

Central Intelligence Agency



Washington, D.C. 20505

31 March 2006

Captain H. Ray Lahr (ret.)
18254 Coastline Drive
Malibu, CA 90265

Reference: F-2004-00078

Dear Captain Lahr:

This letter expands on our 20 October 2005 response to your 8 October 2003 Freedom of Information Act (FOIA) request and subsequent litigation (H. Ray Lahr v. National Transportation Safety Board and Central Intelligence Agency, Civil Action No. 03CV08023-AHM, filed 6 November 2003) for "all records upon which...[the CIA-produced video-animation of TWA Flight 800] flight path climb conclusion was based."

We previously advised you that we located documents that originated with other government agencies. After consultation with other agencies on seven of these documents, we have determined that six documents may be released in their entirety, and one document may be released in segregable form with deletions made on the basis of FOIA exemption (b)(4). Copies of the documents are enclosed.

The CIA regulations governing administrative appeals are set forth at 31 C.F.R. sect. 1900.42. Those regulations state that no appeal shall be accepted if the information in question is the subject of litigation in the federal courts. Therefore, as a result of the pending litigation and the response in this letter, the administrative processing of this case has concluded.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Koch".

Scott Koch
Information and Privacy Coordinator

Enclosures

Program to Analyze x,y Data From Radars

JFK Data

PARAMETERS USED

Flight azimuth = 26.50
 Magnetic offset = 1.50
 Lat-0 = 40.6362
 Lon-0 = 73.7669

	Time (sec)	Range data (nm)	Range fm pos-0	--Calculated-- Lat	Lon	Distance to ISP	Distance to HPN	Distance to RHD
1	16.50	50.2500	50.2500	41.0099	72.7736	19.5793	42.6974	8.8329
2*	16.50	50.4690	50.4690	41.0115	72.7693	19.7910	42.8860	8.8344
3*	21.10	50.8750	50.8750	41.0145	72.7612	20.1839	43.2364	8.8516
4	21.10	50.6880	50.6880	41.0131	72.7649	20.0028	43.0749	8.8414
5	21.10	50.4060	50.4060	41.0111	72.7705	19.7301	42.8317	8.8334
6	21.10	50.3130	50.3130	41.0104	72.7724	19.6402	42.7516	8.8328
7	25.73	50.2500	50.2500	41.0099	72.7736	19.5793	42.6974	8.8329
8	25.73	50.8130	50.8130	41.0141	72.7625	20.1238	43.1828	8.8478
9*	25.73	51.2500	51.2500	41.0173	72.7538	20.5472	43.5608	8.8840
10	25.73	50.6250	50.6250	41.0127	72.7662	19.9419	43.0205	8.8388
11	25.73	50.4380	50.4380	41.0113	72.7699	19.7610	42.8593	8.8339
12*	30.34	51.5000	51.5000	41.0192	72.7488	20.7896	43.7776	8.9142
13	30.34	50.6880	50.6880	41.0131	72.7649	20.0028	43.0749	8.8414
14	30.34	51.0940	51.0940	41.0162	72.7569	20.3960	43.4257	8.8686
15	30.34	50.3750	50.3750	41.0108	72.7712	19.7001	42.8050	8.8331
16*	34.82	51.6560	51.6560	41.0203	72.7457	20.9410	43.9130	8.9366
17	34.97	51.1880	51.1880	41.0169	72.7550	20.4871	43.5071	8.8775
18	34.97	50.5000	50.5000	41.0117	72.7687	19.8210	42.9127	8.8351
19*	39.46	51.7500	51.7500	41.0210	72.7438	21.0323	43.9947	8.9514
20	39.46	51.6880	51.6880	41.0206	72.7451	20.9721	43.9408	8.9415
21	39.58	51.2190	51.2190	41.0171	72.7544	20.5171	43.5340	8.8807
22	44.06	51.7810	51.7810	41.0213	72.7432	21.0624	44.0216	8.9565
23*	44.06	51.9380	51.9380	41.0224	72.7401	21.2148	44.1582	8.9838
24	44.21	50.5630	50.5630	41.0122	72.7674	19.8819	42.9670	8.8368
25	44.21	51.2500	51.2500	41.0173	72.7538	20.5472	43.5608	8.8840
26	48.67	51.9380	51.9380	41.0224	72.7401	21.2148	44.1582	8.9838
27*	48.82	52.0630	52.0630	41.0234	72.7376	21.3363	44.2670	9.0074
28	48.82	50.5310	50.5310	41.0120	72.7681	19.8509	42.9394	8.8359
29	48.82	50.9060	50.9060	41.0148	72.7606	20.2139	43.2631	8.8537
30	53.31	52.0000	52.0000	41.0229	72.7388	21.2751	44.2122	8.9953
31*	53.31	52.0940	52.0940	41.0236	72.7370	21.3664	44.2940	9.0136
32	53.46	50.5630	50.5630	41.0122	72.7674	19.8819	42.9670	8.8368
33*	57.92	52.1560	52.1560	41.0241	72.7357	21.4266	44.3480	9.0261
34	57.92	52.0630	52.0630	41.0234	72.7376	21.3363	44.2670	9.0074
35	58.06	51.2500	51.2500	41.0173	72.7538	20.5472	43.5608	8.8840
36	62.70	51.2810	51.2810	41.0176	72.7531	20.5772	43.5873	8.8873
37*	62.55	52.1250	52.1250	41.0238	72.7364	21.3965	44.3210	9.0198
38	62.70	50.4380	50.4380	41.0113	72.7699	19.7610	42.8593	8.8339

ISP Data and JFK/ISP triangulated position

	Time	Rng fm ISP	Lat-tri	Lon-tri
1	16.22	21.5160	40.6661	72.6597
2*	16.22	21.6090	40.6622	72.6596

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9* 57.10 3.2500
10 69.00 3.2500
1 SEARCH DESCRIPTION
JC NIT NC NB MM IED NRMS NR8
30 7 1 0 1001 0 0 0
RES ATA ATAI PX STIX
2 0 0 0 3
PRINT OPTIONS

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INDEPENDENT VARIABLES
I.V. CODE PERTURBATION
BAJFK 11.000000 0.001000 A PRIORI
BAISP 12.000000 0.001000 3.000000
BAHPN 13.000000 0.001000 3.000000
BARHD 14.000000 0.001000 3.000000
BRJFK 21.000000 0.001000 3.000000
BRISP 22.000000 0.001000 2.000000
BRHPN 23.000000 0.001000 2.000000
BRHHD 24.000000 0.001000 2.000000
LATO 1.000000 0.001000 1.000000
LONO 2.000000 0.001000 1.000000
AZFP0 3.000000 0.024000 9.000000
AZFPD 6.000000 0.010000 2.000000
RP1 31.000000 -0.002500 1.000000
RP2 32.000000 -0.002000 1.000000
RP3 33.000000 -0.001500 1.000000
RP4 34.000000 -0.001000 1.000000
RP5 35.000000 -0.000500 1.000000
RP7 37.000000 0.000275 1.000000
RP8 38.000000 0.001144 1.000000
RP9 39.000000 0.001556 1.000000
RP10 40.000000 0.001848 1.000000
RP11 41.000000 0.001957 1.000000
RP12 42.000000 0.002094 1.000000
RP13 43.000000 0.002283 1.000000
RP14 44.000000 0.002421 1.000000
RP15 45.000000 0.002455 1.000000
RP16 46.000000 0.002548 1.000000
RP17 47.000000 0.002497 1.000000
AZFPD2 7.000000 0.010100 2.100000
ALT8 9.000000 1.000000 1000.000000

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CONSTRAINED
CODE1 CODE2 RATIO
AZFPN 8.000000 3.000000 1.000000

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* * BEGIN ITERATION 1 *

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PRMS = 0.100000E+11
RMS = 5.53955

