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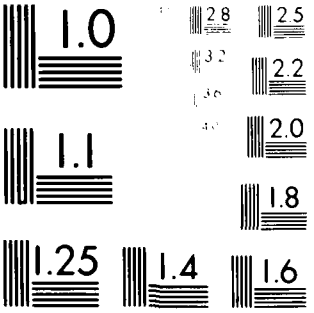
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There are three atmospheric processes responsible for the degradation of the transmission of optical images and electro-optical energy: aerosol extinction, molecular absorption and turbulent distortion (scintillation and beam wander). As a part of the Monterey Aerosol Generation and Transport experiment (MAGAT-80), light transmission characteristics (refractive-index structure function parameter, C_N^2, and total extinction corfficient,) were measured optically on a 13.3 km path across Monterey Bay. C_N^2 and

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can also be calculated from micrometeorological data (aerosol spectra, turbulence and mean meteorological parameters). This report is a compilation of the preliminary analysis of path-averaged (aircraft) and midpoint (ship) micrometeorological data, including calculations of the relevant optical parameters for comparison with the optical measurements.

FOREWORD

This report was prepared under Work Order No. 086412 of Contract No. N00014-78-204 in support of the U.S. Naval Postgraduate School research project sponsored by the Naval Air Systems Command (AIR 370), the Naval Material Command (EO/MET), and the Naval Environment Prediction Research Facility (NEPRF). The work was done in close cooperation with Dr. Ralph Markson and Jan Sedlacek of Airborne Research Associates.

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ABSTRACT

There are three atmospheric processes responsible for the degradation of the transmission of optical images and electro-optical energy: aerosol extinction, molecular absorption and turbulent distortion (scintillation and beam wander). As a part of the Monterey Aerosol Generation and Transport experiment (MAGAT-80), light transmission characteristics (refractive-index structure function parameter, C_N^2, and total extinction coefficient, α) were measured optically on a 13.3 km path across Monterey Bay. C_N^2 and α can also be calculated from micrometeorological data (aerosol spectra, turbulence and mean meteorological parameters). This report is a compilation of the preliminary analysis of path-averaged (aircraft) and midpoint (ship) micrometeorological data, including calculations of the relevant optical parameters for comparison with the optical measurements.

A. INTRODUCTION

Light propagating through the atmosphere is not only scattered and absorbed by aerosols and molecules, but the wavefronts are deflected and distorted by turbulence. The evaluation and application of optical, electro-optical, and laser systems requires reliable data and a tested physical model of these atmospheric effects.

Dr. Christopher W. Fairall and Donald E. Spiel of BDM/Monterey recently participated in a large-scale field experiment designed to improve and verify certain overwater models of these atmospheric processes for the U.S. Navy. The experiment, Monterey Aerosol Generation and Atmospheric Turbulence (MAGAT), was the brainchild of Professors Kenneth L. Davidson and Gordon E. Schacher of the Environmental Physics Group at the Naval Postgraduate School (NPS) in Monterey, California. Other government installations involved in the planning of the experiment were the Naval Ocean Systems Center and the Naval Environmental Prediction Research Facility. The Electro-Optics/Meteorology (EO/MET) Program, the High Energy Laser (HEL) Program, and the Naval Air Systems Command provided funding for the project. MAGAT was held from April 28 to May 9, 1980, in the vicinity of Monterey Bay.

The first phase of the experiment dealt with the compatibility of optical and micrometeorological propagation theory. In cooperation with the NPS Physics Department, Laser and Optical Propagation Group, direct measurements of optical extinction and scintillation across Monterey Bay were compared with both marine surface layer model predictions and aerosol and turbulence data obtained at the midpoint of the optical path from the Research Vessel R/V ACANIA. In addition, path averages of aerosols and turbulence were obtained by flying an instrumented aircraft the entire length of the 13.3 kilometer optical path at altitudes varying from 3.5 to 20 meters above the sea surface. The aircraft measurements were made in cooperation with Airborne Research Associates of Boston, Massachusetts. This report is a preliminary analysis of the aircraft and ship measurements for the first phase.

The second phase of the experiment involved an ambitious attempt to extend dynamic models of the evolving marine atmospheric boundary layer to include aerosol and turbulence profiles. This phase of the experiment, conducted in a region 30 to 50 nautical miles off the coast of Monterey, required periodic monitoring of aerosol and micrometeorological variables from the surface of 5 kilometers. These duties were shared by the aircraft and the R/V ACANIA (which utilized various remote sensing techniques). The analysis of the second phase of the aircraft measurements will be covered in a separate report.

B. BACKGROUND

1. Optical Parameters

The two atmospheric optical properties of primary interest are total extinction and refractive-index structure function parameter, C_N^2. The extinction has several components: molecular scattering and absorption ($\beta = \beta_s + \beta_a$) and aerosol scattering and absorption ($\alpha = \alpha_s + \alpha_a$). Thus, the extinction parameterizes the loss of light energy as it is scattered out of the beam or absorbed by the molecular and particulate constituents of the atmosphere. The distortion and tilt of image wave fronts by atmospheric turbulence is paramterized by C_N^2.

We can write C_N^2 as a function of temperature (C_T^2) and water vapor (C_Q^2) turbulence structure function parameters

$$C_N^2 = (79 \times 10^{-6}\ P/T^2)^2 (C_T^2 + 0.113\ C_{TQ} + 3.2 \times 10^{-3}\ C_Q^2) \qquad (1)$$

where P is the pressure in mb, T the absolute temperature and C_{TQ} the temperature-humidity cospectral structure function parameter. C_N^2 can be obtained in three ways: 1) optical measurement, 2) measurement of C_T^2, C_{TQ} and C_Q^2, and 3) calculation of C_T^2, C_{TQ} and C_Q^2 from bulk meteorological data (water temperature, air temperature, humidity and wind speed).

The total extinction ($\alpha + \beta$) can be measured optically by determining the reduction in beam intensity over some suitable optical path. The separate components can be calculated from micrometeorological data. The molecular extinction can be obtained from the LOWTRAN model developed by the Air Force Geophysics Laboratory (Selby et. al, 1978). The aerosol extinction can be calculated from the aerosol spectral density, N(r),

$$\alpha = \int_0^\infty 2\pi r^2 \; E(n,\lambda) \; N(r) \; dr \tag{2}$$

where r is the particle radius, $E(n,\lambda)$ the total scattering efficiency at wavelength, λ, and refractive-index, n.

