-0.1
2000	807.0	808.4	808.1	1.4	1.1
3000	712.2	709.6	711.1	-2.7	-1.1
4000	628.5	621.2	628.9	-7.3	0.4
5000	554.3	539.9	554.9	-14.4	0.6
6000	487.5	463.8	489.6	-23.7	2.1
7000	426.8	408.4	429.4	-18.4	2.6
8000	372.0	345.4	375.8	-26.5	3.9
9000	323.7	299.5	326.3	-24.2	2.7
10000	280.7	254.3	285.9	-26.4	5.2
11000	242.1	218.5	245.9	-23.7	3.8
12000	207.8	188.5	213.3	-19.2	5.5
13000	0.0	0.0	0.0	0.0	0.0
14000	0.0	0.0	0.0	0.0	0.0
15000	0.0	0.0	0.0	0.0	0.0
16000	0.0	0.0	0.0	0.0	0.0
17000	0.0	0.0	0.0	0.0	0.0
18000	0.0	0.0	0.0	0.0	0.0
19000	0.0	0.0	0.0	0.0	0.0
20000	0.0	0.0	0.0	0.0	0.0
21000	0.0	0.0	0.0	0.0	0.0
22000	0.0	0.0	0.0	0.0	0.0
23000	0.0	0.0	0.0	0.0	0.0
24000	0.0	0.0	0.0	0.0	0.0
25000	0.0	0.0	0.0	0.0	0.0
26000	0.0	0.0	0.0	0.0	0.0
27000	0.0	0.0	0.0	0.0	0.0
28000	0.0	0.0	0.0	0.0	0.0
29000	0.0	0.0	0.0	0.0	0.0
30000	0.0	0.0	0.0	0.0	0.0