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0 PTS EDITED

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TYPE TIME OBSERVATIONS COMPUTED RESIDUALS EDIT PLOT, ONE RMS PER DIVISION
1. 61.2600 40.66320 40.67195 -0.8751694E-02 0 * . . .
2. 61.2600 72.62380 72.63107 -0.7271726E-02 0 * * . . .
3. -10.9700 47.65000 47.74175 -0.9175297E-01 0 . . * . .

```

3

CODE	NEW VALUES	CHANGE	BOUND	W/O BND	TOTAL CHANGE
11.	-8.7000	51.96000			
11.	0.6900	52.84918			
11.	5.2400	53.00000			
11.	9.9400	53.34000			
12.	-13.3900	-30.15117			
12.	-8.7000	-29.62383			
12.	0.6900	-29.18438			
12.	5.2400	-28.48125			
12.	9.9400	-28.04180			
13.	14.6400	53.60900			
13.	24.0400	54.20300			
13.	28.7500	54.35900			
13.	33.4400	54.46900			
13.	38.1300	54.51600			
13.	42.8300	54.60900			
13.	47.5200	54.76600			
14.	14.6400	-27.69000			
14.	24.0400	-26.10800			
14.	28.7500	-26.02000			
14.	33.4400	-25.75700			
14.	38.1300	-25.66900			
14.	42.8300	-25.40500			
14.	47.5200	-25.66900			
15.	-14.0000	15.13000			
15.	-2.2000	14.50000			
16.	-14.0000	-98.44000			
16.	-2.2000	-94.04000			
17.	21.4000	13.75000			
17.	33.3000	13.25000			
17.	45.2000	13.13000			
17.	57.1000	13.25000			
18.	21.4000	-85.25000			
18.	33.3000	-80.04483			
18.	45.2000	-78.84000			
18.	57.1000	-78.05000			

UNWEIGHTED RMS BY TYPE

TYPE	RMS	N	MEAN	RMS ABOUT MEAN	AVE MAGN RESIDUAL	R**2
1	0.87516937E-02	1	-0.87516937E-02	0.00000000E+00	0.87516937E-02	0.0
2	0.72717257E-02	1	-0.72717257E-02	0.00000000E+00	0.72717257E-02	0.0
3	0.74973595E-01	6	-0.45087639E-01	0.35881447E-02	0.71317549E-01	87.7
4	0.42169452E+00	6	-0.40862612E+00	0.10850970E-01	0.40862612E+00	307.8
5	0.23620815E+00	11	0.17181749E+00	0.26273042E-01	0.19896756E+00	81.7
6	0.10091166E+01	11	-0.97321619E+00	0.71166478E-01	0.97321619E+00	1289.2
7	0.28898896E+00	6	-0.27708063E+00	0.67409381E-02	0.27708063E+00	96.1
8	0.71874763E+00	6	0.68975328E+00	0.40838559E-01	0.68975328E+00	133.8
9	0.16411942E+00	8	-0.43517151E-01	0.25041441E-01	0.14777097E+00	59.6
10	0.54503423E+00	8	0.37652447E+00	0.15529163E+00	0.48316237E+00	150.3
11	0.22668211E+00	5	-0.20795431E+00	0.81397809E-02	0.20795431E+00	84.4
12	0.46081649E+00	5	-0.43587131E+00	0.22368037E-01	0.43587131E+00	142.5
13	0.12903349E+00	7	0.20973726E-01	0.16209744E-01	0.96557650E-01	67.2
14	0.23126101E+00	7	-0.14730265E+00	0.31783586E-01	0.17570785E+00	90.7
15	0.37687493E+00	2	-0.37669575E+00	0.13502537E-03	0.37669575E+00	235.8
16	0.73479953E+00	2	-0.72544323E+00	0.13662460E-01	0.72544323E+00	100.5
17	0.28143957E+00	4	0.98772870E-01	0.69452151E-01	0.21894907E+00	350.0
18	0.51217139E+00	4	-0.18457827E+00	0.22825040E+00	0.41818359E+00	69.8

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38. 0.9339661F  -0.4970664E-01  -0.1000000E+01  -0.4970664E-01  -0.2100339E+00
39. 0.1387160L  -0.5138756E-01  -0.1000000E+01  -0.5138756E-01  -0.1688400E+00
40. 0.1683058E+01  -0.6740788E-01  -0.1000000E+01  -0.6740788E-01  -0.1649419E+00
41. 0.1832861E+01  -0.9883431E-01  -0.1000000E+01  -0.9883431E-01  -0.1241388E+00
42. 0.1946321E+01  -0.6545544E-01  -0.1000000E+01  -0.6545544E-01  -0.1476794E+00
43. 0.2148466E+01  -0.2108156E-01  -0.1000000E+01  -0.2108156E-01  -0.1345337E+00
44. 0.2306395E+01  -0.1328089E+00  -0.1000000E+01  -0.1328089E+00  -0.1146049E+00
45. 0.2383345E+01  -0.3082634E+00  -0.1000000E+01  -0.3082634E+00  -0.1546405E+00
46. 0.2383345E+01  -0.1878897E+00  -0.1000000E+01  -0.1878897E+00  -0.1646551E+00
47. 0.2329638E+01  -0.1442282E+00  -0.1000000E+01  -0.1442282E+00  -0.1673618E+00
7.  -0.5108451E-01  -0.1914647E-01  -0.2100000E+01  -0.1914647E-01  -0.5108451E-01
9.  -0.6693720E+03  -0.6010627E+03  -0.1000000E+04  -0.6010627E+03  -0.6693720E+03
8.  0.1927584E+02  -0.7090775E+00  -0.0000000E+00  -0.0000000E+00  -0.1927584E+02

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*
* BEGIN ITERATION 3 *
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PRMS = 1.06485
RMS = 1.09916

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0 PTS EDITED

CODE	NEW VALUES	CHANGE	BOUND	W/O BND	TOTAL CHANGE
11.	-0.7306336E+00	-0.1120190E+00	0.3000000E+01	-0.1488500E+00	-0.7306336E+00
12.	0.3350534E+00	-0.2568437E+00	0.3000000E+01	-0.3348619E+00	0.3350534E+00
13.	-0.3430870E+00	-0.1027329E+00	0.3000000E+01	-0.1330945E+00	-0.3430870E+00
14.	-0.4522729E+00	0.6471030E-01	0.3000000E+01	0.1072522E+00	-0.4522729E+00
21.	0.2514875E-01	0.1667345E-01	0.3000000E+01	0.1667345E-01	0.2514875E-01
22.	-0.1164808E+00	0.4701448E-01	0.2000000E+01	0.6060454E-01	-0.1164808E+00
23.	-0.5155394E-01	0.6747260E-01	0.2000000E+01	0.8942532E-01	-0.5155394E-01
24.	-0.4750031E-01	0.7304292E-01	0.2000000E+01	0.8787585E-01	-0.4750031E-01
1.	0.4064834E+02	0.1413356E-02	0.1000000E+01	0.1961895E-02	0.2741002E-02
2.	0.7267045E+02	0.3856287E-03	0.1000000E+01	0.4775208E-03	-0.1351775E-02
3.	0.1926096E+02	-0.1488511E-01	0.9000000E+01	0.2074081E+00	-0.4739041E+01
6.	0.2939764E+01	0.1457936E+01	0.2000000E+01	0.1870339E+01	0.1489764E+01
31.	-0.2608514E+01	0.2348269E-02	0.1000000E+01	-0.4780903E-02	-0.1085138E+00
32.	-0.2104599E+01	0.6694196E-02	0.1000000E+01	0.2886874E-02	-0.1045992E+00
33.	-0.1608892E+01	0.583335E-02	0.1000000E+01	0.2295609E-02	-0.1088924E+00
34.	-0.1096459E+01	0.3001958E-02	0.1000000E+01	0.8347889E-03	-0.9645930E-01
35.	-0.5919266E+00	0.3136149E-02	0.1000000E+01	0.2135735E-02	-0.9192664E-01
37.	0.3496175E+00	0.4633176E-02	0.1000000E+01	0.6196025E-02	0.7461754E-01
38.	0.9351336E+00	0.1167498E-02	0.1000000E+01	-0.1586339E-01	-0.2088664E+00
39.	0.1409339E+01	0.2217943E-01	0.1000000E+01	0.4866871E-02	-0.1466606E+00
40.	0.1708620E+01	0.2556143E-01	0.1000000E+01	0.1912314E-01	-0.1393805E+00
41.	0.1872025E+01	0.3916405E-01	0.1000000E+01	0.3345026E-01	-0.8497478E-01
42.	0.1977055E+01	0.3073420E-01	0.1000000E+01	0.2788068E-01	-0.1169452E+00
43.	0.2130235E+01	-0.1823102E-01	0.1000000E+01	-0.3125662E-01	-0.1527648E+00
44.	0.2225869E+01	-0.8052646E-01	0.1000000E+01	-0.1068825E+00	-0.1951314E+00
45.	0.2260552E+01	-0.3980768E-01	0.1000000E+01	-0.5881480E-01	-0.1944482E+00
46.	0.2321401E+01	-0.6194346E-01	0.1000000E+01	-0.8409207E-01	-0.2265986E+00
47.	0.2287685E+01	-0.4195315E-01	0.1000000E+01	-0.5561732E-01	-0.2093149E+00
7.	-0.1332366E+00	-0.8215204E-01	0.2100000E+01	-0.1063979E+00	-0.1332366E+00
9.	-0.3118756E+02	0.6381844E+03	0.1000000E+04	0.1248661E+04	-0.3118756E+02
8.	0.1926096E+02	-0.1488511E-01	0.0000000E+00	0.0000000E+00	0.1926096E+02

RMS = 0.89PT 0 PTS EDITED

CODE	NEW VALUES	CHANGE	BOUND	W/O BND	TOTAL CHANGE
11.	-0.7775183E+00	-0.1819429E-01	0.1500000E+01	-0.1819429E-01	-0.7775183E+00
12.	0.2504734E+00	-0.3609473E-01	0.1500000E+01	-0.3609473E-01	0.2504734E+00
13.	-0.3752137E+00	-0.1424426E-01	0.1500000E+01	-0.1424426E-01	-0.3752137E+00
14.	-0.3555414E+00	0.3053574E-01	0.1500000E+01	0.3053574E-01	-0.3555414E+00
21.	0.3806137E-01	0.4239207E-02	0.1500000E+01	0.4239207E-02	0.3806137E-01
22.	-0.1049401E+00	0.5487535E-02	0.1000000E+01	0.5487535E-02	-0.1049401E+00
23.	-0.1561457E-01	0.1324604E-01	0.1000000E+01	0.1324604E-01	-0.1561457E-01
24.	-0.6177670E-01	0.7685931E-03	0.1000000E+01	0.7685931E-03	-0.6177670E-01
1.	0.4064850E+02	0.6485365E-04	0.5000000E+00	0.6485365E-04	0.2901817E-02