2. Turbulence Scaling Parameters

Since the details of surface layer scaling are covered in previous reports (Fairall, 1980a and Fairall, 1980b) this discussion will be limited to a few basic definitions. Near the surface, the height above the surface, Z, can be normalized by the Monin-Obukhov stability length, L. We can then represent the micrometeorological properties in terms of scaling parameters and dimensionless functions of $\xi = Z/L$,

$$C_T^2 = T_*^2 \; Z^{-2/3} \; f(\xi) \tag{3a}$$

$$C_Q^2 = Q_*^2 \; Z^{-2/3} \; Af(\xi) \tag{3b}$$

$$C_{TQ} = r_{TQ} \; T_* Q_* Z^{-2/3} \; A^{1/2} \; f(\xi) \tag{3c}$$

where T_* and Q_* are the temperature and humidity scaling parameters, $f(\xi)$ is a dimensionless function (Wyngaard et. al., 1971), r_{TQ} is the temperature-humidity correlation parameter (about 0.8) and A is a constant (about 0.6).

The rate of dissipation of turbulent kinetic energy, ε, can be similarly represented

$$\varepsilon = \frac{u_*^3}{KZ} g(\xi) \tag{4}$$

where u_* is the friction velocity and K is Von Karman's constant (0.35). The scaling length is given by

$$L = \frac{T}{gK} \frac{u_*^2}{(T_* + 0.61\ TQ_*/\rho)} \tag{5}$$

where g is the acceleration of gravity and ρ is the density of air.

Note that the scaling parameters are related to the surface fluxes of momentum (τ = Reynolds stress), temperature (Q_o) and water vapor (M_o)

$$\tau = \rho u_*^2 \tag{6a}$$

$$Q_o = -u_* T_* \tag{6b}$$

$$M_o = -u_* Q_* \tag{6c}$$

3. Bulk Parameterization

Although the scaling parameters can be determined from either direct flux measurements or from measurements of C_T^2, C_Q^2 and ε, the difficulty of these measurements has lead to the development of a method that utilizes bulk meteorological quantities (wind speed, u, temperature, T, and water vapor density, Q). In this case, the scaling parameter for X (X = u,T,Q) is obtained from the difference in X from the sea surface (X_s) to some reference height (usually 10m) in the atmosphere.

$$X_* = c_X^{1/2}(X_{10} - X_s) \tag{7}$$

where c_X is the drag coefficient for X (typically, $c_X = 1.3 \times 10^{-3}$ over the ocean). Further details on the bulk method can be found in Fairall (1980b).

C. INSTRUMENTATION

1. Aerosol

The aerosol spectra were measured with optical particle counters made by Particle Measurement Systems (PMS) of Boulder, Colorado. The R/V ACANIA used the standard NPS system consisting of two probes - the classical scattering (CASAS) and the active scattering (ASAS) - controlled by a DAS-32 with computer interfacing. This system measures aerosols in 90 size channels from 0.09μ to 14.0μ radius. The aircraft aerosol data were obtained using a PMS model ASSAP on loan from NOSC. This system has 60 size channels from 0.28μ to 14.0μ radius.

2. Aircraft Meteorology

The aircraft micrometeorological parameters are logged on a computer controlled (HP 9835) twenty channel data acquisition system. Each parameter is sampled every 2.5 seconds with a two-scan average stored every 5 seconds. The data is stored on magnetic tape cassette with a four hour capacity. A brief description of the micrometeorological data is given in Table I. Further details on aircraft instrumentation can be found in Fairall (1979).

D. ANALYSIS

1. Aerosol

The aerosol analysis techniques for the ship and aircraft are basically the same. The N(r) spectrum is calculated for half-hour averages on the ship and path averages for the aircraft (about 2 minutes). The spectrum is fit in LOG(N(r)), LOG(r) space with a seventh order polynomial for $0.09\mu < r < 7\mu$ with a linear fit for $r > 7\mu$. The extinction

TABLE I. Aircraft Meteorological Data

Channel	Data	Symbol	Sensor
1	Pressure	P	National Semiconductor
2	Temperature	T	Platinum resistor
3	Temperature	T	Vortex (NRL)
4	Dew Point	T_d	Cooled mirror
5	Sea Surface T	T_s	PRT-5 (IR)
6	Electric Field	E	Radioactive probe
7	-		
8	Refractivity	N	Microwave cavity (NAC)
9	Water Vapor Density	Q	Lyman-α, mean (NRL)
10	Air Speed	U	Hot wire, mean
11	Dissipation	ε	Hot wire, fluctuation
12	N structure funct.	C_N^2	Microwave, fluctuation
13	T structure funct.	C_T^2	Microthermal, fluctuation
14	Q structure funct.	C_Q^2	Lyman-α, fluctuation
15	-		
16	-		
17	-		
18	-		
19	Electrical Conductivity	λ	Flat plate
20	-		

is calculated using these fits for $0.03\mu < r < 30\mu$ on the ship and for $0.1\mu < r < 15\mu$ for the aircraft. This calculation is discussed in depth in Schacher et. al. (1980).

The method was developed for the ship system and adapted for use with the aircraft. Because of the greater statistical scatter in the N(r) spectrum from the aircraft probe, the polynomial fit is subject to occcasional "instabilities". Should this occur, the polynomial fit will bear no resemblance to the N(r) data. Another symptom of this instability is the occurrence of large polynomial coefficients. Due to the preliminary nature of this report, the data have been left unedited. The reader is cautioned to use common sense when attempting to use these results.

The aircraft and ship aerosol extinctions were compared in a series of flybys. Since the ship system is newer, has a wider range, better sensitivity and is better understood, we decided to correct the aircraft extinctions to agree with the ship. The correction factors are given in Table II.

TABLE II. Ratio of Ship to Aircraft Extinction Coefficient Values

Wavelength, μ	Before 5/4/80	After 5/3/80
0.63	3.8	1.8
0.84	5.2	2.0
1.06	7.1	2.5

These factors are based only on the open ocean comparisons. The Monterey Bay comparisons were not included so that the ship and aircraft optical comparisons could be considered independent. The complete set of correction factors is shown in Fig. 1.