2.	0.7267083E+02	0.1944156E-03	0.5000000E+00	0.1944156E-03	0.9748655E-03
3.	0.1930205E+02	-0.5108344E-01	0.4500000E+01	-0.5108344E-01	-0.4697953E+01
6.	0.3824871E+01	0.2842278E+00	0.1000000E+01	0.2842278E+00	0.2374871E+01
31.	-0.2615885E+01	0.2642723E-02	0.5000000E+00	0.2642723E-02	-0.1158855E+00
32.	-0.2100609E+01	0.6080509E-02	0.5000000E+00	0.6080509E-02	-0.1006089E+00
33.	-0.1607476E+01	0.4760402E-02	0.5000000E+00	0.4760402E-02	-0.1074764E+00
34.	-0.1096657E+01	0.3573804E-02	0.5000000E+00	0.3573804E-02	-0.9665748E-01
35.	-0.5910653E+00	0.4255197E-02	0.5000000E+00	0.4255197E-02	-0.9106534E-01
37.	0.3521364E+00	0.4499919E-02	0.5000000E+00	0.4499919E-02	0.7713643E-01
38.	0.9394645E+00	0.4967904E-02	0.5000000E+00	0.4967904E-02	-0.2045355E+00
39.	0.1425023E+01	0.8528842E-02	0.5000000E+00	0.8528842E-02	-0.1309767E+00
40.	0.1742328E+01	0.1607802E-01	0.5000000E+00	0.1607802E-01	-0.1056719E+00
41.	0.1900260E+01	0.1753901E-01	0.5000000E+00	0.1753901E-01	-0.5674019E-01
42.	0.2015229E+01	0.2090859E-01	0.5000000E+00	0.2090859E-01	-0.7877053E-01
43.	0.2204936E+01	0.2718372E-01	0.5000000E+00	0.2718372E-01	-0.7806385E-01
44.	0.2381429E+01	0.4014604E-01	0.5000000E+00	0.4014604E-01	-0.3957089E-01
45.	0.2472137E+01	0.5639526E-01	0.5000000E+00	0.5639526E-01	0.1713663E-01
46.	0.2548871E+01	0.6261872E-01	0.5000000E+00	0.6261872E-01	0.8710322E-03
47.	0.2498991E+01	0.6073596E-01	0.5000000E+00	0.6073596E-01	0.1990537E-02
7.	-0.1723356E+00	-0.1062545E-01	0.1050000E+01	-0.1062545E-01	-0.1723356E+00
9.	0.3583155E+03	0.1282266E+03	0.5000000E+03	0.1282266E+03	0.3583155E+03
8.	0.1930205E+02	-0.5108344E-01	0.0000000E+00	0.0000000E+00	0.1930205E+02

* BEGIN ITERATION 6 *

PRMS = 0.863065
RMS = 0.864915

0 PTS EDITED

CODE	NEW VALUES	CHANGE	BOUND	W/O BND	TOTAL CHANGE
11.	-0.7772266E+00	0.2916139E-03	0.1500000E+01	0.2916139E-03	-0.7772266E+00
12.	0.2504482E+00	-0.2521356E-04	0.1500000E+01	-0.2521356E-04	0.2504482E+00
13.	-0.3752521E+00	-0.3835580E-04	0.1500000E+01	-0.3835580E-04	-0.3752521E+00
14.	-0.3579834E+00	-0.2442022E-02	0.1500000E+01	-0.2442022E-02	-0.3579834E+00
21.	0.3753173E-01	-0.5296364E-03	0.1500000E+01	-0.5296364E-03	0.3753173E-01
22.	-0.1056158E+00	-0.6756094E-03	0.1000000E+01	-0.6756094E-03	-0.1056158E+00
23.	-0.1618396E-01	-0.5693933E-03	0.1000000E+01	-0.5693933E-03	-0.1618396E-01
24.	-0.6237285E-01	-0.5961422E-03	0.1000000E+01	-0.5961422E-03	-0.6237285E-01
1.	0.4064849E+02	-0.8420959E-05	0.5000000E+00	-0.8420959E-05	0.2893396E-02
2.	0.7267081E+02	-0.1110498E-04	0.5000000E+00	-0.1110498E-04	-0.9859705E-03
3.	0.1930257E+02	0.5185004E-03	0.4500000E+01	0.5185004E-03	-0.4697435E+01

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47. 0.2507293F -1 0.1766261E-03 0.5000000E+00 0.1766261E-03 0.1029343E-01
 7. -0.1722798A -0.1314765E-03 0.1050000E+01 -0.1314765E-03 -0.1722798E+00
 9. 0.3546219E+03 0.6718887E+00 0.5000000E+03 0.6718887E+00 0.3546219E+03
 8. 0.1930191E+02 -0.6577684E-03 0.0000000E+00 0.0000000E+00 0.1930191E+02

****CONVERGENCE

***FINAL VALUES

PRMS =0.862956
 RMS =0.862957

0 PTS EDITED

TYPE	TIME	OBSERVATIONS	COMPUTED	RESIDUALS	EDIT	PLOT	ONE RMS PER DIVISION
1.	61.2600	40.66320	40.66263	0.5657445E-03	0	.	*
2.	61.2600	72.62380	72.62370	0.1042236E-03	0	.	*
3.	-10.9700	47.63986	47.63986	0.1014333E-01	0	.	*
3.	-6.3600	48.11369	48.11369	-0.2368820E-01	0	.	*
3.	-1.7500	48.57230	48.57230	-0.1230459E-01	0	.	*
3.	2.8900	49.04849	49.04849	-0.1848839E-01	0	.	*
3.	7.5000	49.51844	49.51844	-0.1843824E-01	0	.	*
3.	12.1300	50.00000	49.99773	0.2266308E-02	0	.	*
4.	-10.9700	-0.5078125	-0.5592711	0.5145863E-01	0	.	*
4.	-6.3600	-0.1562500	-0.3563569	0.2001069	0	.	*
4.	-1.7500	-0.1562500	-0.1639179	0.7667945E-02	0	.	*
4.	2.8900	0.1953125	0.3192213E-01	0.1633904	0	.	*
4.	7.5000	0.2832031	0.2213696	0.6183354E-01	0	.	*
4.	12.1300	0.4589844	0.4110698	0.4791460E-01	0	.	*
5.	16.7500	50.46900	50.39680	0.7219908E-01	0	.	*
5.	21.3500	50.87500	50.89760	-0.2259684E-01	0	.	*
5.	25.9800	51.25000	51.27629	-0.2629119E-01	0	.	*
5.	30.5900	51.50000	51.52139	-0.2138996E-01	0	.	*
5.	35.0700	51.65600	51.64721	0.8788845E-02	0	.	*
5.	39.7100	51.75000	51.74759	0.2407420E-02	0	.	*
5.	44.3100	51.93800	51.91366	0.2433630E-01	0	.	*
5.	49.0700	52.06300	52.04388	0.1911914E-01	0	.	*
5.	53.5600	52.09400	52.10308	-0.9075124E-02	0	.	*
5.	58.1700	52.15600	52.15042	0.5581840E-02	0	.	*
5.	62.8000	52.12500	52.11721	0.7789265E-02	0	.	*
6.	16.7500	0.6350000	0.5737148	0.6128522E-01	0	.	*
6.	21.3500	0.8980000	0.9105250	-0.1252498E-01	0	.	*
6.	25.9800	0.8980000	1.242833	-0.3448335	0	.	*
6.	30.5900	1.250000	1.458426	-0.2084260	0	.	*
6.	35.0700	1.602000	1.544853	0.5714655E-01	0	.	*
6.	39.7100	1.338000	1.581212	-0.2432120	0	.	*
6.	44.3100	1.426000	1.558455	-0.1324545	0	.	*
6.	49.0700	1.250000	1.443926	-0.1939261	0	.	*
6.	53.5600	1.426000	1.379751	0.4624875E-01	0	.	*
6.	58.1700	1.602000	1.327980	0.2740202	0	.	*
6.	62.8000	1.514000	1.349808	0.1641924	0	.	*
7.	-11.8400	19.59000	19.59213	-0.2125656E-02	0	.	*
7.	-7.2700	19.93000	19.92558	0.4417573E-02	0	.	*
7.	-2.5600	20.26000	20.26217	-0.2169798E-02	0	.	*
7.	2.1300	20.64000	20.61432	0.2568419E-01	0	.	*
7.	6.8200	20.98000	20.97012	0.9876628E-02	0	.	*
7.	11.5200	21.35000	21.33677	0.1322613E-01	0	.	*
8.	-11.8400	-29.09961	-29.02220	-0.7741293E-01	0	.	*
8.	-7.2700	-27.69336	-27.93602	0.2426640	0	.	*
8.	-2.5600	-26.99023	-26.89736	-0.9287915E-01	0	.	*
8.	2.1300	-26.02344	-25.86656	-0.1568824	0	.	*
8.	6.8200	-25.05664	-24.87806	-0.1785797	0	.	*
8.	11.5200	-24.00195	-23.90587	-0.9608260E-01	0	.	*

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STATISTICAL ANALYSIS

CODE DIAG*0.5 UNSOLVED FOR

CORRELATION MATRIX

11.	0.9791E-01	0.0000E+00	0.1000E+01	0.15233722E+00	6	-0.59862121E-01	0.	23154E-01	0.14075012E+00	108.0
12.	0.1828E+00	0.0000E+00	0.6939E+00	0.22058112E-01	8	-0.61013895E-02	0.	33337E-03	0.15712231E-01	95.0
13.	0.9845E-01	0.0000E+00	0.4960E+00	0.28652833E+00	8	0.44907038E-01	0.80081839E-01	0.80081839E-01	0.19661654E+00	103.0
14.	0.2353E+00	0.0000E+00	-0.8118E-01	0.17465822E-01	5	0.46399359E-02	0.28352592E-03	0.15090412E-01	0.15090412E-01	95.5
21.	0.5007E-01	0.0000E+00	-0.1400E+00	0.28624216E+00	5	-0.25166780E+00	0.18597889E-01	0.25166780E+00	0.25166780E+00	112.0
22.	0.5881E-01	0.0000E+00	-0.4798E+00	0.26507379E-01	7	-0.33034439E-02	0.69172842E-03	0.24368688E-01	0.24368688E-01	100.8
23.	0.6162E-01	0.0000E+00	-0.5301E+00	0.26143080E+00	7	0.17976888E+00	0.36029212E-01	0.23589437E+00	0.23589437E+00	73.1
24.	0.6972E-01	0.0000E+00	-0.7404E+00	0.48143378E-01	2	-0.17735184E-01	0.20032481E-02	0.44757660E-01	0.44757660E-01	73.9
1.	0.1195E-02	0.0000E+00	-0.7536E+00	0.29495609E+00	2	0.28994093E+00	0.29333536E-02	0.28994093E+00	0.28994093E+00	106.7
0.1000E+01				0.12774661E-01	4	0.88785047E-02	0.84364128E-04	0.88785047E-02	0.88785047E-02	101.5
2.	0.1240E-02	0.0000E+00	-0.1314E+00	0.35151402E+00	4	-0.14486543E+00	0.10257611E+00	0.29550204E+00	0.29550204E+00	86.5
0.9982E-01	0.1000E+01									
3.	0.5483E+00	0.0000E+00	-0.5343E-01	0.1247E+00	-0.9240E-01	-0.2093E+00	-0.2284E+00	-0.1663E+00	-0.1403E+00	-0.3749E-01
0.2105E+00	-0.2554E+00	0.1000E+01								
6.	0.3729E+00	0.0000E+00	-0.2030E+00	-0.2182E+00	-0.1620E+00	0.1329E+00	0.9948E-01	0.1325E+00	0.2340E+00	0.1142E+00
0.4565E-01	0.1427E+00	-0.4085E+00	0.1000E+01							
31.	0.3435E-01	0.0000E+00	-0.7013E-01	-0.5490E-01	-0.3799E-01	0.4467E-01	0.1181E+00	0.1475E+00	0.1342E+00	0.1651E+00
-0.5801E-01	0.4600E+00	-0.3728E+00	0.1502E+00	0.1000E+01						
32.	0.3815E-01	0.0000E+00	-0.3044E-01	-0.2035E-01	-0.8092E-02	0.7176E-01	0.7387E-01	0.7920E-01	0.8613E-01	0.6272E-01
-0.1069E+00	0.3902E+00	-0.3861E+00	0.2077E+00	0.7577E+00	0.1000E+01					
33.	0.3881E-01	0.0000E+00	-0.4274E-01	-0.3716E-01	-0.1748E-01	0.1730E-01	0.5520E-01	0.7139E-01	0.8236E-01	0.8356E-01
-0.7036E-01	0.3652E+00	-0.2084E+00	0.1318E+00	0.6043E+00	0.4909E+00	0.1000E+01				
34.	0.3654E-01	0.0000E+00	-0.1586E-01	-0.9855E-02	0.6513E-02	0.3883E-01	0.4280E-01	0.4530E-01	0.4320E-01	0.3647E-01
-0.8911E-01	0.3508E+00	-0.1836E+00	0.8850E-01	0.6023E+00	0.5605E+00	0.4308E+00	0.1000E+01			
35.	0.4009E-01	0.0000E+00	-0.1084E-01	-0.9380E-02	-0.4171E-02	0.1481E-01	0.2125E-01	0.2157E-01	0.2556E-01	0.2042E-01
-0.9552E-01	0.3702E+00	-0.8355E-01	0.5514E-01	0.6371E+00	0.5765E+00	0.5682E+00	0.5018E+00			
0.1000E+01										
37.	0.3808E-01	0.0000E+00	0.3550E-02	0.6293E-03	0.4483E-02	-0.3154E-01	-0.8870E-02	-0.1563E-01	-0.2161E-02	-0.1088E-01
-0.8949E-01	0.3241E+00	0.5181E-01	0.6860E-01	0.5642E+00	0.5040E+00	0.5124E+00	0.5175E+00			
0.5983E+00	0.1000E+01									
38.	0.3979E-01	0.0000E+00	0.7185E-02	-0.6099E-02	0.1150E-02	-0.6539E-01	-0.3636E-01	-0.2950E-01	-0.2281E-01	0.2407E-01
-0.1304E+00	0.2670E+00	-0.1372E+00	0.1575E+00	0.5675E+00	0.4950E+00	0.4889E+00	0.4689E+00			
0.5224E+00	0.4043E+00	0.1000E+01								
39.	0.4358E-01	0.0000E+00	-0.3618E-01	-0.6355E-01	-0.5351E-01	-0.3280E-01	-0.4408E-01	-0.1618E-01	-0.2759E-02	0.4077E-01
-0.9194E-01	0.2432E+00	-0.1305E+00	0.2409E+00	0.5201E+00	0.4689E+00	0.4534E+00	0.4396E+00			
0.4877E+00	0.4471E+00	0.3951E+00	0.1000E+01							
40.	0.4140E-01	0.0000E+00	-0.3437E-02	-0.1399E-01	-0.1671E-01	-0.7144E-01	-0.3943E-01	-0.5248E-01	-0.1901E-01	-0.1341E-01
-0.1863E+00	0.2730E+00	-0.2456E+00	0.3950E+00	0.5946E+00	0.5387E+00	0.5154E+00	0.4821E+00			
0.5273E+00	0.4985E+00	0.5041E+00	0.4715E+00	0.1000E+01						
41.	0.4378E-01	0.0000E+00	-0.3008E-01	-0.5631E-01	-0.4937E-01	-0.4678E-01	-0.5289E-01	-0.3436E-01	-0.1033E-01	0.3475E-01
-0.1494E+00	0.2495E+00	-0.2793E+00	0.4107E+00	0.5819E+00	0.5296E+00	0.4962E+00	0.4662E+00			
0.5025E+00	0.4677E+00	0.5028E+00	0.5356E+00	0.5829E+00	0.1000E+01					
42.	0.4163E-01	0.0000E+00	-0.6795E-02	-0.2319E-01	-0.2471E-01	-0.6064E-01	-0.5133E-01	-0.5540E-01	-0.2477E-01	-0.3482E-02
-0.1956E+00	0.2667E+00	-0.2994E+00	0.4680E+00	0.6118E+00	0.5584E+00	0.5247E+00	0.4903E+00			
0.5295E+00	0.4985E+00	0.5312E+00	0.5566E+00	0.6803E+00	0.6481E+00	0.1000E+01				
43.	0.4139E-01	0.0000E+00	0.1709E-01	0.1299E-01	0.2543E-02	-0.5431E-01	-0.4534E-01	-0.6961E-01	-0.3932E-01	-0.4974E-01
-0.2364E+00	0.2747E+00	-0.3011E+00	0.5053E+00	0.6077E+00	0.5602E+00	0.5250E+00	0.4918E+00			

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0.5320E+00 0.5033E+00 0.5377E+00 0.5748E+00 0.6963E+00 0.7407E+00 0.7010E+00 0.1000E+01
44. 0.4528E-01 0.0000E+00 -0.3787E-01 -0.5098E-01 -0.4341E-01 -0.5467E-02 -0.2878E-01 -0.3793E-01 0.1986E-01 -0.9697E-02
-0.1528E+00 0.2619E+00 -0.2252E+00 0.5583E+00 0.5282E+00 0.5032E+00 0.4724E+00 0.4429E+00
0.4847E+00 0.4610E+00 0.4693E+00 0.5188E+00 0.6564E+00 0.6706E+00 0.7296E+00 0.6505E+00
0.1000E+01
45. 0.5238E-01 0.0000E+00 0.3980E-02 0.1955E-01 0.1195E-01 0.1159E-01 0.1148E-01 -0.2974E-01 0.3101E-01 -0.1329E+00
-0.1962E+00 0.2681E+00 -0.1374E+00 0.5352E+00 0.4075E+00 0.4163E+00 0.3928E+00 0.3694E+00
0.4136E+00 0.4075E+00 0.3813E+00 0.4323E+00 0.5766E+00 0.5681E+00 0.6214E+00 0.6383E+00
0.6301E+00 0.1000E+01
46. 0.6642E-01 0.0000E+00 -0.2151E+00 -0.2175E+00 -0.1536E+00 0.1791E+00 0.1679E+00 0.2384E+00 0.3056E+00 0.1895E+00
0.1218E+00 0.3594E+00 -0.1477E+00 0.6098E+00 0.3679E+00 0.3611E+00 0.3373E+00 0.3079E+00
0.3355E+00 0.3178E+00 0.3090E+00 0.3802E+00 0.4841E+00 0.4947E+00 0.5232E+00 0.5043E+00
0.5695E+00 0.4573E+00 0.1000E+01
47. 0.6617E-01 0.0000E+00 -0.2421E+00 -0.2185E+00 -0.1503E+00 0.2539E+00 0.2581E+00 0.3221E+00 0.3873E+00 0.2202E+00
0.1515E+00 0.4402E+00 -0.1610E+00 0.6031E+00 0.3786E+00 0.3668E+00 0.3429E+00 0.31119E+00
0.3382E+00 0.3182E+00 0.3017E+00 0.3674E+00 0.4750E+00 0.4775E+00 0.5084E+00 0.4923E+00
0.5566E+00 0.5467E+00 0.4694E+00 0.1000E+01
7. 0.1654E-01 0.0000E+00 0.2600E+00 0.2983E+00 0.2202E+00 -0.1239E+00 -0.9387E-01 -0.1664E+00 -0.2701E+00 -0.1847E+00
-0.1485E+00 -0.1290E+00 0.2840E+00 -0.9746E+00 -0.1111E+00 -0.1618E+00 -0.1067E+00 -0.6729E-01
-0.4437E-01 -0.6156E-01 -0.1357E+00 -0.2423E+00 -0.3659E+00 -0.4040E+00 -0.4450E+00 -0.4808E+00
-0.5245E+00 -0.4886E+00 -0.6258E+00 -0.6099E+00 0.1000E+01
9. 0.1621E+03 0.0000E+00 -0.1356E+00 -0.1165E+00 -0.8101E-01 0.1682E+00 0.1006E+00 0.5537E-01 0.1804E+00 -0.9304E-01
0.5468E-01 0.9882E-01 0.1471E+00 0.6772E+00 -0.1218E+00 -0.1541E-01 -0.2278E-01 -0.2125E-01
-0.1179E-02 0.3154E-01 -0.6421E-01 0.1532E-01 0.1794E+00 0.5927E-01 0.1354E+00 0.1614E+00
0.3263E+00 0.4462E+00 0.4498E+00 0.4651E+00 -0.6681E+00 0.1000E+01

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TYPE	UNWEIGHTED RMS BY TYPE	RMS	N	MEAN	RMS ABOUT MEAN	AVE MAGN RESIDUAL	R**2
16.2200	21.60900	0.56574447E-03	1	0.56574447E-03	0.00000000E+00	0.56574447E-03	0.0
9.20.9100	22.01600	0.10422355E-03	1	0.10422355E-03	0.00000000E+00	0.10422355E-03	0.0
9.25.4600	22.26600	0.15823750E-01	6	-0.10084963E-01	0.14868458E-03	0.14221509E-01	100.4
9.30.1500	22.42200	0.11222386E+00	6	0.88728662E-01	0.47214187E-02	0.88728662E-01	111.2
9.34.8700	22.46900	13.12662	11	0.55335244E-02	0.70457146E-03	0.19961364E-01	102.5
9.39.5600	22.57800	84.64203	11	-0.48407636E-01	0.32931136E-01	0.15802457E+00	95.7
9.44.2600	22.73400	-78.94144	6	0.81515116E-02	0.02418E-04	0.95833294E-02	98.1
9.48.9600	22.87500	-77.77723					
9.16.2200	23.38700						
10.20.9100	-21.18900						
10.25.4600	-20.57400						
10.30.1500	-20.22300						
10.34.8700	-19.69500						
10.39.5600	-19.52000						
10.44.2600	-19.32000						
10.48.9600	-19.43200						
11.-13.3900	51.64000						
11.-8.7000	51.96000						
11.0.6900	52.65000						
11.5.2400	53.00000						
11.9.9400	53.34000						
12.-13.3900	-30.15117						
12.-8.7000	-29.62383						
12.0.6900	-29.18438						
12.5.2400	-28.48125						
12.9.9400	-28.04180						
13.14.6400	53.60900						
13.24.0400	54.20300						
13.28.7500	54.35900						
13.33.4400	54.46900						
13.38.1300	54.51600						
13.42.8300	54.60900						
13.47.5200	54.76600						
14.14.6400	-27.69000						
14.24.0400	-26.10800						
14.28.7500	-26.02000						
14.33.4400	-25.75700						
14.38.1300	-25.66900						
14.42.8300	-25.40500						
14.47.5200	-25.66900						
15.-14.0000	15.13000						
15.-2.2000	14.50000						
16.-14.0000	-98.44000						
16.-2.2000	-94.04000						
17.21.4000	13.75000						
17.33.3000	13.25000						
17.45.2000	13.13000						
17.57.1000	13.25000						
18.21.4000	-85.25000						
18.33.3000	-80.33000						
18.45.2000	-78.84000						
18.57.1000	-78.05000						
-0.4261165E-01	0						
0.7165600E-02	0						
0.1251674E-01	0						
0.3744853E-02	0						
-0.4161161E-01	0						
-0.3031227E-02	0						
0.6722383E-02	0						
0.8293793E-02	0						