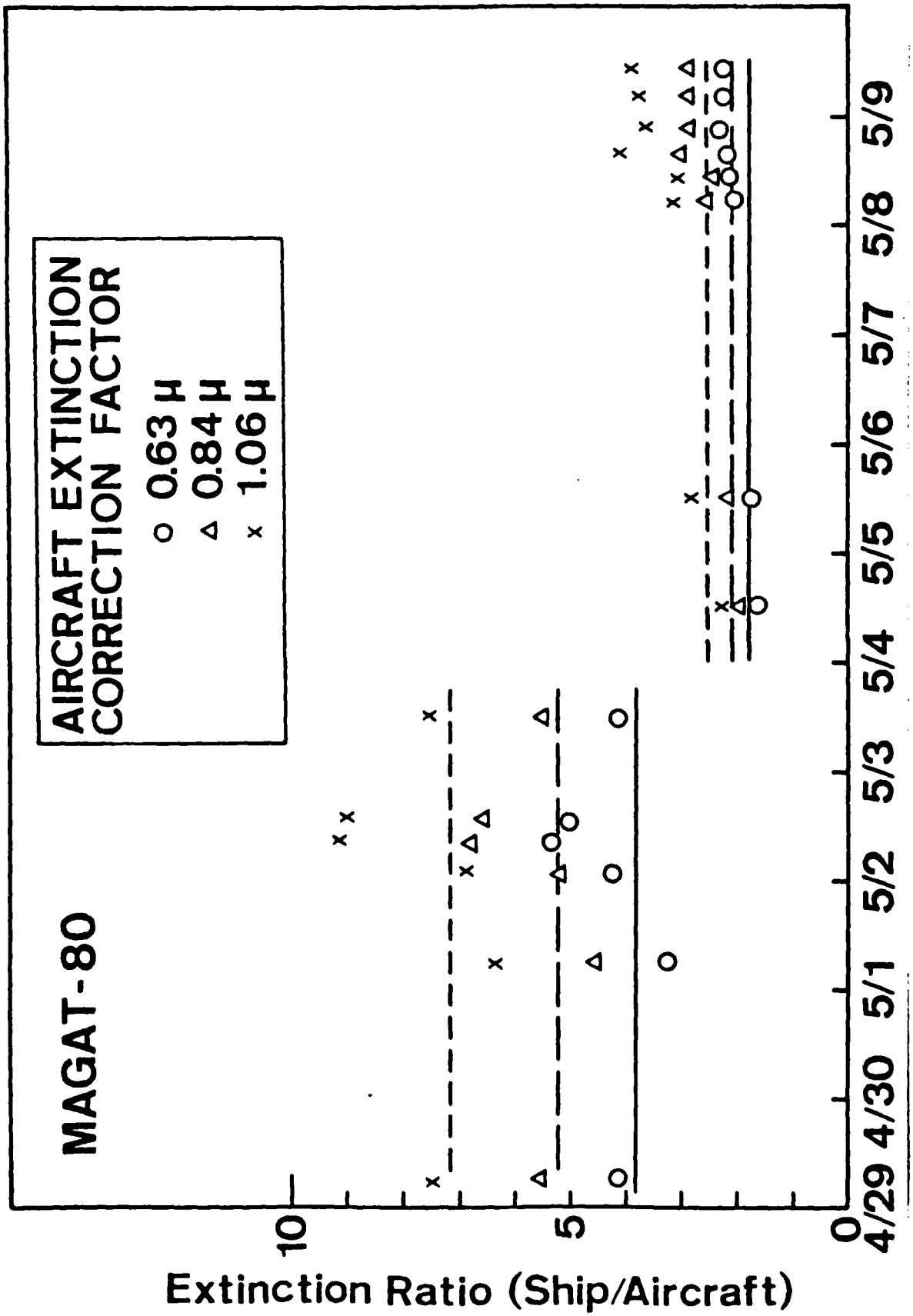


Figure 1. Ratio of ship to aircraft aerosol extinction coefficients. The horizontal lines represent the factors used to correct the aircraft values to agree with the ship.

2. Micrometeorology

The methods and equations used to obtain the basic parameters given in Table I have been described in Fairall (1979). Once these meteorological parameters are in hand, one can calculate the scaling parameters (Section B2) using either turbulence or bulk quantities. Since we did not have mean wind speed available for the aircraft, we did bulk calculations using a hybrid method where the dissipation rate, ε, is used to obtain u_* (Eq. 4).

3. Optical Data

The optical extinction coefficients, as obtained from the optics group, represent total extinction due to aerosols and air molecules. The molecular components were calculated using LOWTRAN IIIB and subtracted from the total to leave only the aerosol extinction. The LOWTRAN values used are given below

Wavelength, μ	0.63	0.84	1.03	1.06
Molecular β, km^{-1}	0.01	0.04	0.00	0.00

A description of the optical measurements is given by Crittenden et. al. (1980).

E. RESULTS

The measurements were made in Monterey Bay along a 13.3 km path from Pt. Pinos to Marina (Figure 2). The R/V ACANIA was located in the region indicated by the square. The aircraft made constant altitude passes along the optical path. Later in the experiment, several passes at different altitudes were made and, in some cases, passes were made perpendicular to the path. The optical comparison was done on turbulence (C_N^2) and extinction (α). The optical and ship C_N^2 comparison has already been reported (Davidson et. al., 1980) so it will not be discussed here.