-0.2778913	0						
0.6906627	0						
0.2269917	0						
-0.1684166	0						
-0.1963685E-02	0						
-0.1708176E-01	0						
-0.1414847	0						
0.4843997E-01	0						
-0.4995901E-02	0						
-0.2113029E-01	0						
0.3969199E-02	0						
0.2485299E-01	0						
0.2050368E-01	0						
-0.2243452	0						
-0.1285863	0						
-0.5163588	0						
-0.2103640	0						
-0.1786848	0						
-0.2845465E-01	0						
0.2073859E-01	0						
0.1902134E-01	0						
0.3098625E-01	0						
0.2982178E-02	0						
-0.3210736E-01	0						
-0.3629046E-01	0						
-0.1964392	0						
0.4345062	0						
0.1496983	0						
0.2052879	0						
0.1866558	0						
0.3755007	0						
0.1031726	0						
0.2702248E-01	0						
-0.6249284E-01	0						
0.3441014	0						
0.2357805	0						
0.4740389E-02	0						
0.2656350E-02	0						
0.3382739E-02	0						
0.2473454E-01	0						
-0.6079659	0						
0.1998309	0						
0.1014424	0						
-0.2727690	0						

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G. 10/10

6. 0.3823308E+01 -0.1562873E-02 0.1000000E+01 -0.1562873E-02 0.2373308E+01
 31. -0.2615962E+01 -0.7645821E-04 -0.5000000E+00 -0.7645821E-04 -0.1159619E+00
 32. -0.21000641E+01 -0.3221768E-04 -0.5000000E+00 -0.3221768E-04 -0.1006411E+00
 33. -0.1607493E+01 -0.1611061E-04 -0.5000000E+00 -0.1611061E-04 -0.1074925E+00
 34. -0.1096671E+01 -0.1355648E-04 -0.5000000E+00 -0.1355648E-04 -0.9667104E-01
 35. -0.5910719E+00 -0.6534846E-05 -0.5000000E+00 -0.6534846E-05 -0.9107187E-01
 37. 0.3520309E+00 -0.1054806E-03 -0.5000000E+00 -0.1054806E-03 -0.7703095E-01
 38. 0.9401239E+00 0.6593811E-03 -0.5000000E+00 0.6593811E-03 -0.2038761E+00
 39. 0.1425197E+01 0.1740500E-03 -0.5000000E+00 0.1740500E-03 -0.1308027E+00
 40. 0.1742833E+01 0.5049345E-03 -0.5000000E+00 0.5049345E-03 -0.1051670E+00
 41. 0.1901848E+01 0.1588178E-02 -0.5000000E+00 0.1588178E-02 -0.5515201E-01
 42. 0.2017088E+01 0.1858289E-02 -0.5000000E+00 0.1858289E-02 -0.7691224E-01
 43. 0.2208458E+01 0.3522030E-02 -0.5000000E+00 0.3522030E-02 -0.7454182E-01
 44. 0.2387730E+01 0.6301374E-02 -0.5000000E+00 0.6301374E-02 -0.3326952E-01
 45. 0.2481289E+01 0.9152254E-02 -0.5000000E+00 0.9152254E-02 0.2628888E-01
 46. 0.2557788E+01 0.8917397E-02 -0.5000000E+00 0.8917397E-02 0.9788429E-02
 47. 0.2507117E+01 0.8126262E-02 -0.5000000E+00 0.8126262E-02 0.1011680E-01
 7. -0.1721483E+00 0.1872998E-03 -0.1050000E+01 0.1872998E-03 -0.1721483E+00
 9. 0.3539500E+03 -0.4365524E+01 0.5000000E+03 -0.4365524E+01 0.3539500E+03
 8. 0.1930257E+02 0.5185004E-03 0.0000000E+00 0.0000000E+00 0.1930257E+02

* BEGIN ITERATION 7 *
 *
 *

PRMS =0.862956
 RMS =0.862957

0 PTS EDITED

CODE	NEW VALUES	CHANGE	BOUND	W/O BND	TOTAL CHANGE
11.	-0.7774676E+00	-0.2409152E-03	0.1500000E+01	-0.2409152E-03	-0.7774676E+00
12.	-0.2498701E+00	-0.5781635E-03	0.1500000E+01	-0.5781635E-03	0.2498701E+00
13.	-0.3754835E+00	-0.2314808E-03	0.1500000E+01	-0.2314808E-03	-0.3754835E+00
14.	-0.3578666E+00	0.1168876E-03	0.1500000E+01	0.1168876E-03	-0.3578666E+00
21.	-0.3733971E-01	0.7980206E-05	0.1500000E+01	0.7980206E-05	-0.3733971E-01
22.	-0.1055425E+00	0.7327762E-04	0.1000000E+01	0.7327762E-04	-0.1055425E+00
23.	-0.1606141E-01	0.1225533E-03	0.1000000E+01	0.1225533E-03	-0.1606141E-01
24.	-0.6221171E-01	0.1611328E-03	0.1000000E+01	0.1611328E-03	-0.6221171E-01
1.	0.4064850E+02	0.2564231E-05	0.5000000E+00	0.2564231E-05	0.2895960E-02
2.	0.7267081E+02	0.4845504E-06	0.5000000E+00	0.4845504E-06	-0.9854859E-03
3.	0.1930191E+02	-0.6577684E-03	0.4500000E+01	-0.6577684E-03	-0.4698092E+01
6.	0.3825929E+01	0.2620512E-02	0.1000000E+01	0.2620512E-02	0.2375929E+01
31.	-0.2615941E+01	0.2112277E-04	0.5000000E+00	0.2112277E-04	-0.1159408E+00
32.	-0.2100609E+01	0.3261512E-04	0.5000000E+00	0.3261512E-04	-0.1006085E+00
33.	-0.1607469E+01	0.2319100E-04	0.5000000E+00	0.2319100E-04	-0.1074693E+00
34.	-0.1096658E+01	0.1297296E-04	0.5000000E+00	0.1297296E-04	-0.9665807E-01
35.	-0.5910620E+00	0.9874281E-05	0.5000000E+00	0.9874281E-05	-0.9106200E-01
37.	0.3520449E+00	0.1391207E-04	0.5000000E+00	0.1391207E-04	0.7704486E-01
38.	0.9401606E+00	0.3669396E-04	0.5000000E+00	0.3669396E-04	-0.2038394E+00
39.	0.1425285E+01	0.8788281E-04	0.5000000E+00	0.8788281E-04	-0.1307148E+00
40.	0.1742925E+01	0.9190220E-04	0.5000000E+00	0.9190220E-04	-0.1050751E+00
41.	0.1901978E+01	0.1298709E-03	0.5000000E+00	0.1298709E-03	-0.5502214E-01
42.	0.2017201E+01	0.1131424E-03	0.5000000E+00	0.1131424E-03	-0.7679910E-01
43.	0.2208553E+01	0.9520657E-04	0.5000000E+00	0.9520657E-04	-0.7444661E-01
44.	0.2387800E+01	0.6935762E-04	0.5000000E+00	0.6935762E-04	-0.3320016E-01
45.	0.2481242E+01	-0.4718477E-04	0.5000000E+00	-0.4718477E-04	0.2624170E-01
46.	0.2557983	0.1943495E-03	0.5000000E+00	0.1943495E-03	0.9982779E-02

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*
* BEGIN ITERATION 4 *
*

PRMS =0.912037

RMS = 1.24262

RMS EXCEEDS PREV. ITERATIONS, HALVE BOUNDS

0 PTS EDITED

1.5000	1.5000	1.5000	1.5000
1.5000	1.0000	1.0000	1.0000
0.50000	0.50000	4.5000	1.0000
0.50000	0.50000	0.50000	0.50000
0.50000	0.50000	0.50000	0.50000
0.50000	0.50000	0.50000	0.50000
0.50000	0.50000	0.50000	0.50000
1.0500	500.00		

CODE	NEW VALUES	CHANGE	BOUND	W/O BND	TOTAL CHANGE
11.	-0.7593240E+00	-0.2869032E-01	0.1500000E+01	-0.4566583E-01	-0.7593240E+00
12.	0.2865682E+00	-0.4848524E-01	0.1500000E+01	-0.7927777E-01	0.2865682E+00
13.	-0.3609694E+00	-0.1788246E-01	0.1500000E+01	-0.2984993E-01	-0.3609694E+00
14.	-0.3860772E+00	0.6619578E-01	0.1500000E+01	0.1027676E+00	-0.3860772E+00
21.	0.3382216E-01	0.8673414E-02	0.1500000E+01	0.1422351E-01	0.3382216E-01
22.	-0.1104277E+00	0.6053092E-02	0.1000000E+01	0.1309730E-01	-0.1104277E+00
23.	-0.2886061E-01	0.2269333E-01	0.1000000E+01	0.3623600E-01	-0.2886061E-01
24.	-0.6254530E-01	-0.1504499E-01	0.1000000E+01	-0.1237551E-01	-0.6254530E-01
1.	0.4064844E+02	0.9596159E-04	0.5000000E+00	0.1640040E-03	0.2836963E-02
2.	0.7267063E+02	0.1824936E-03	0.5000000E+00	0.4025780E-03	-0.1169281E-02
3.	0.1935313E+02	0.9217093E-01	0.4500000E+01	0.2662244E-01	-0.4646870E+01
6.	0.3540644E+01	0.6008799E+00	0.1000000E+01	0.9623311E+00	0.2090644E+01
31.	-0.2618528E+01	-0.1001445E-01	0.5000000E+00	-0.6632954E-02	-0.1185282E+00
32.	-0.2106689E+01	-0.2090251E-02	0.5000000E+00	0.4033304E-02	-0.1066894E+00
33.	-0.1612237E+01	-0.3344406E-02	0.5000000E+00	0.1490501E-02	-0.1122368E+00
34.	-0.1100231E+01	-0.3771988E-02	0.5000000E+00	0.2749525E-04	-0.1002313E+00
35.	-0.5953205E+00	-0.3393894E-02	0.5000000E+00	0.9407240E-03	-0.9532053E-01
37.	0.3476365E+00	-0.1981025E-02	0.5000000E+00	0.2659314E-02	0.7263651E-01
38.	0.9344966E+00	-0.6370126E-03	0.5000000E+00	0.2961259E-02	-0.2095034E+00
39.	0.1416494E+01	0.7155031E-02	0.5000000E+00	0.1468419E-01	-0.1395056E+00
40.	0.1726250E+01	0.1763053E-01	0.5000000E+00	0.2974334E-01	-0.1217499E+00
41.	0.1882721E+01	0.1069558E-01	0.5000000E+00	0.2220683E-01	-0.7427920E-01
42.	0.1994321E+01	0.1726612E-01	0.5000000E+00	0.2957282E-01	-0.9967913E-01
43.	0.2177752E+01	0.4751719E-01	0.5000000E+00	0.5892856E-01	-0.1052476E+00
44.	0.2341283E+01	0.1154145E+00	0.5000000E+00	0.1307066E+00	-0.7971693E-01
45.	0.2415741E+01	0.1551896E+00	0.5000000E+00	0.1754206E+00	-0.3925864E-01
46.	0.2486252E+01	0.1648509E+00	0.5000000E+00	0.1922287E+00	-0.6174769E-01
47.	0.2438255E+01	0.1505695E+00	0.5000000E+00	0.1787721E+00	-0.5874542E-01
7.	-0.1617101E+00	-0.2847358E-01	0.1050000E+01	-0.4656853E-01	-0.1617101E+00
9.	0.2300889E+03	0.2612764E+03	0.5000000E+03	0.4297281E+03	0.2300889E+03
8.	0.1935313E+02	0.9217093E-01	0.0000000E+00	0.0000000E+00	0.1935313E+02

*
* BEGIN ITERATION 5 *
*

PRMS =0.86

13.	-0.2225308E+00	-0.2225308E+00	0.3000000E+01	-0.3356741E+00	-0.2225308E+00
14.	-0.2563354E+00	-0.2563354E+00	0.3000000E+01	-0.1991342E+00	-0.2563354E+00
21.	0.5543042E-01	0.5543042E-01	0.3000000E+01	0.6632780E-01	0.5543042E-01
22.	-0.1337348E+00	-0.1337348E+00	0.2000000E+01	-0.8984627E-01	-0.1337348E+00
23.	-0.7070768E-01	-0.7070768E-01	0.2000000E+01	-0.3184387E-02	-0.7070768E-01
24.	-0.1703231E+00	-0.1703231E+00	0.2000000E+01	-0.9221637E-01	-0.1703231E+00
1.	0.4064646E+02	0.8594014E-03	0.1000000E+01	0.2606096E-02	0.8594014E-03
2.	0.7267252E+02	0.7231821E-03	0.1000000E+01	-0.4044011E-03	0.7231821E-03
3.	0.1998492E+02	-0.4015078E+01	0.9000000E+01	-0.4772562E+01	-0.4015078E+01
6.	0.1954197E+01	0.5041971E+00	0.2000000E+01	0.1750387E+01	0.5041971E+00
31.	-0.2557759E+01	-0.5775894E-01	0.1000000E+01	-0.1160195E+00	-0.5775894E-01
32.	-0.2048459E+01	-0.4845930E-01	0.1000000E+01	-0.9486624E-01	-0.4845930E-01
33.	-0.1546964E+01	-0.4696430E-01	0.1000000E+01	-0.1086432E+00	-0.4696430E-01
34.	-0.1038041E+01	-0.3804138E-01	0.1000000E+01	-0.9988615E-01	-0.3804138E-01
35.	-0.5111625E+00	-0.1116248E-01	0.1000000E+01	-0.9581470E-01	-0.1116248E-01
37.	0.4275262E+00	0.1525262E+00	0.1000000E+01	0.7904828E-01	0.1525262E+00
38.	0.9836728E+00	-0.1603272E+00	0.1000000E+01	-0.2234573E+00	-0.1603272E+00
39.	0.1438548E+01	-0.1174525E+00	0.1000000E+01	-0.1635299E+00	-0.1174525E+00
40.	0.1750466E+01	-0.9753401E-01	0.1000000E+01	-0.1308043E+00	-0.9753401E-01
41.	0.1931695E+01	-0.2530453E-01	0.1000000E+01	-0.5761701E-01	-0.2530453E-01
42.	0.2011776E+01	-0.8222401E-01	0.1000000E+01	-0.1308951E+00	-0.8222401E-01
43.	0.2127385E+01	-0.1556153E+00	0.1000000E+01	-0.2622252E+00	-0.1556153E+00
44.	0.2173586E+01	-0.2474138E+00	0.1000000E+01	-0.4522380E+00	-0.2474138E+00
45.	0.1992096E+01	-0.4629039E+00	0.1000000E+01	-0.6161120E+00	-0.4629039E+00
46.	0.2195455E+01	-0.3525449E+00	0.1000000E+01	-0.6657160E+00	-0.3525449E+00
47.	0.2185410E+01	-0.3115899E+00	0.1000000E+01	-0.5579903E+00	-0.3115899E+00
7.	-0.7023098E-01	-0.7023098E-01	0.2100000E+01	-0.1270304E+00	-0.7023098E-01
9.	-0.6830925E+02	-0.6830925E+02	0.1000000E+04	0.4093566E+03	-0.6830925E+02
8.	0.1998492E+02	-0.4015078E+01	0.0000000E+00	0.0000000E+00	0.1998492E+02

* * *
* BEGIN ITERATION 2 *
* * *

PRMS = 0.850830
RMS = 2.65866

0 PTS EDITED

CODE	NEW VALUES	CHANGE	BOUND	W/O BND	TOTAL CHANGE
11.	-0.6186147E+00	0.3008938E-02	0.3000000E+01	0.3008938E-02	-0.6186147E+00
12.	0.5918971E+00	-0.7267299E-02	0.3000000E+01	-0.7267299E-02	0.5918971E+00
13.	-0.2403541E+00	-0.1782331E-01	0.3000000E+01	-0.1782331E-01	-0.2403541E+00
14.	-0.5169832E+00	-0.2606478E+00	0.3000000E+01	-0.2606478E+00	-0.5169832E+00
21.	0.1320528E-01	-0.4222514E-01	0.3000000E+01	-0.4222514E-01	0.1320528E-01
22.	-0.1634953E+00	-0.2976046E-01	0.2000000E+01	-0.2976046E-01	-0.1634953E+00
23.	-0.1190265E+00	-0.4831886E-01	0.2000000E+01	-0.4831886E-01	-0.1190265E+00
24.	-0.1205432E+00	0.4977985E-01	0.2000000E+01	0.4977985E-01	-0.1205432E+00
1.	0.4064693E+02	-0.4682443E-03	0.1000000E+01	-0.4682443E-03	0.1327646E-02
2.	0.7267006E+02	-0.2460585E-02	0.1000000E+01	-0.2460585E-02	-0.1737403E-02
3.	0.1927584E+02	-0.7090775E+00	0.9000000E+01	-0.7090775E+00	-0.4724156E+01
6.	0.1481828E+01	-0.4723692E+00	0.2000000E+01	-0.4723692E+00	0.3182794E-01
31.	-0.2610862E+01	-0.5310309E-01	0.1000000E+01	-0.5310309E-01	-0.1108620E+00
32.	-0.2111293E+01	-0.6283406E-01	0.1000000E+01	-0.6283406E-01	-0.1112934E+00
33.	-0.1614476E+01	-0.6751143E-01	0.1000000E+01	-0.6751143E-01	-0.1144757E+00
34.	-0.1099461E+01	-0.6141988E-01	0.1000000E+01	-0.6141988E-01	-0.9946126E-01
35.	-0.5950628E+00	-0.8390031E-01	0.1000000E+01	-0.8390031E-01	-0.9506279E-01
37.	0.3449844E+01	-0.8254182E-01	0.1000000E+01	-0.8254182E-01	0.6998436E-01

3.	-6.3600	48.09000	48.18786	-0.9785562E-01	0	.	.	*
3.	-1.7500	48.56000	48.63483	-0.7482694E-01	0	.	.	*
3.	2.8900	49.03000	49.08556	-0.5556078E-01	0	.	.	*
3.	7.5000	49.50000	49.52922	-0.2921925E-01	0	.	.	*
3.	12.1300	50.00000	49.92131	0.7868973E-01	0	.	.	*
4.	-10.9700	-0.5078125	-0.1662728	-0.3415397	0	.	.	*
4.	-6.3600	-0.1562500	0.7925655E-01	-0.2355066	0	.	.	*
4.	-1.7500	-0.1562500	0.3203358	-0.4765858	0	.	.	*
4.	2.8900	0.1953125	0.5586047	-0.3632922	0	.	.	*
4.	7.5000	0.2832031	0.7885656	-0.5053624	0	.	.	*
4.	12.1300	0.4589844	0.9884344	-0.5294700	0	.	.	*
5.	16.7500	50.46900	50.24404	0.2249578	0	.	.	*
5.	21.3500	50.87500	50.97288	-0.9788056E-01	0	.	.	*
5.	25.9800	51.25000	51.29747	-0.4746837E-01	0	.	.	*
5.	30.5900	51.50000	51.50398	-0.3976504E-02	0	.	.	*
5.	35.0700	51.65600	51.65664	0.9036357E-01	0	.	.	*
5.	39.7100	51.75000	51.63294	0.1170576	0	.	.	*
5.	44.3100	51.93800	51.70895	0.2290487	0	.	.	*
5.	49.0700	52.06300	51.75270	0.3102973	0	.	.	*
5.	53.5600	52.09400	51.75856	0.3354417	0	.	.	*
5.	58.1700	52.15600	51.78211	0.3738859	0	.	.	*
5.	62.8000	52.12500	51.76673	0.3582652	0	.	.	*
6.	16.7500	0.6350000	1.156035	-0.5210347	0	.	.	*
6.	21.3500	0.8980000	1.619582	-0.7215825	0	.	.	*
6.	25.9800	0.8980000	1.884021	-0.9860206	0	.	.	*
6.	30.5900	1.250000	2.098717	-0.8487173	0	.	.	*
6.	35.0700	1.602000	2.186353	-0.5843528	0	.	.	*
6.	39.7100	1.338000	2.308604	-0.9706037	0	.	.	*
6.	44.3100	1.426000	2.486430	-1.060430	0	.	.	*
6.	49.0700	1.250000	2.634570	-1.384570	0	.	.	*
6.	53.5600	1.426000	2.675986	-1.249886	0	.	.	*
6.	58.1700	1.602000	2.762889	-1.160889	0	.	.	*
6.	62.8000	1.514000	2.731292	-1.217292	0	.	.	*
7.	-11.8400	19.59000	19.98139	-0.3913869	0	.	.	*
7.	-7.2700	19.93000	20.27025	-0.3402517	0	.	.	*
7.	-2.5600	20.26000	20.57575	-0.3157514	0	.	.	*
7.	2.1300	20.64000	20.88747	-0.2474675	0	.	.	*
7.	6.8200	20.98000	21.20635	-0.2263520	0	.	.	*
7.	11.5200	21.35000	21.49127	-0.1412743	0	.	.	*
7.	-11.8400	-29.09961	-29.89256	0.7929478	0	.	.	*
8.	-7.2700	-27.69336	-28.77131	1.077954	0	.	.	*
8.	-2.5600	-26.99023	-27.64916	0.6589297	0	.	.	*
8.	2.1300	-26.02344	-26.56486	0.5414258	0	.	.	*
8.	6.8200	-25.05664	-25.51287	0.4562257	0	.	.	*
8.	11.5200	-24.00195	-24.61299	0.6110368	0	.	.	*
8.	16.2200	21.60900	21.71976	-0.1107623	0	.	.	*
9.	20.9100	22.01600	22.21700	-0.2010005	0	.	.	*
9.	25.4600	22.26600	22.43760	-0.1716001	0	.	.	*
9.	30.1500	22.42200	22.55970	-0.1377041	0	.	.	*
9.	34.8700	22.46900	22.58920	-0.1201986	0	.	.	*
9.	39.5600	22.57800	22.60189	-0.2388683E-01	0	.	.	*
9.	44.2600	22.73400	22.60434	0.1296603	0	.	.	*
9.	48.9600	22.87500	22.58764	0.2873550	0	.	.	*
10.	16.2200	-23.38700	-23.91947	0.5324688	0	.	.	*
10.	20.9100	-21.18900	-22.17302	0.9840171	0	.	.	*
10.	25.4600	-20.57400	-21.23960	0.6655975	0	.	.	*
10.	30.1500	-20.22300	-20.54480	0.3217981	0	.	.	*
10.	34.8700	-19.69500	-20.24110	0.5461039	0	.	.	*
10.	39.5600	-19.52000	-19.90876	0.3887619	0	.	.	*
10.	44.2600	-19.52000	-19.44415	-0.7584718E-01	0	.	.	*
10.	48.9600	-19.43200	-19.08130	-0.3507044	0	.	.	*
11.	-13.3900	51.64000	51.96200	-0.3219965	0	.	.	*

3	20.91	21.6090	40.6792	72.6511