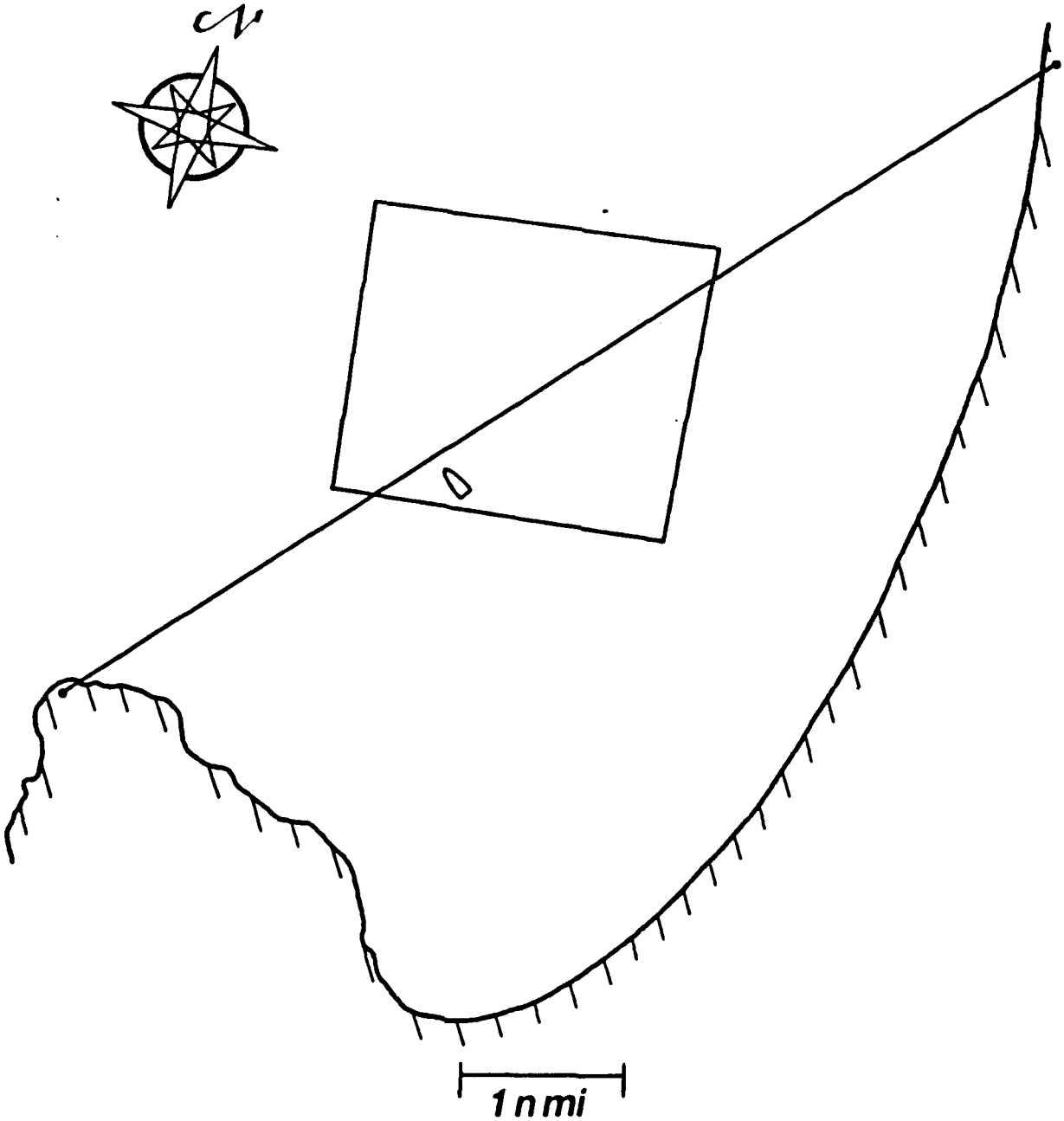


Figure 2. Location of 13.3 km optical path in Monterey Bay. The square indicates the R/V ACANIA operating area for optical comparisons.

1. Aircraft C_N^2 Evaluation

The basic aircraft optical path micrometeorological measurements and bulk calculations of scaling parameters are given in Table III. A more detailed printout is given in Appendix A. The bulk scaling predictions of C_N^2 (Eq. 3 and Fig. 1) are compared with the turbulence measurements in Fig. 3. These results are similar to those obtained from the ship measurements (Davidson et. al., 1980).

2. Aircraft Extinction Comparison

A summary of the aircraft optical path extinctions is given in Appendix B. A detailed printout is given in Appendix C including graphs of aerosol size spectra. In Fig. 4 the aircraft aerosol comparison with the optical measurements is shown. Out of nineteen comparison runs (three wavelengths each) only two disagree by more than a factor of two. For the aircraft aerosol data, the average ratio of extinction for aerosols versus optics is 1.0 + 50%, -40%.

3. Ship Extinction Comparison

The ship aerosol measurements were made at anchor along the optical path or underway within the square indicated in Fig. 2. Selected time series plots of extinction coefficient are given in Fig. 5a - 5g. Direct comparisons of size spectral and optical extinction values are given in Fig. 6a - 6d.

TABLE III. Aircraft optical path bulk data and scaling parameters

DATE	#	TIME	ALT	T	TS	q	qS	Z/L	U*	T*	q*	L
04/29/80	1	173155	40	12.4	14.9	7.5	10.6	-2.65E-01	.231	-.098	-.117	-38
04/30/80	2	142010	40	12.1	14.1	7.7	10.1	-8.22E-02	.356	-.073	-.086	-122
05/01/80	3	170855	40	13.7	12.9	8.2	9.2	3.32E-01	.088	.026	-.031	30
05/02/80	4	112320	40	11.9	14.0	7.7	9.9	-1.03E+00	.107	-.084	-.089	-10
05/02/80	5	140520	40	12.3	13.1	7.7	9.3	-9.26E-02	.226	-.030	-.060	-108
05/02/80	6	172112	40	12.2	13.4	7.6	9.6	-2.00E-01	.188	-.047	-.073	-50
05/02/80	7	190324	40	12.2	13.0	7.7	9.3	-1.07E-01	.212	-.030	-.060	-93
05/03/80	8	101320	40	11.3	14.3	7.4	10.1	-1.71E+00	.100	-.123	-.115	-6
05/03/80	9	164510	40	13.0	13.6	7.7	9.7	-6.49E-02	.254	-.023	-.073	-154
05/03/80	10	192825	40	12.6	13.2	7.6	9.4	-6.61E-02	.248	-.023	-.066	-151
05/04/80	11	94432	40	11.7	14.7	7.5	10.4	-1.32E+00	.114	-.122	-.119	-8
05/05/80	12	100018	40	12.5	14.8	7.8	10.4	-8.04E-01	.128	-.091	-.107	-12
05/05/80	13	165536	40	13.8	13.5	8.5	9.6	1.61E-03	.528	.010	-.038	6194
05/06/80	14	91440	40	12.9	13.6	7.3	9.7	-4.89E-02	.322	-.028	-.085	-205
05/06/80	15	120213	40	12.8	13.2	7.4	9.4	-1.66E-02	.419	-.013	-.071	-601
05/06/80	16	164810	40	13.0	13.6	7.1	9.7	-2.29E-02	.453	-.023	-.094	-437
05/07/80	17	123620	40	12.4	14.0	7.5	9.9	-1.41E-01	.255	-.061	-.090	-71
05/07/80	18	175450	30	12.1	14.2	7.6	10.1	-1.72E-01	.256	-.078	-.094	-58
05/09/80	22	180800	30	12.7	14.2	7.5	10.0	-5.16E-02	.404	-.055	-.092	-194
05/08/80	23	190132	30	12.7	13.9	7.5	9.8	-4.43E-02	.394	-.043	-.084	-226
05/09/80	24	100900	30	13.8	14.8	8.2	10.5	-7.51E-02	.287	-.038	-.085	-133
05/09/80	25	114750	30	14.3	14.4	8.2	10.2	-1.93E-02	.302	-.004	-.070	-518