4	20.91	21.5160	40.6835	72.6513
5*	20.91	22.0160	40.6613	72.6505
6	25.61	21.5630	40.6988	72.6439
7*	25.66	22.2660	40.6655	72.6424
8	30.30	21.5630	40.7120	72.6393
9*	30.15	22.4220	40.6698	72.6366
10	35.02	22.2660	40.6849	72.6334
11*	34.87	22.4690	40.6752	72.6330
12*	39.56	22.5780	40.6744	72.6309
13	39.56	22.4690	40.6795	72.6311
14*	44.26	22.7340	40.6755	72.6267
15*	48.96	22.8750	40.6744	72.6240
16	53.80	21.8590	40.7291	72.6277
17	58.50	22.3280	40.7061	72.6240
18	63.19	22.3750	40.7020	72.6243

HPN Data

	Time	Rng	fm	HPN
1*	14.64	53.6090		
2*	24.04	54.2030		
3	24.04	53.7030		
4*	28.75	54.3590		
5	28.75	53.6560		
6	28.75	53.9060		
7*	33.44	54.4690		
8	33.44	53.7030		
9	33.44	53.8130		
10	33.44	53.9530		
11*	38.13	54.5160		
12	38.13	53.7030		
13	38.13	53.9060		
14	38.13	54.1090		
15	42.83	54.4060		
16	42.83	54.5630		
17*	42.83	54.6090		
18	42.83	53.7500		
19*	47.52	54.7660		
20	47.52	54.5630		
21	47.52	53.7500		
22	52.22	54.1090		
23	52.22	54.5630		
24	52.22	53.8130		
25	52.22	53.8590		
26	75.71	53.8590		

RHD Data

	Time	Rng	fm	RHD
1*	21.40	13.7500		
2	31.90	14.1300		
3*	33.30	13.2500		
4	33.60	14.0000		
5	43.90	14.2500		
6*	45.20	13.1300		
7	49.60	12.7500		
8	55.70	4.2500		

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Range from initial point along flight path

Time(s)	Dist(nm)	Lat(d,m,s)	Lon(d,m,s)	
-24.20	-2.62	40 38 2	72 43 30	13300.
-19.50	-2.10	40 38 12	72 42 51	13400.
-14.80	-1.61	40 38 22	72 42 14	13500.
-10.10	-1.10	40 38 32	72 41 36	13600.
-5.40	-0.59	40 38 42	72 40 59	13700.
0.00	0.00	40 38 54	72 40 14	13700.
4.00	0.35	40 39 1	72 39 48	13700.
8.70	0.94	40 39 20	72 39 9	15043.
13.40	1.43	40 39 38	72 38 39	15739.
18.10	1.74	40 39 50	72 38 20	15788.
22.80	1.90	40 39 55	72 38 9	15190.
27.50	2.02	40 39 57	72 38 0	13945.
32.20	2.21	40 39 56	72 37 45	12053.
36.90	2.39	40 39 50	72 37 34	9514.
41.60	2.48	40 39 47	72 37 28	6328.
46.30	2.56	40 39 44	72 37 23	2495.
51.00	2.51	40 39 46	72 37 26	-1986.

Adjusted radar hit locations for JFK

Time(s)	Lat(d,m,s)	Lon(d,m,s)
-32.71	40 37 45	72 44 33
-28.11	40 37 58	72 43 56
-23.48	40 38 6	72 43 19
-18.87	40 38 24	72 42 44
-14.26	40 38 24	72 42 7
-9.62	40 38 42	72 41 30
-5.01	40 38 46	72 40 53
-0.38	40 38 56	72 40 13
4.24	40 39 5	72 39 36
8.84	40 39 20	72 39 5
13.47	40 39 20	72 38 35
18.08	40 39 39	72 38 16
22.56	40 39 58	72 38 4
27.20	40 39 44	72 37 56
31.80	40 39 49	72 37 41
36.56	40 39 40	72 37 30
41.05	40 39 50	72 37 28
45.66	40 39 59	72 37 23
50.29	40 39 54	72 37 27

Adjusted radar hit locations for ISP

Time(s)	Lat(d,m,s)	Lon(d,m,s)
-33.73	40 37 44	72 44 41
-29.04	40 37 51	72 44 6
-24.35	40 38 0	72 43 30
-19.78	40 38 15	72 42 48
-15.07	40 38 19	72 42 16
-10.38	40 38 27	72 41 37
-5.69	40 38 37	72 41 0
-0.99	40 38 49	72 40 21
3.71	40 38 55	72 39 55
8.40	40 39 32	72 39 1
12.95	40 39 40	72 38 36
17.64	40 39 45	72 38 21
22.36	40 39 55	72 38 11
27.05	40 39 56	72 37 59
31.75	40 39 53	72 37 46
36.45	40 39 51	72 37 32

Adjusted radar hit locations for HPN

Time(s)	Lat(d,m,s)	Lon(d,m,s)
-35.29	40 37 25	72 45 3
-30.60	40 37 36	72 44 26
-25.90	40 37 47	72 43 48
-21.21	40 38 2	72 43 7
-11.82	40 38 2	72 42 4
-7.27	40 38 26	72 41 15
-2.57	40 38 38	72 40 36
2.13	40 38 47	72 40 5
11.53	40 39 51	72 38 30
16.24	40 39 51	72 38 16
20.93	40 40 1	72 38 0
25.62	40 40 5	72 37 53
30.32	40 40 16	72 37 37
35.01	40 39 58	72 37 35

Adjusted radar hit locations for RHD

Time(s)	Lat(d,m,s)	Lon(d,m,s)
-64.36	40 36 38	72 48 23
-52.66	40 37 5	72 46 53
-40.86	40 37 30	72 45 38
-29.06	40 37 48	72 44 3
-17.26	40 38 20	72 42 29
6.34	40 39 8	72 39 40
18.24	40 39 50	72 38 16
30.14	40 39 56	72 37 50
42.04	40 39 44	72 37 32

1

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Data typed in from listing from NTSB file NVYALL1.CSV

Time(s)	Range	Azimuth
21.4	13.75	175.25
31.9	14.13	128.76
33.3	13.25	170.33
33.6	14.00	182.46
43.9	14.25	128.67
45.2	13.13	168.84
49.6	12.75	247.06
55.7	14.25	128.85
57.1	13.25	168.05
69.0	13.25	168.31

6 Jan 98
nv44.dat
(fort.14)

2

6 Jan 98

ntsb, jfk

(fort. 21)

Data from NTSB files (from Charlie P)

Time	Range	Azimuth (mag)
16.75	50.25	102.041
16.75	50.469	101.865
21.35	50.875	101.602
21.35	50.688	102.041
21.35	50.406	101.953
21.35	50.313	102.129
25.98	50.25	101.602
25.98	50.813	101.777
25.98	51.25	101.602
25.98	50.625	102.129
25.98	50.438	102.217
30.59	51.500	101.25
30.59	50.688	101.689
30.59	51.094	102.041
30.59	50.375	102.041
35.07	51.656	100.898
35.22	51.188	101.602
35.22	50.500	102.129
39.71	51.750	101.162
39.71	51.688	101.074
39.83	51.219	101.602
44.31	51.781	100.459
44.31	51.938	101.074
44.46	50.563	102.129
44.46	51.250	101.689
48.92	51.938	100.986
49.07	52.063	101.25
49.07	50.531	101.777
49.07	50.906	101.865
53.56	52.000	100.898
53.56	52.094	101.074
53.71	50.563	102.305
58.17	52.156	100.898
58.17	52.063	100.986
58.31	51.250	101.865
62.95	51.281	101.602
62.8	52.125	100.986
62.95	50.438	102.129

Time is relative to 20:33:00 EDT
as recorded

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6 Jan 98

ntsb.isp

(fort. 22)

Data from NTSB files (from Charlie P)

Time	Range	Azimuth (mag)
16.22	21.516	126.914
16.22	21.609	126.387
20.91	21.609	127.969
20.91	21.516	127.705
20.91	22.016	124.189
25.61	21.563	127.881
25.46	22.266	123.574
30.30	21.563	127.266
30.15	22.422	123.223
35.02	22.266	124.805
34.87	22.469	122.695
39.56	22.578	122.52
39.56	22.469	122.52
44.26	22.734	122.52
48.96	22.875	122.432
53.80	21.859	125.947
58.50	22.328	125.156
63.19	22.375	124.98

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6 Jan 98

ntsb.hpn

Data from NTSB files (from Charlie P)

Time	Range	Azimuth (mag)
14.64	53.609	129.990
24.04	54.203	128.408
24.04	53.703	130.430
28.75	54.359	128.320
28.75	53.656	131.045
28.75	53.906	130.342
33.44	54.469	128.057
33.44	53.703	130.957
33.44	53.813	130.342
33.44	53.953	129.639
38.13	54.516	127.969
38.13	53.703	130.781
38.13	53.906	129.727
38.13	54.109	129.639
42.83	54.406	128.936
42.83	54.563	128.232
42.83	54.609	127.705
42.83	53.750	130.781
47.52	54.766	127.969
47.52	54.563	128.057
47.52	53.750	130.254
52.22	54.109	128.936
52.22	54.563	128.145
52.22	53.813	130.693
52.22	53.859	129.463
75.71	53.859	130.254

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16 Dec 97

RHD data from Mike O'R 12/8/97 -- RHD secondaries

TIME	RANGE	AZIMUTH	MODE C
110.7	17.00	198.98	12800.
122.4	16.25	195.64	12800.
134.2	15.63	192.66	13000.
146.0	15.13	188.44	13200.
157.8	14.50	184.04	13200.

FJRT.19

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12/11/57

RHD data from Mike O'R 12/8/97 - RHD sensor data

TIME	RANGE	AZIMUTH	MODE C
28:59.5	22.25	214.19	13000.
29:11.4	21.25	212.08	12800.
29:23.2	20.38	209.97	12800.
29:35.0	19.38	207.51	11700.
29:46.9	18.63	204.96	12700.
29:58.8	17.75	202.06	12800.
30:10.7	17.00	198.98	12800.
30:22.4	16.25	195.64	12800.
30:34.2	15.63	192.66	13000.
30:46.0	15.13	188.44	13200.
30:57.8	14.50	184.04	13200.

usn rp44.rag

3

12/12/97

E:\sn rp44.ra3

RP44=Riverhead, NY

SITE	TIME	RANGE	AZIMUTH	MODE C
RP44	0028:59.5	22.25	214.19	13,000
RP44	0029:11.4	21.25	212.08	12,800
RP44	0029:23.2	20.38	209.97	12,800
RP44	0029:35.0	19.38	207.51	12,700
RP44	0029:46.9	18.63	204.96	12,700
RP44	0029:58.8	17.75	202.06	12,800
RP44	0030:10.7	17.00	198.98	12,800