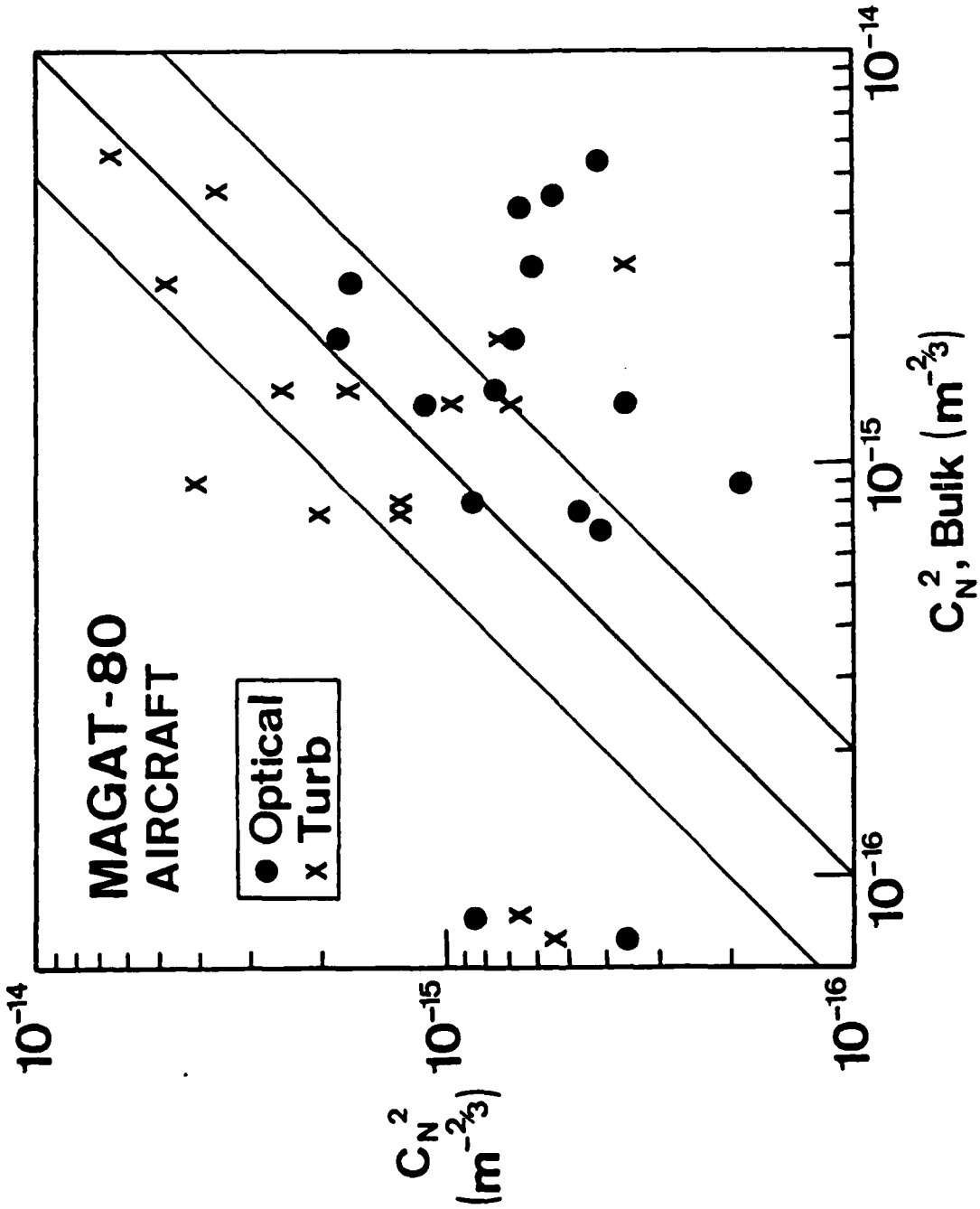


Figure 3. Comparison of aircraft turbulence C_N^2 values (X) and optically measured C_N^2 values (●) with C_N^2 calculated using the bulk method. The dark solid line indicates perfect agreement and the lighter lines indicate factor of two limits.

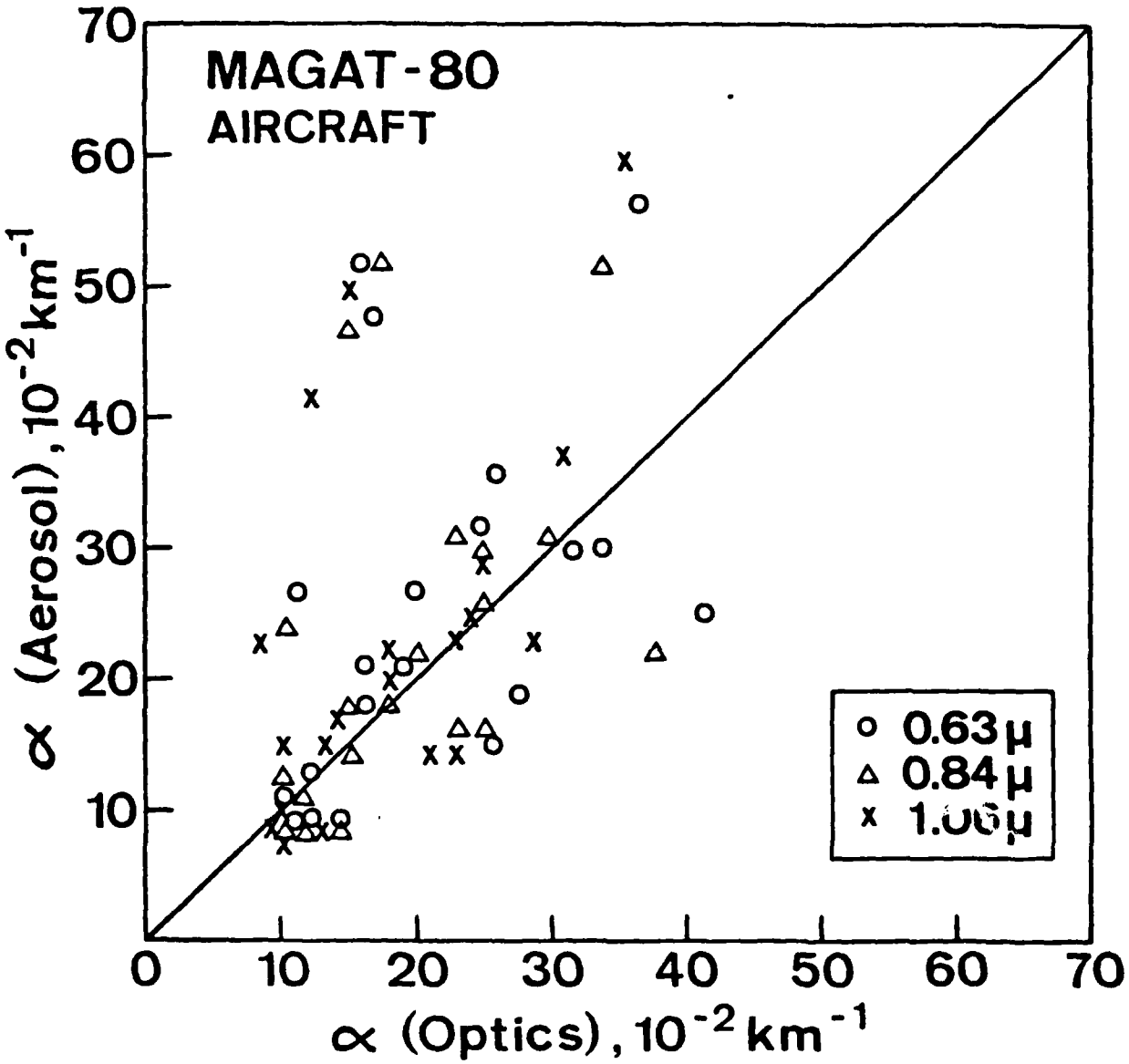


Figure 4. Comparison of optically measured extinction coefficient and aerosol extinction coefficient from aircraft optical path data.

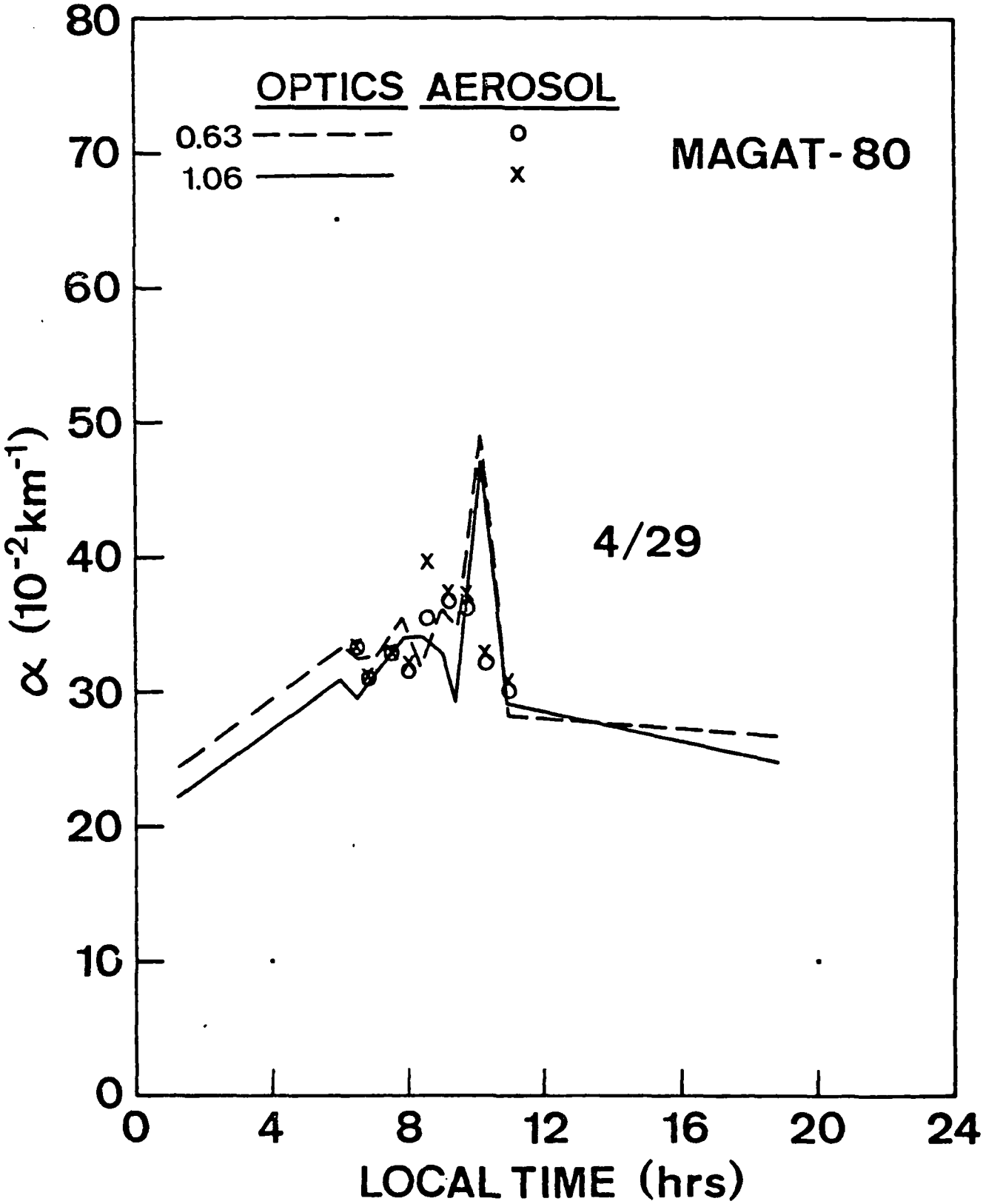


Figure 5a. Time series plot of aerosol extinctions coefficient from optical measurements (lines) and aerosol size spectra (X and O).