RP44	0030:22.4	16.25	195.64	12,800
RP44	0030:34.2	15.63	192.66	13,000
RP44	0030:46.0	15.13	188.44	13,200
RP44	0030:57.8	14.50	184.04	13,200

21.4 - 11.8 x 2

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20 Nov 87

nts6.isp

(Sort, 22)

16.22	21.516	126.914
16.22	21.609	126.387
20.91	21.609	127.969
20.91	21.516	127.705
20.91	22.016	124.189
25.61	21.563	127.881
25.46	22.266	123.574
30.30	21.563	127.266
30.15	22.422	123.223
35.02	22.266	124.805
34.87	22.469	122.695
39.56	22.578	122.52
39.56	22.469	122.52
44.26	22.734	122.52
48.96	22.875	122.432
53.80	21.859	125.947
58.50	22.328	125.156
63.19	22.375	124.98

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ntsb.isp

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12 Nov 57

ntsb.jfk

16.75	50.25	102.041
16.75	50.469	101.865
21.35	50.875	101.602
21.35	50.688	102.041
21.35	50.406	101.953
21.35	50.313	102.129
25.98	50.25	101.602
25.98	50.813	101.777
25.98	51.25	101.602
25.98	50.625	102.129
25.98	50.438	102.217
30.59	51.500	101.25
30.59	50.688	101.689
30.59	51.094	102.041
30.59	50.375	102.041
35.07	51.656	100.898
35.22	51.188	101.602
35.22	50.500	102.129
39.71	51.750	101.162
39.71	51.688	101.074
39.83	51.219	101.602
44.31	51.781	100.459
44.31	51.938	101.074
44.46	50.563	102.129
44.46	51.250	101.689
48.92	51.938	100.986
49.07	52.063	101.25
49.07	50.531	101.777
49.07	50.906	101.865
53.56	52.000	100.898
53.56	52.094	101.074
53.71	50.563	102.305
58.17	52.156	100.898
58.17	52.063	100.986
58.31	51.250	101.865
62.95	51.281	101.602
62.8	52.125	100.986
62.95	50.438	102.129

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1900097

nts6.jfk

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0,31,49.07,0,50.906,101.865,0,0,5,0,,1909.07,1908.82
0,31,53.56,0,52,100.898,0,0,6,0,,1913.56,1913.31
0,31,53.56,0,52.094,101.074,0,0,6,0,,1913.56,1913.31
0,31,53.71,0,50.563,102.305,0,0,5,0,,1913.71,1913.46
0,31,58.17,0,52.156,100.898,0,0,7,0,,1918.17,1917.92
0,31,58.17,0,52.063,100.986,0,0,7,0,,1918.17,1917.92
0,31,58.31,0,51.25,101.865,0,0,7,0,,1918.31,1918.06
0,32,2.95,0,51.281,101.602,0,0,5,0,,1922.95,1922.7
0,32,2.8,0,52.125,100.986,0,0,6,0,,1922.8,1922.55
0,32,2.95,0,50.438,102.129,0,0,7,0,,1922.95,1922.7

8

Data typed in from listing from NTSB file NVYALL1.CSV

Time(s)	Range	Azimuth
21.4	13.75	175.25
33.3	13.25	170.33
45.2	13.13	168.84
57.1	13.25	168.05
69.0	13.25	168.31

NVY 4'x

↑ time?

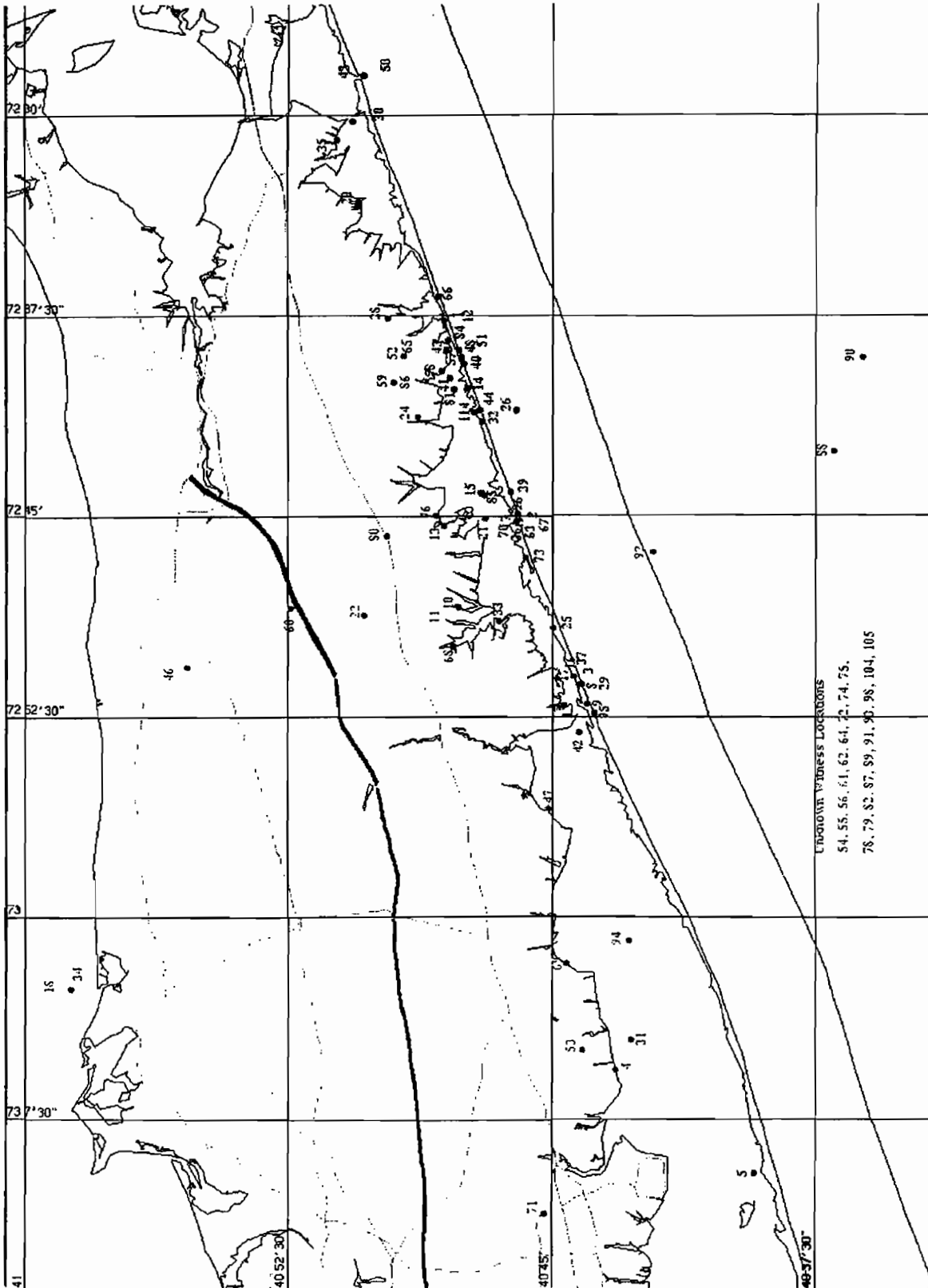
Data typed in from listing from NTSB 12 Nov 97

Time(s)	X	Y
14.64	19.5940	-8.7756
24.04	20.7970	-7.7169
24.04	19.4841	-9.1837
28.75	20.9738	-7.7106
28.75	19.1684	-9.6679
28.75	19.7022	-9.2063
33.44	21.1818	-7.5339
33.44	19.2493	-9.6182
33.44	19.6201	-9.1626
33.44	20.0512	-8.6423
38.13	21.2604	-7.4789
38.13	19.3281	-9.4733
38.13	19.9714	-8.6942
38.13	20.1898	-8.7139
42.83	20.7566	-8.2555
42.83	21.1938	-7.7247
42.83	21.4527	-7.2921
42.83	19.3695	-9.4957
47.52	21.4858	-7.5872
47.52	21.2664	-7.5748
47.52	19.6032	-9.0601
52.22	20.4911	-8.1223
52.22	21.2300	-7.6502
52.22	19.4642	-9.4531
52.22	20.0435	-8.4520
75.71	19.6995	-9.1112

SEN3.XYZ

HPN primaries with
12.3° mag, XYrel to ISP

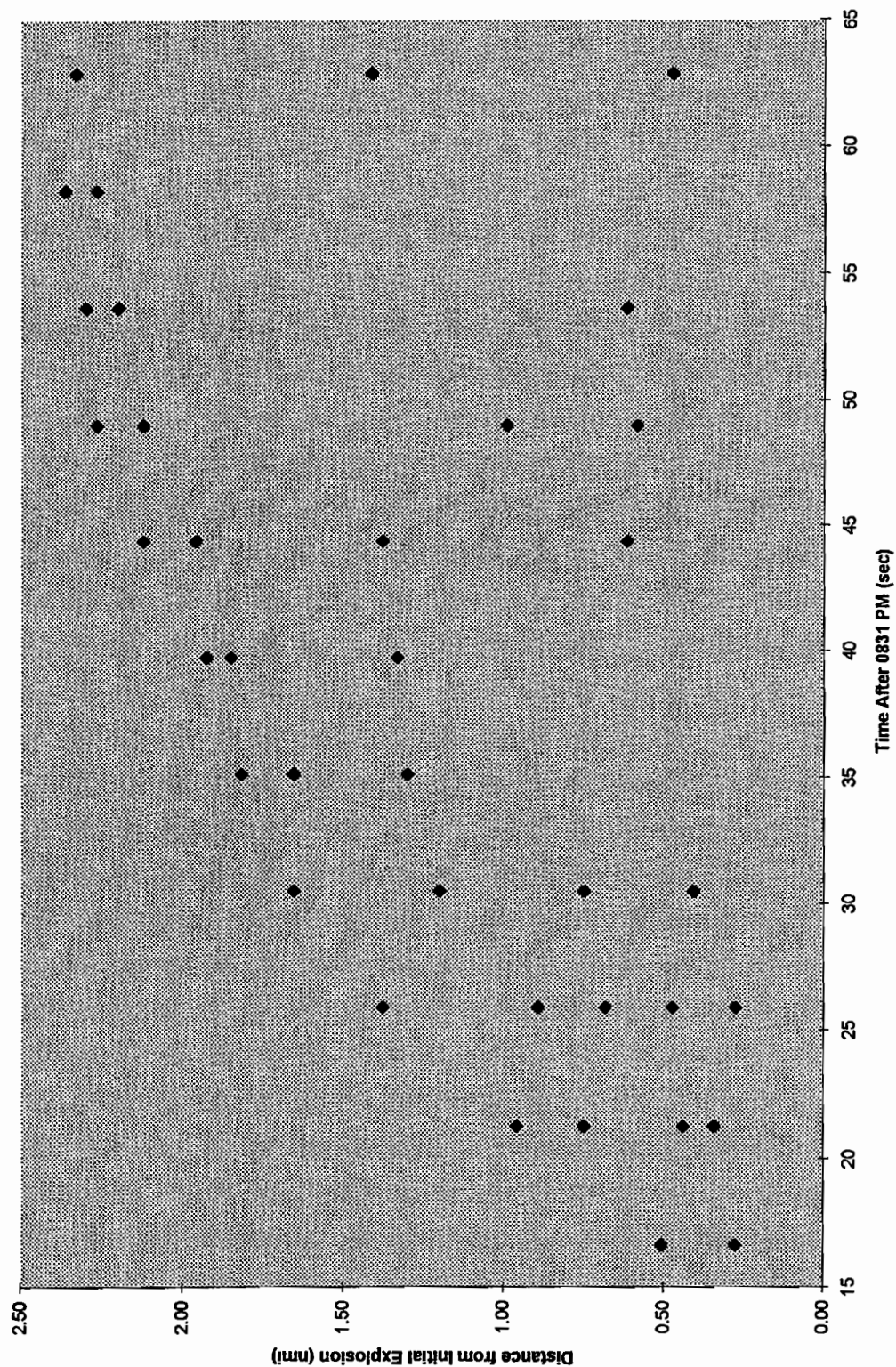
57



64

Sheet1

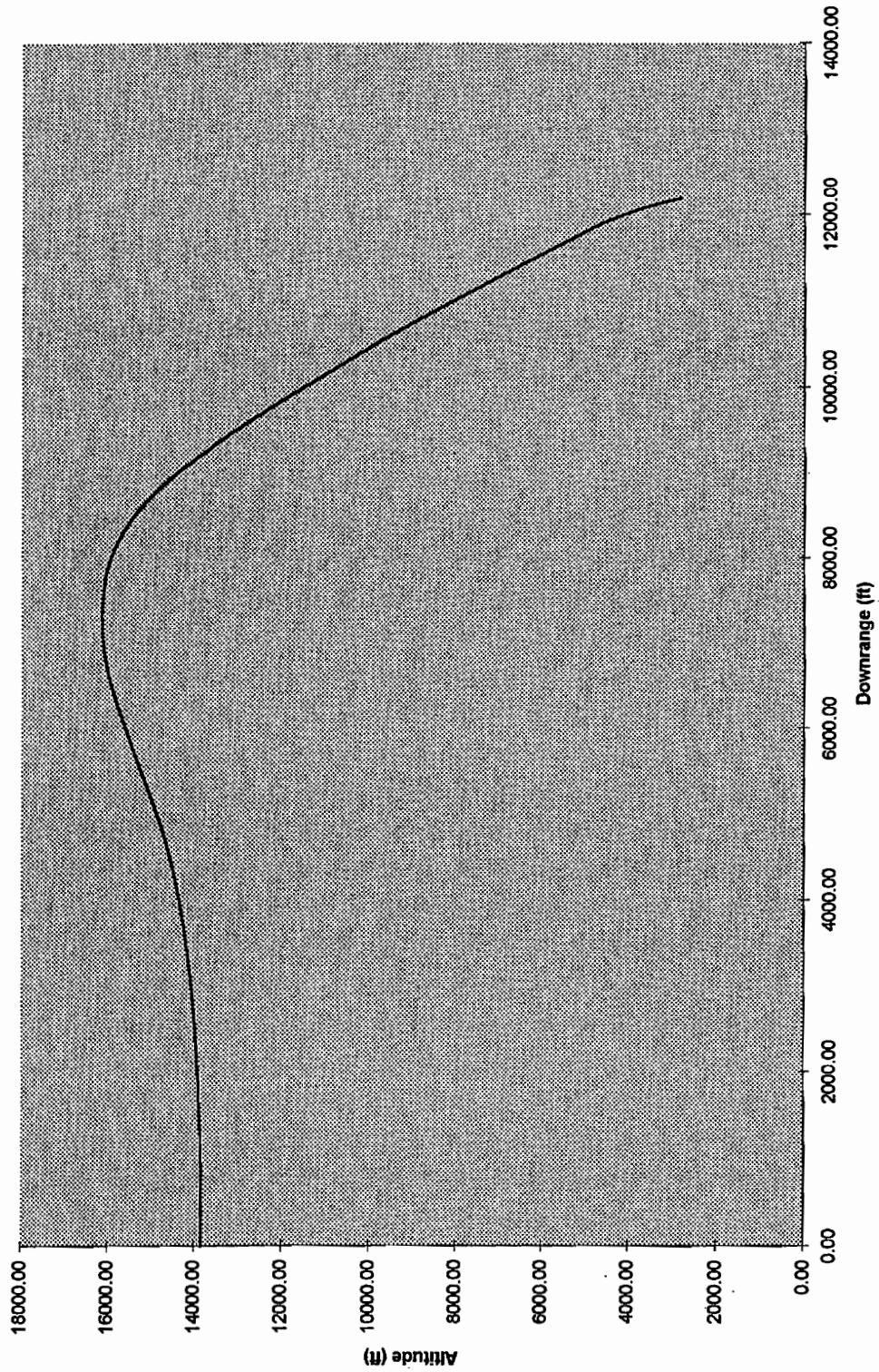
JFK Radar Distance Summary



2

Sheet1

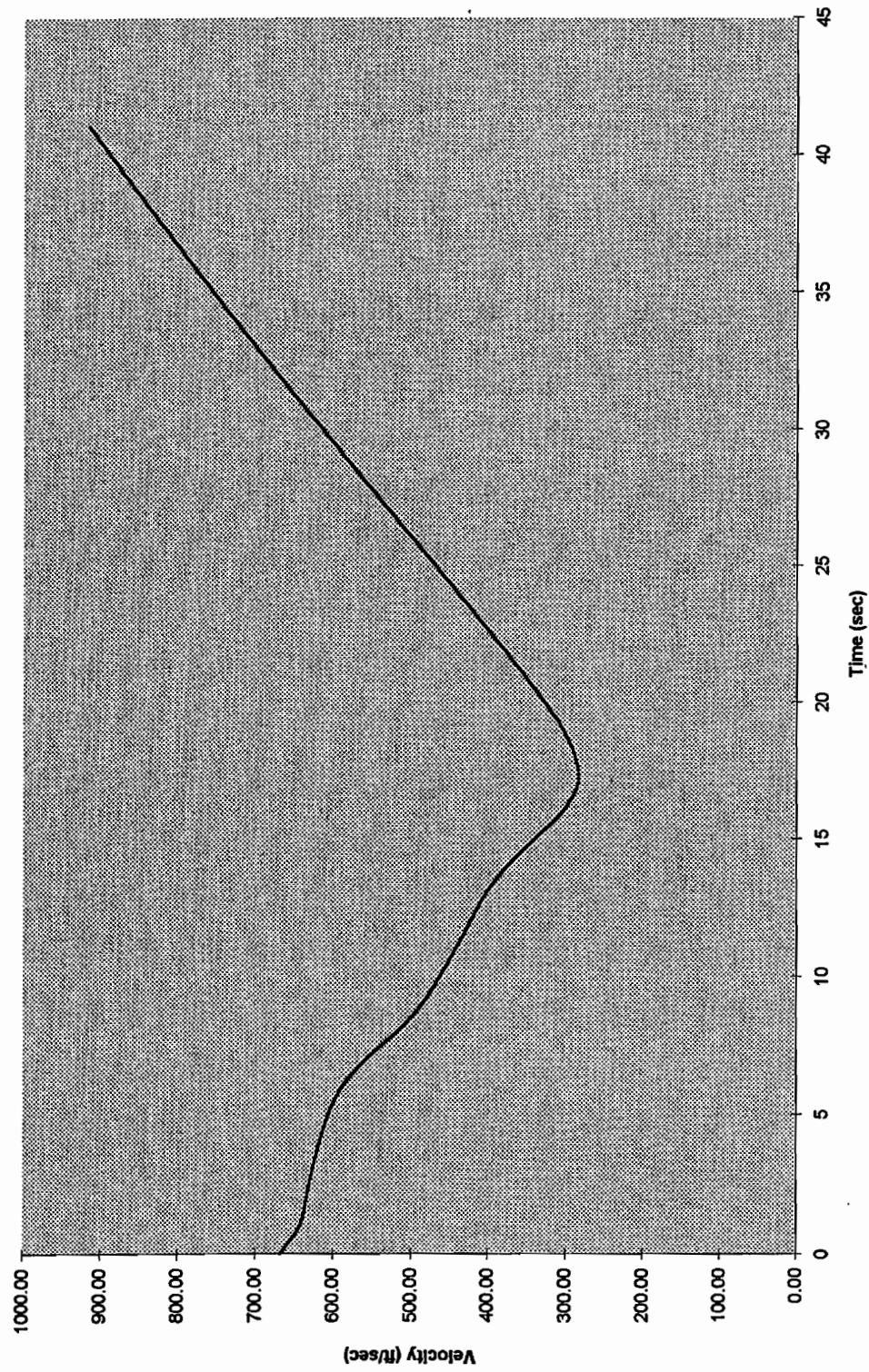
Figure 11: Modeled TWA Flight 800 Flight Profile



3

Sheet1

Figure 12: Modeled TWA Flight 800 Velocity

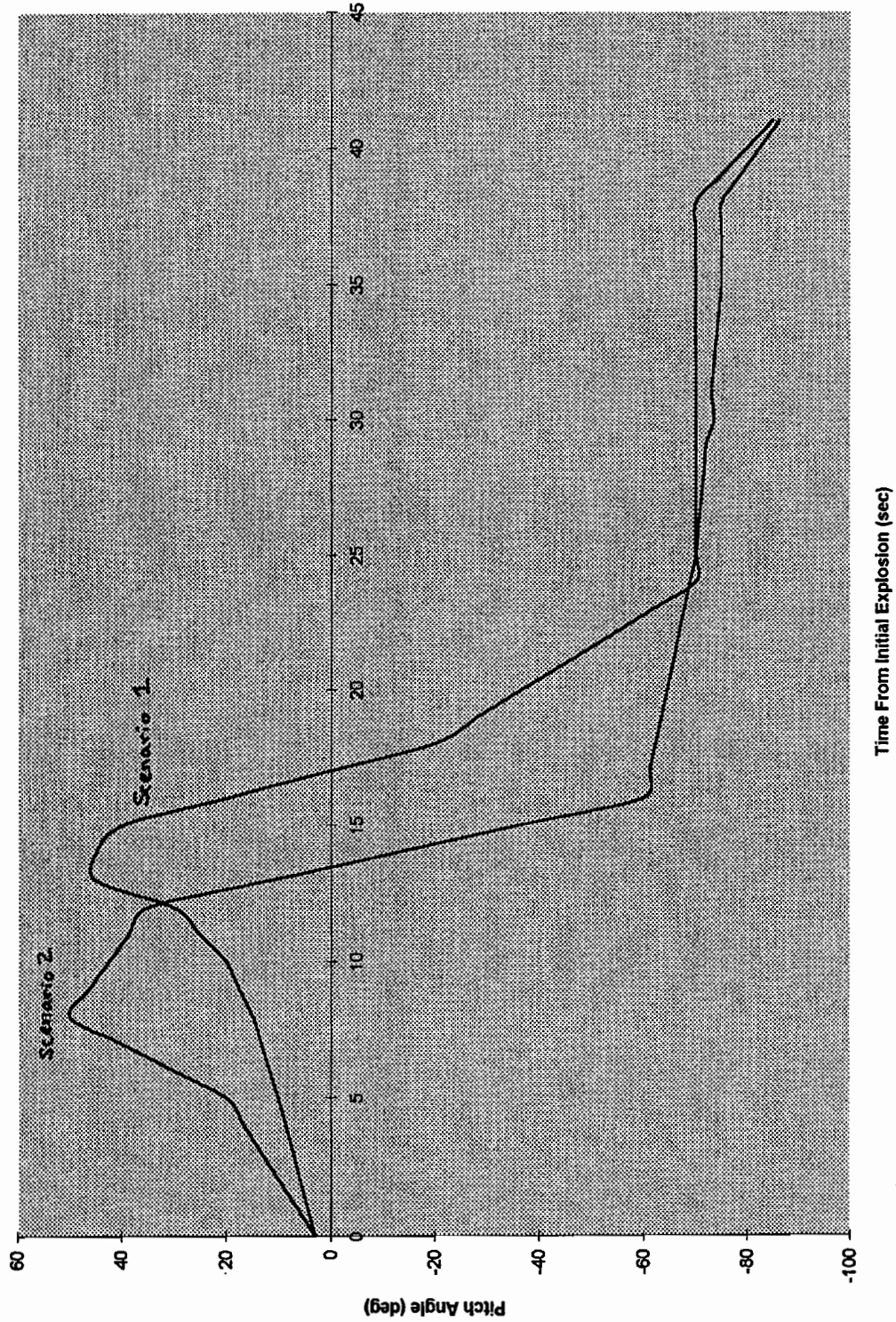


Page 9

4

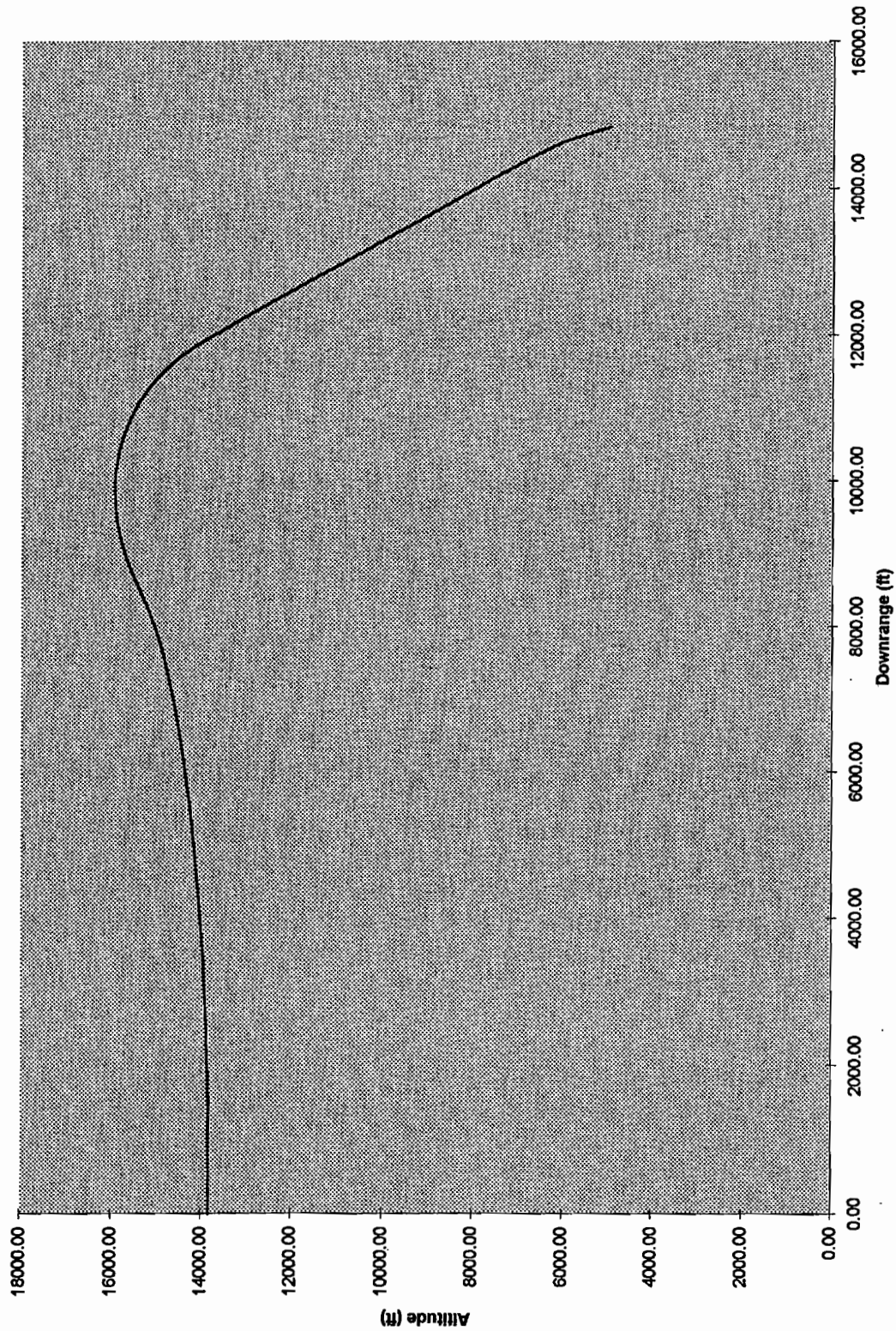
Sheet1 Chart 19

Figure 13: Comparison of Aircraft Pitch Angle



Sheet1

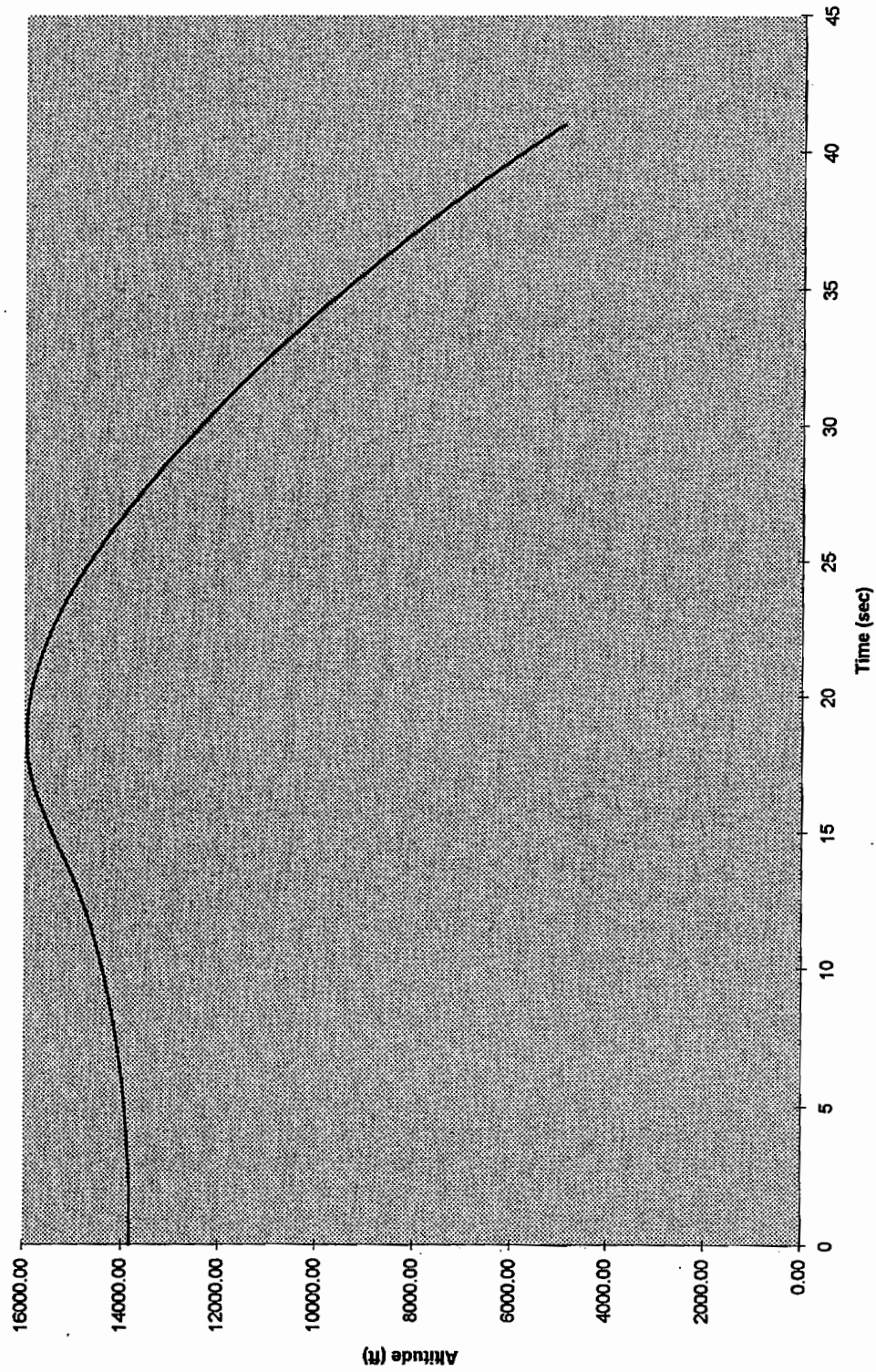
Figure 5: Modeled TWA Flight 800 Flight Profile



Page 4

Sheet1

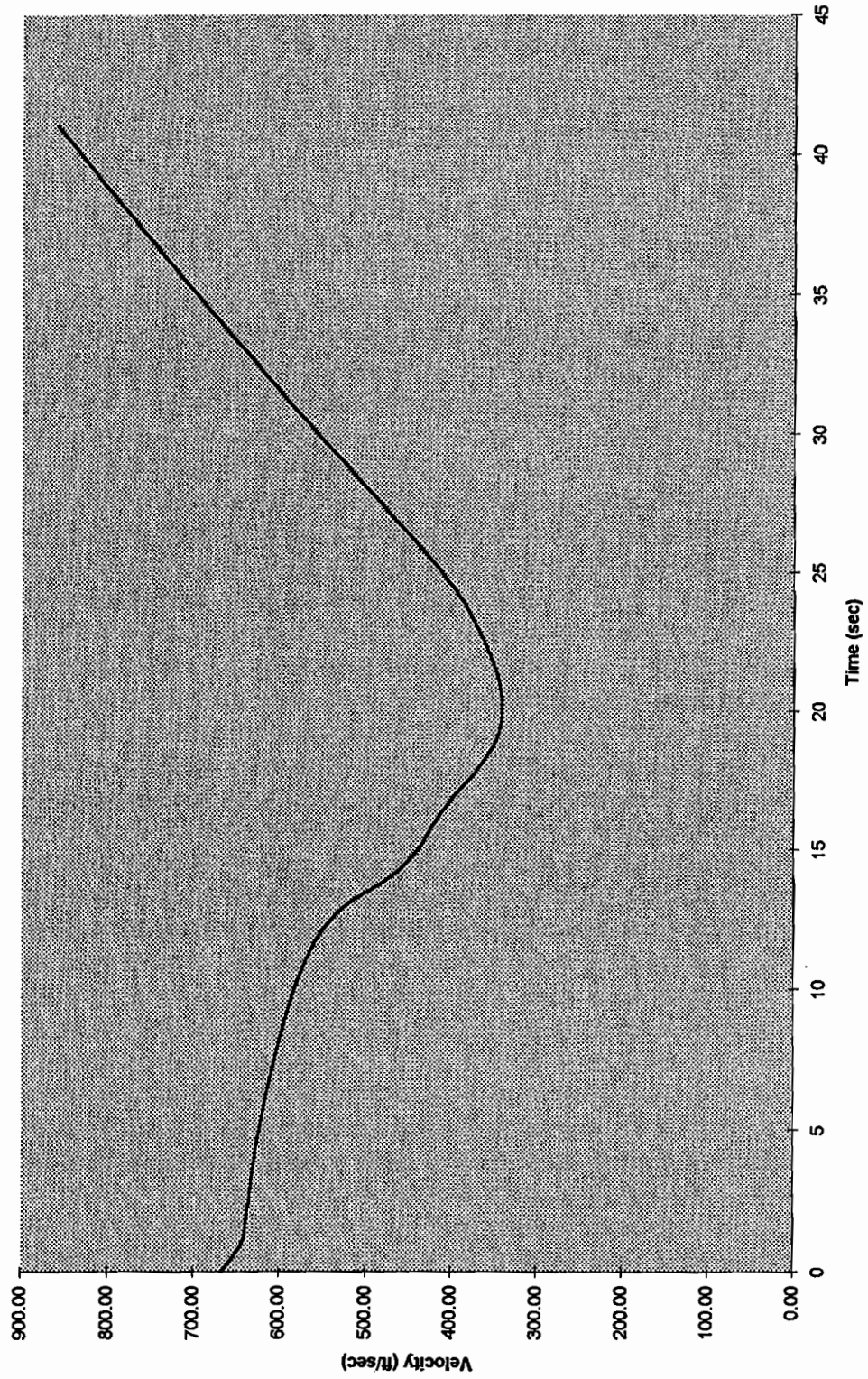
Figure 6: Modeled TWA Flight 800 Trajectory



Page 6

Sheet1

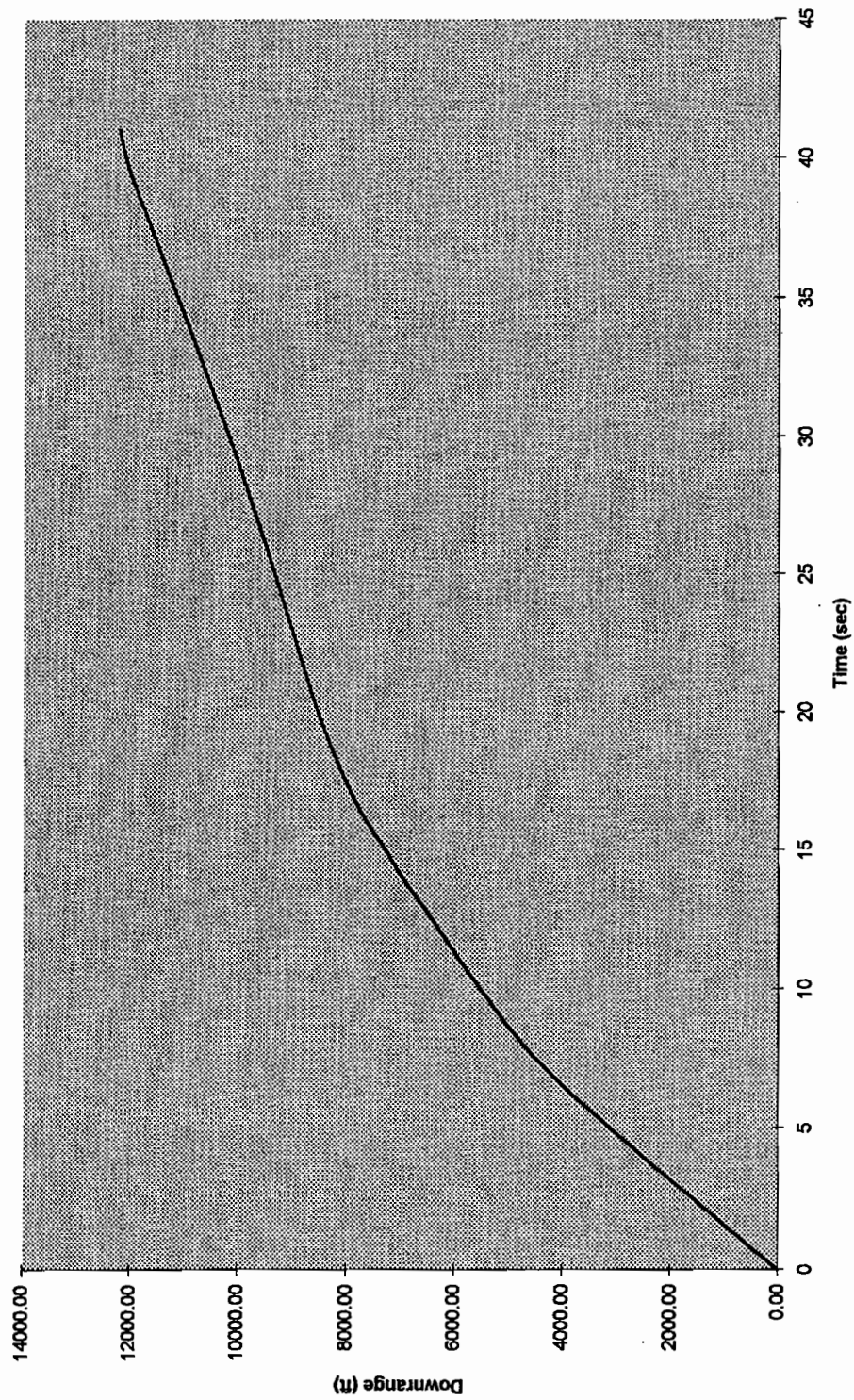
Figure 7: Modeled TWA Flight 800 Velocity



9

Sheet1

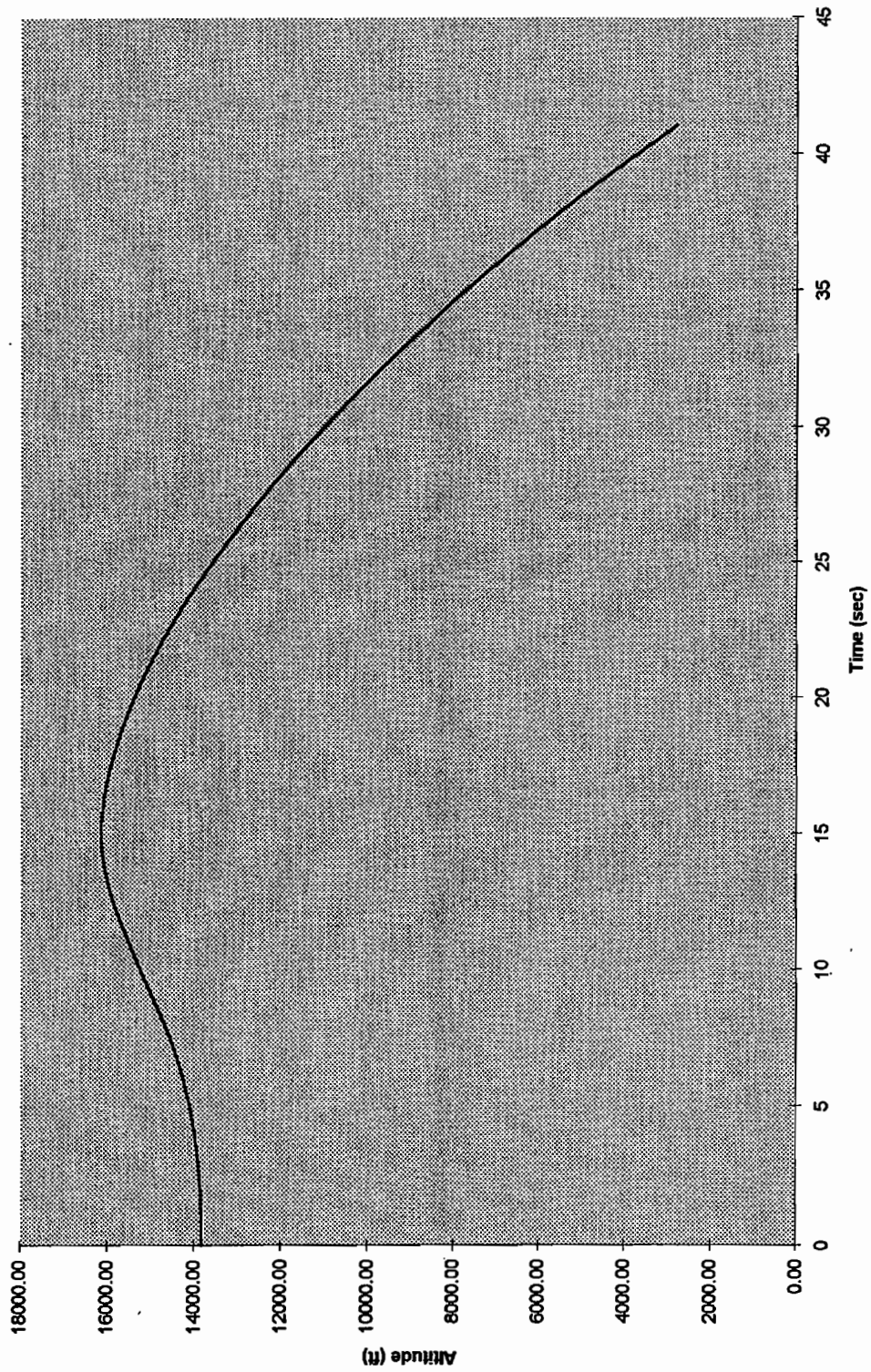
Figure 9: Modeled TWA Flight 800 Trajectory



10

Sheet1

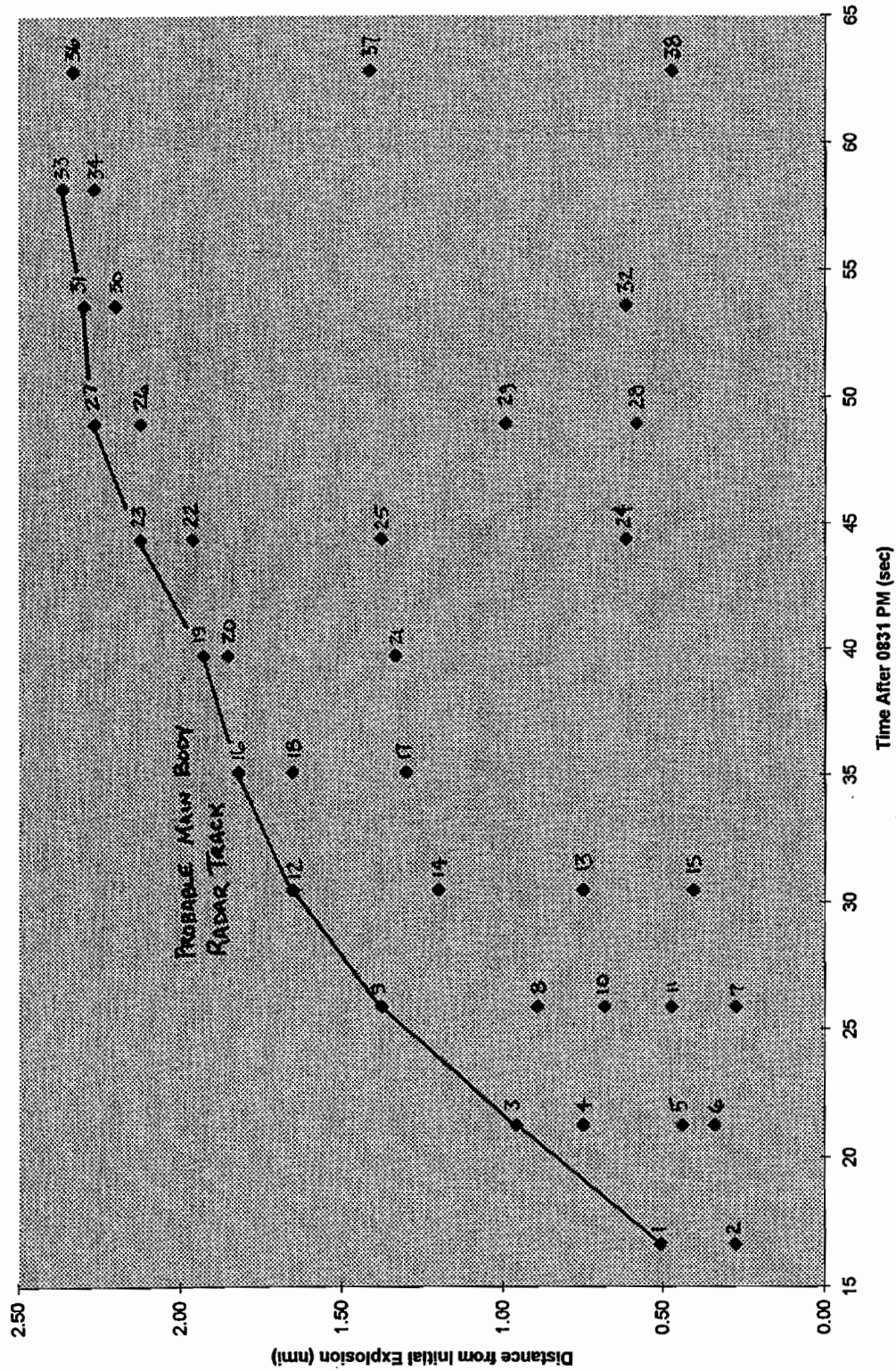
Figure 10: Modeled TWA Flight 800 Trajectory



10

Sheet1

FIGURE 2:
JFK Radar Distance Summary



Program to Analyze x,y Data From Radars

JFK Data

PARAMETERS USED

Flight azimuth = 26.50

Magnetic offset = 1.50

	Time	Rng fm JFK	Rng fm PO	Dis to ISP	Calc lat	Calc lon
1	16.65	50.4600	<u>0.5072</u>	21.5985	40.6613	72.6592
2	16.65	50.2500	<u>0.2758</u>	21.4448	40.6596	72.6637
3	21.25	50.8700	<u>0.9584</u>	21.9023	40.6646	72.6503
4	21.25	50.6800	<u>0.7494</u>	21.7609	40.6631	72.6544
5	21.25	50.4000	<u>0.4411</u>	21.5545	40.6608	72.6605
6	21.25	50.3100	<u>0.3419</u>	21.4886	40.6601	72.6624
7	25.88	50.2500	<u>0.2758</u>	21.4448	40.6596	72.6637
8	25.88	50.8100	<u>0.8924</u>	21.8575	40.6642	72.6516
9	25.88	51.2500	<u>1.3760</u>	22.1878	40.6677	72.6421
10	25.88	50.6200	<u>0.6834</u>	21.7165	40.6626	72.6557
11	25.88	50.4300	<u>0.4741</u>	21.5765	40.6610	72.6598
12	30.48	51.5000	<u>1.6503</u>	22.3776	40.6698	72.6367
13	30.48	50.6800	<u>0.7495</u>	21.7609	40.6631	72.6544
14	30.48	51.0900	<u>1.2002</u>	22.0671	40.6664	72.6455
15	30.48	50.3700	<u>0.4080</u>	21.5325	40.6605	72.6611
16	35.11	51.6500	<u>1.8148</u>	22.4923	40.6710	72.6334
17	35.11	51.1800	<u>1.2991</u>	22.1349	40.6672	72.6436
18	35.11	51.5000	<u>1.6503</u>	22.3776	40.6698	72.6367
19	39.72	51.7500	<u>1.9244</u>	22.5690	40.6718	72.6313
20	39.72	51.6800	<u>1.8477</u>	22.5153	40.6713	72.6328
21	39.72	51.2100	<u>1.3321</u>	22.1576	40.6674	72.6429
22	44.36	51.7800	<u>1.9573</u>	22.5921	40.6721	72.6306
23	44.36	51.9300	<u>2.1215</u>	22.7078	40.6733	72.6274
24	44.36	50.5600	<u>0.6173</u>	21.6722	40.6621	72.6570
25	44.36	51.2500	<u>1.3759</u>	22.1877	40.6677	72.6421
26	48.96	51.9300	<u>2.1216</u>	22.7078	40.6733	72.6274
27	48.96	52.0600	<u>2.2638</u>	22.8084	40.6743	72.6246
28	48.96	50.5300	<u>0.5843</u>	21.6500	40.6619	72.6576
29	48.96	50.9000	<u>0.9914</u>	21.9247	40.6649	72.6496
30	53.60	52.0000	<u>2.1982</u>	22.7619	40.6739	72.6259
31	53.60	52.0900	<u>2.2967</u>	22.8317	40.6746	72.6240
32	53.60	50.5600	<u>0.6173</u>	21.6722	40.6621	72.6570
33	58.21	52.1500	<u>2.3624</u>	22.8784	40.6751	72.6227
34	58.21	52.0599	<u>2.2638</u>	22.8084	40.6743	72.6246
35	58.21	52.2500	<u>2.4718</u>	22.9563	40.6759	72.6205
36	62.84	51.2800	<u>1.4089</u>	22.2105	40.6680	72.6414
37	62.84	52.1200	<u>2.3295</u>	22.8550	40.6748	72.6233
38	62.84	50.4300	<u>0.4742</u>	21.5765	40.6610	72.6598

ISP Data

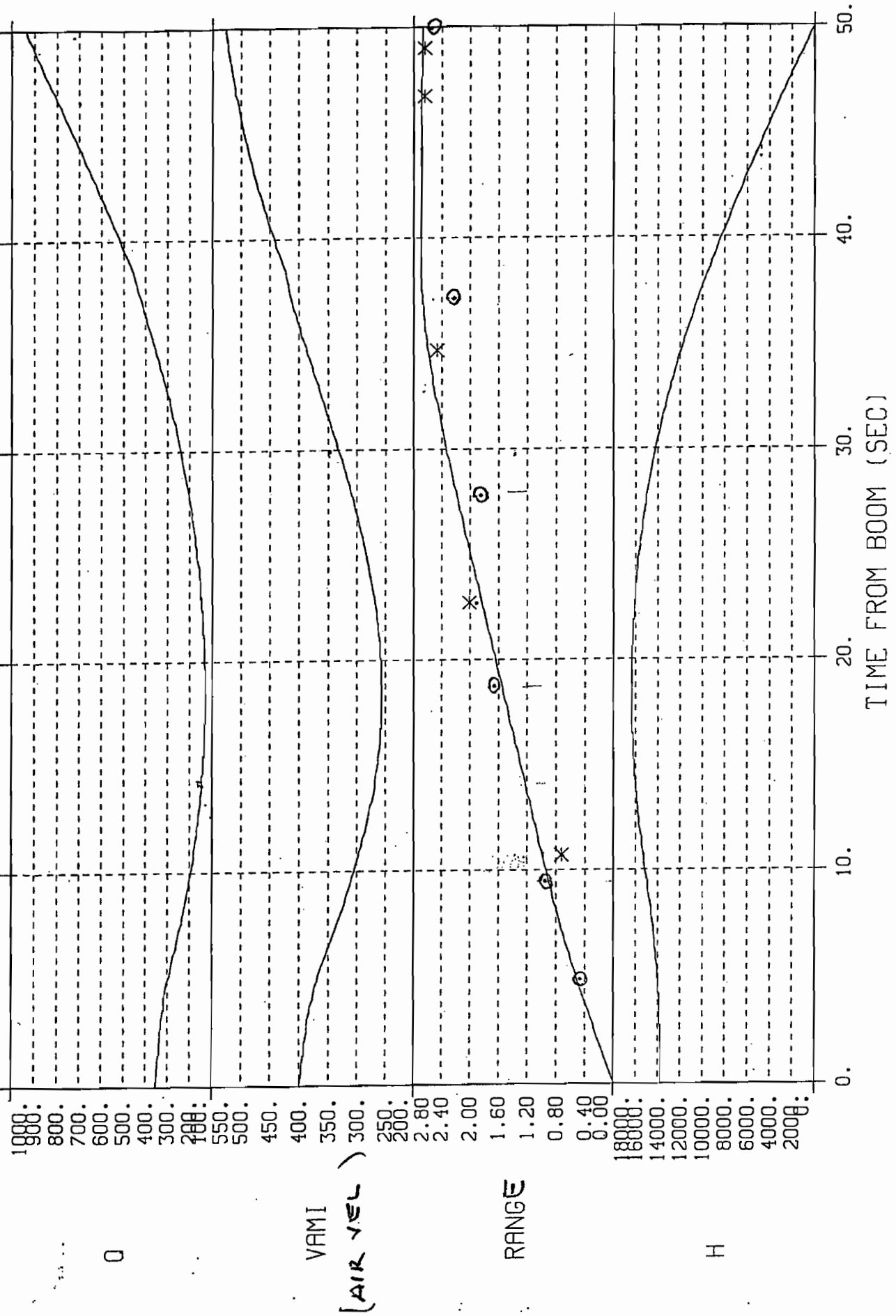
T-ISP	Rng fm ISP
15.97	21.5100
15.97	21.6000
20.66	21.5999
20.66	21.5100
20.66	22.0100
25.36	21.5600
25.36	22.2600

APPROVED FOR
RELEASE
DATE: MAR 2006

30.05	21.5600
30.05	22.4200
34.77	22.2600
34.77	22.4600
39.46	22.5700
39.46	22.4600
44.16	22.7300
48.85	22.8700
53.84	21.8500
58.25	22.3200
62.94	22.3700

3

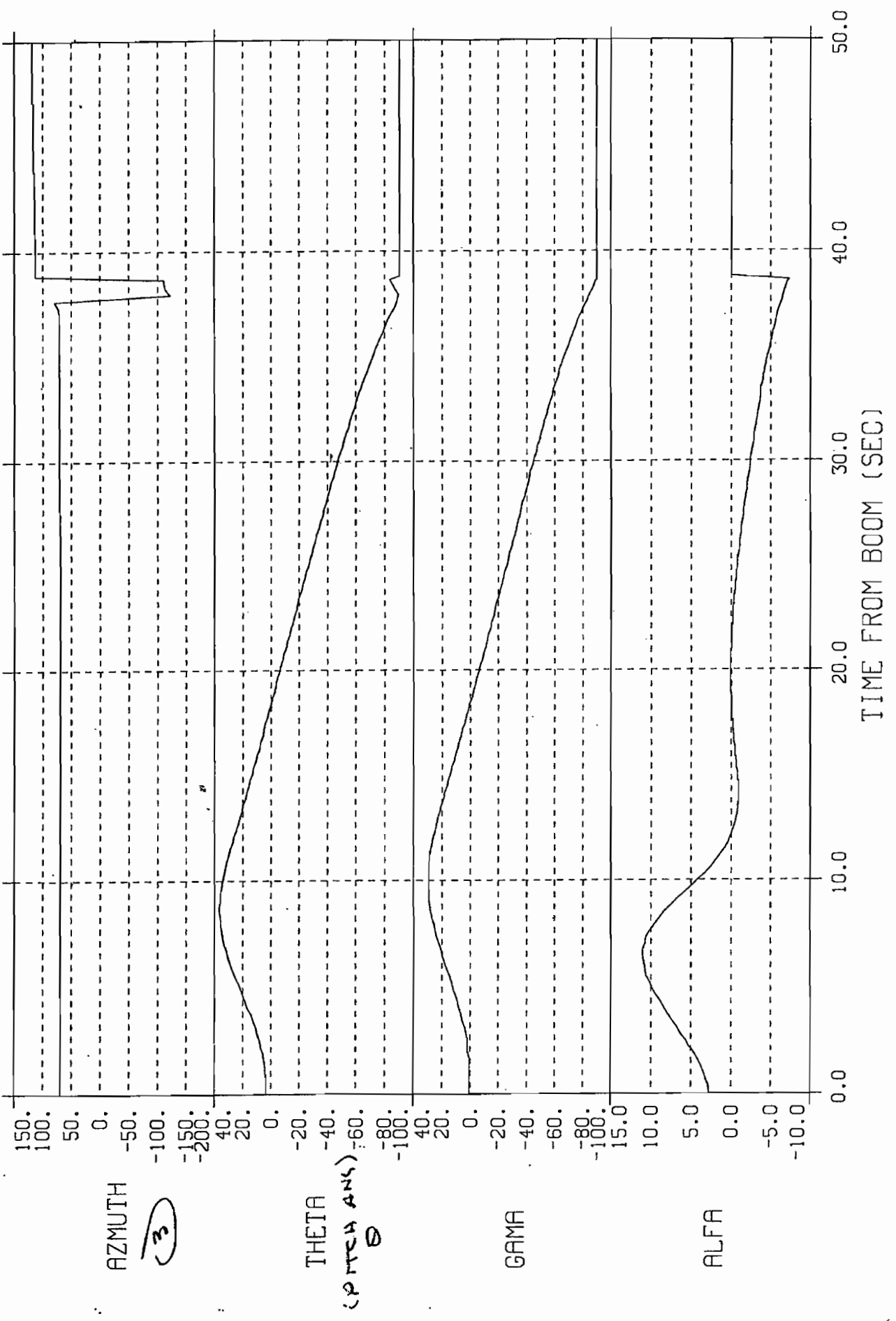
TWA 800 FLIGHT SIMULATION



5

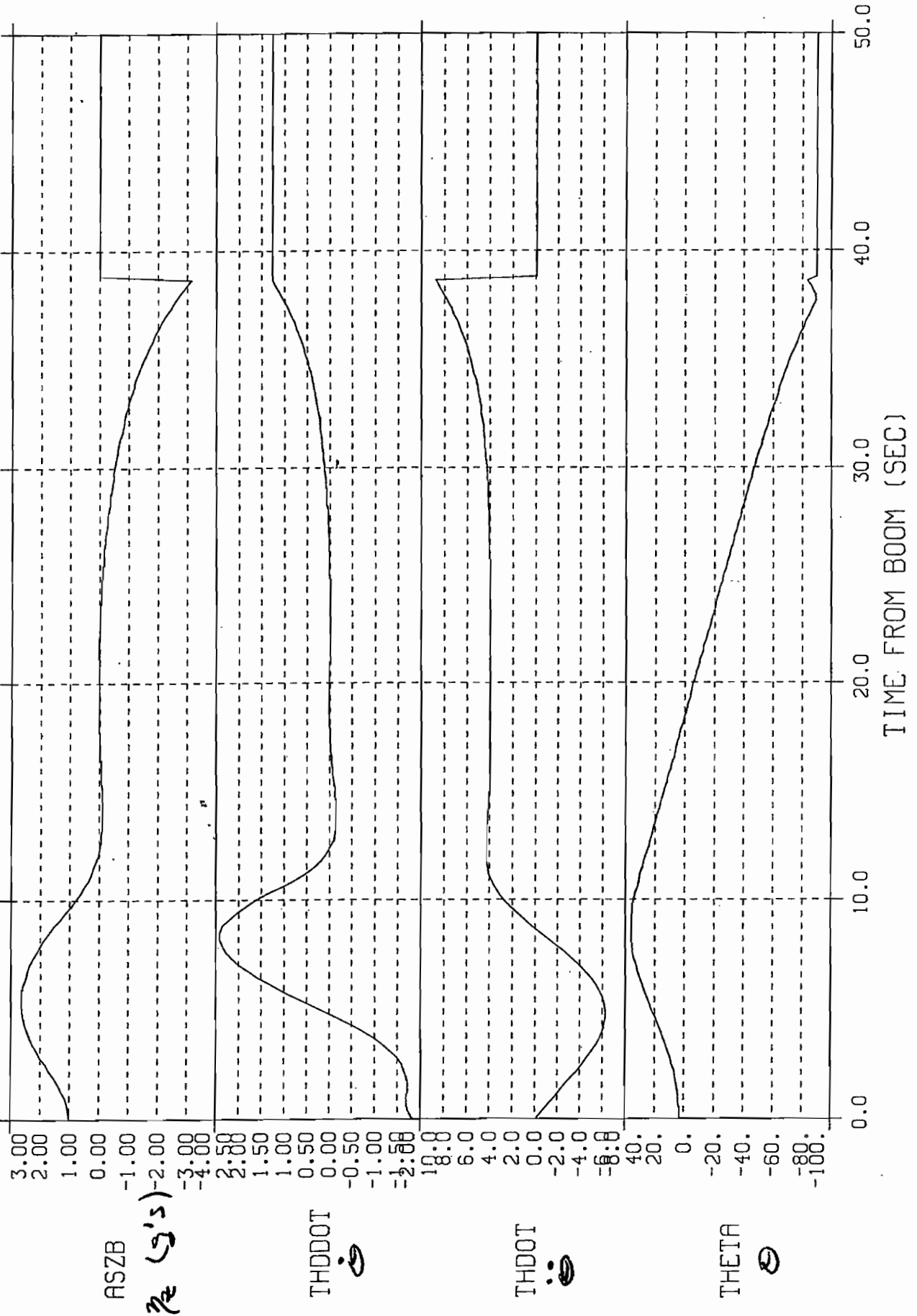
TWA 800
5/16/87

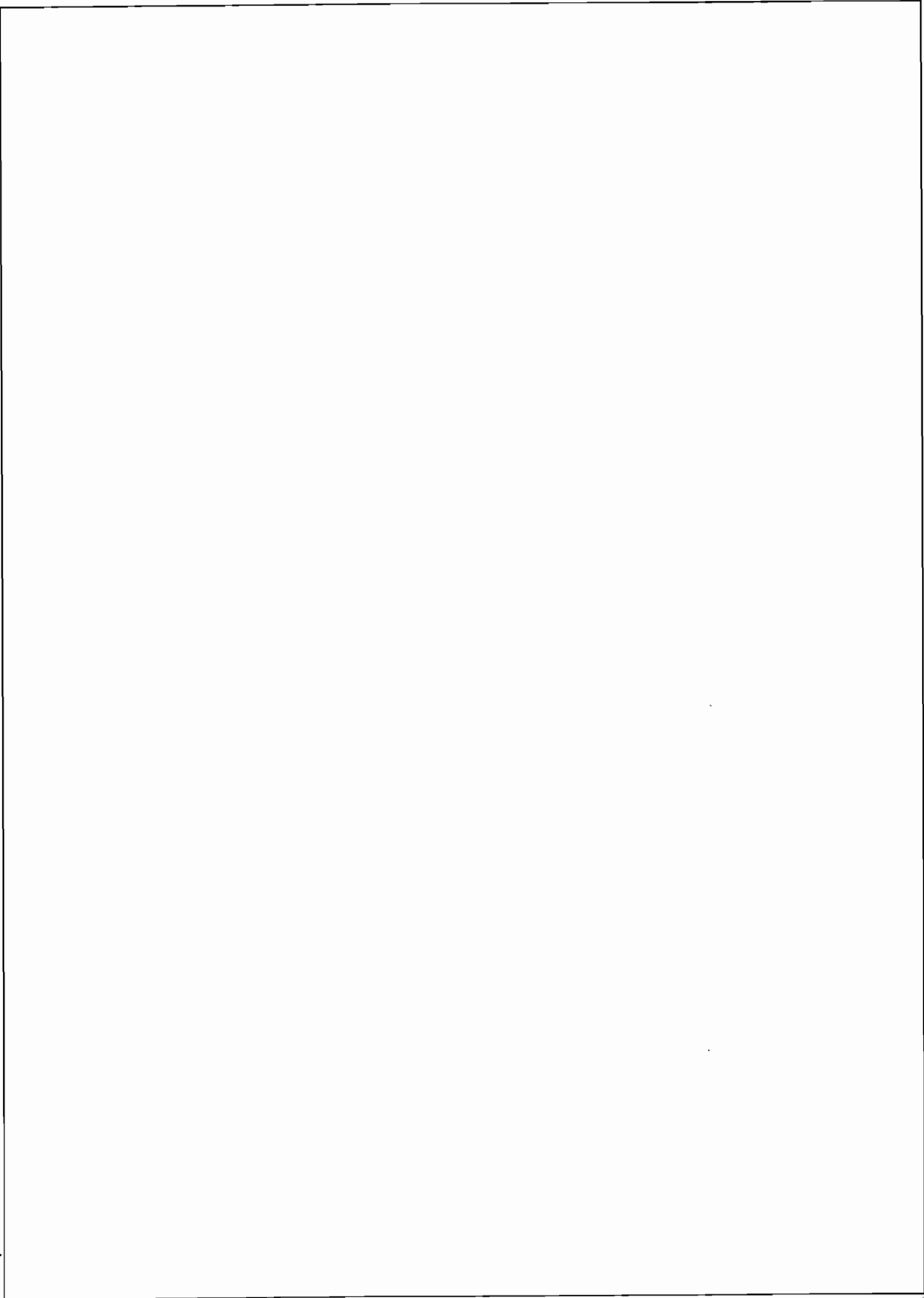
TWA 800 FLIGHT SIMULATION



6

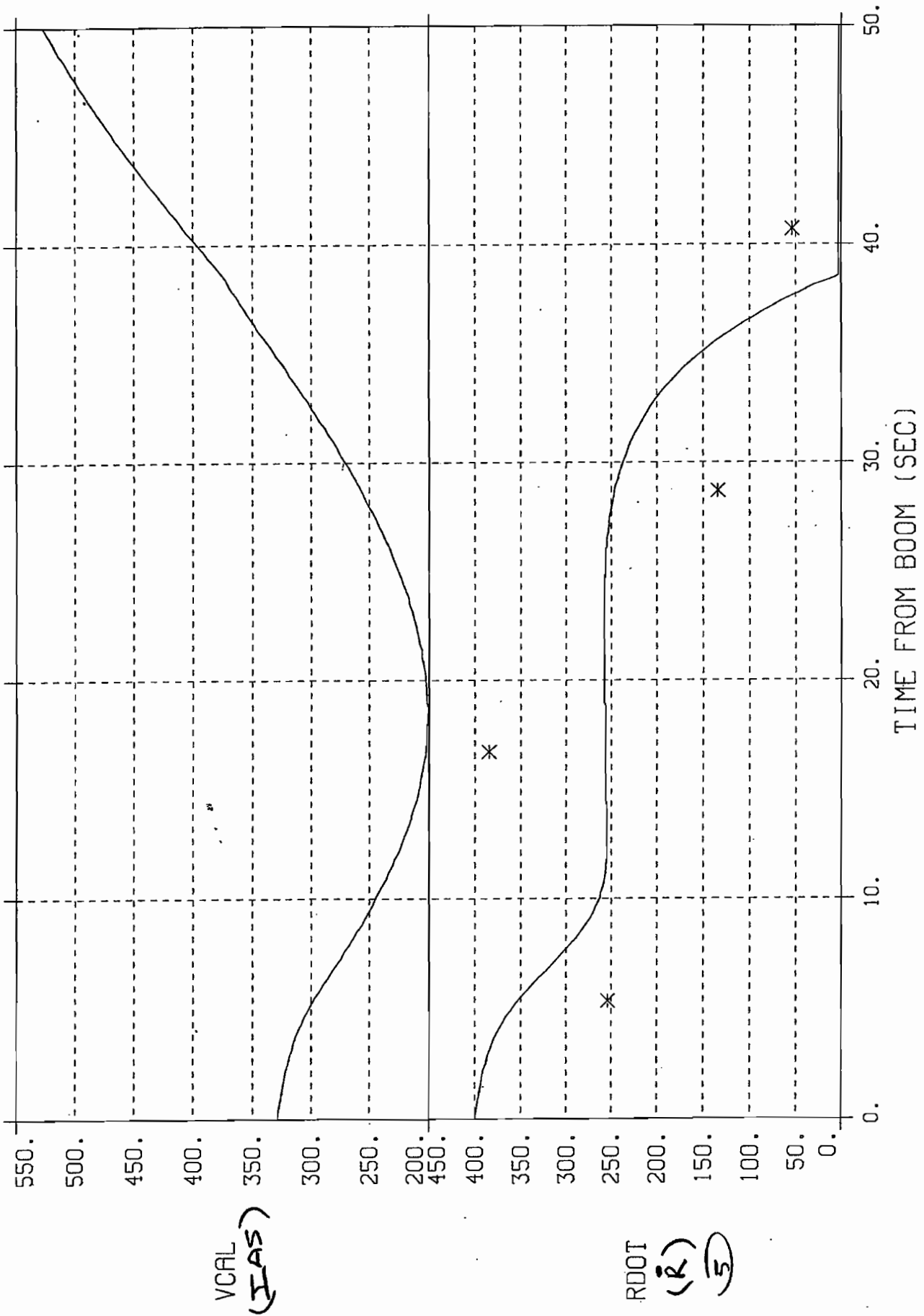
TWA 800 FLIGHT SIMULATION





(b) (4)

TWA 800 FLIGHT SIMULATION



(b) (4)

(b) (4)

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TWA 800 FLIGHT SIMULATION