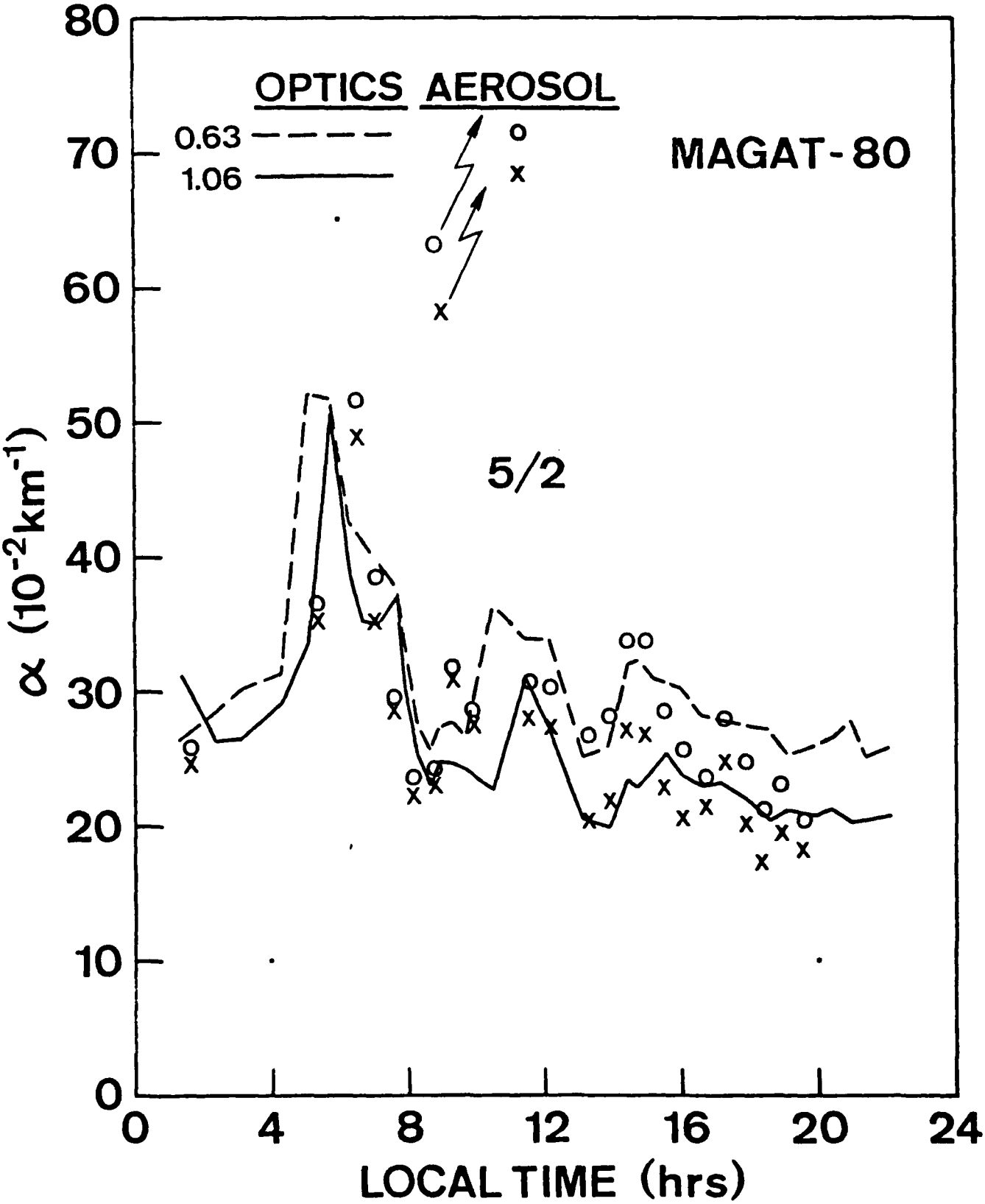


Figure 5b. Time series plot of aerosol extinctions coefficient from optical measurements (lines) and aerosol size spectra (X and O).

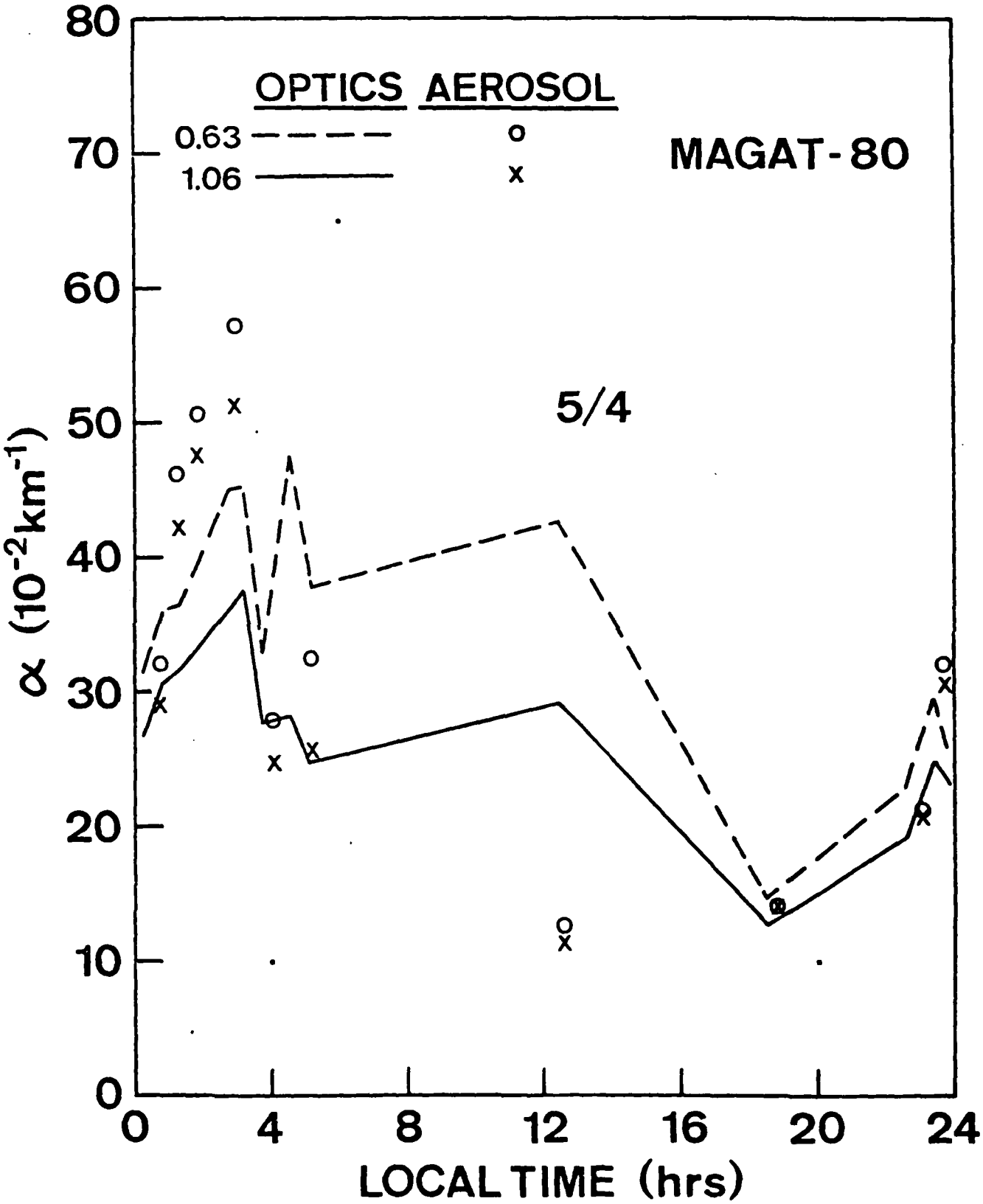


Figure 5c. Time series plot of aerosol extinctions coefficient from optical measurements (lines) and aerosol size spectra (X and O).

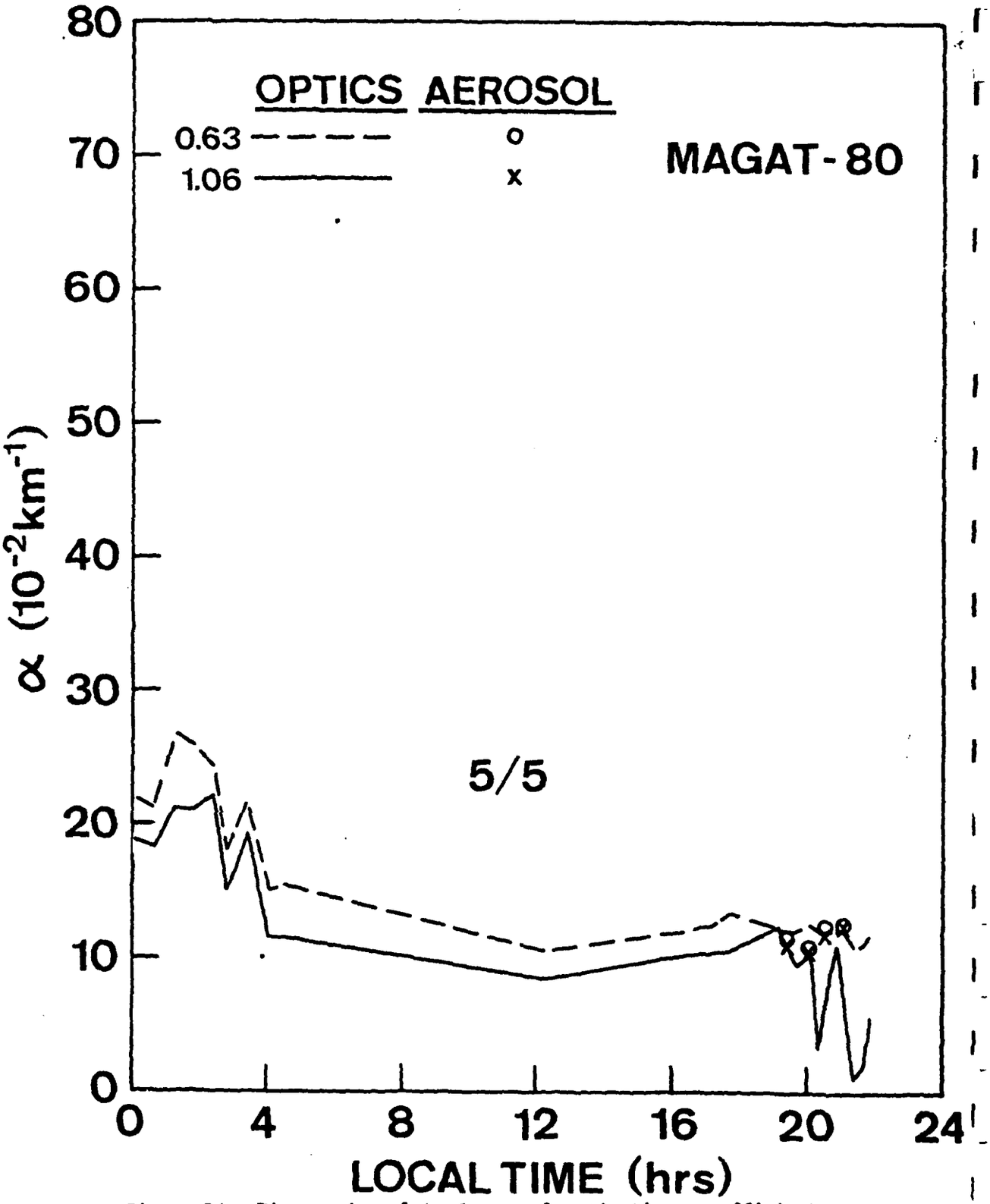


Figure 5d. Time series plot of aerosol extinctions coefficient from optical measurements (lines) and aerosol size spectra (X and O).

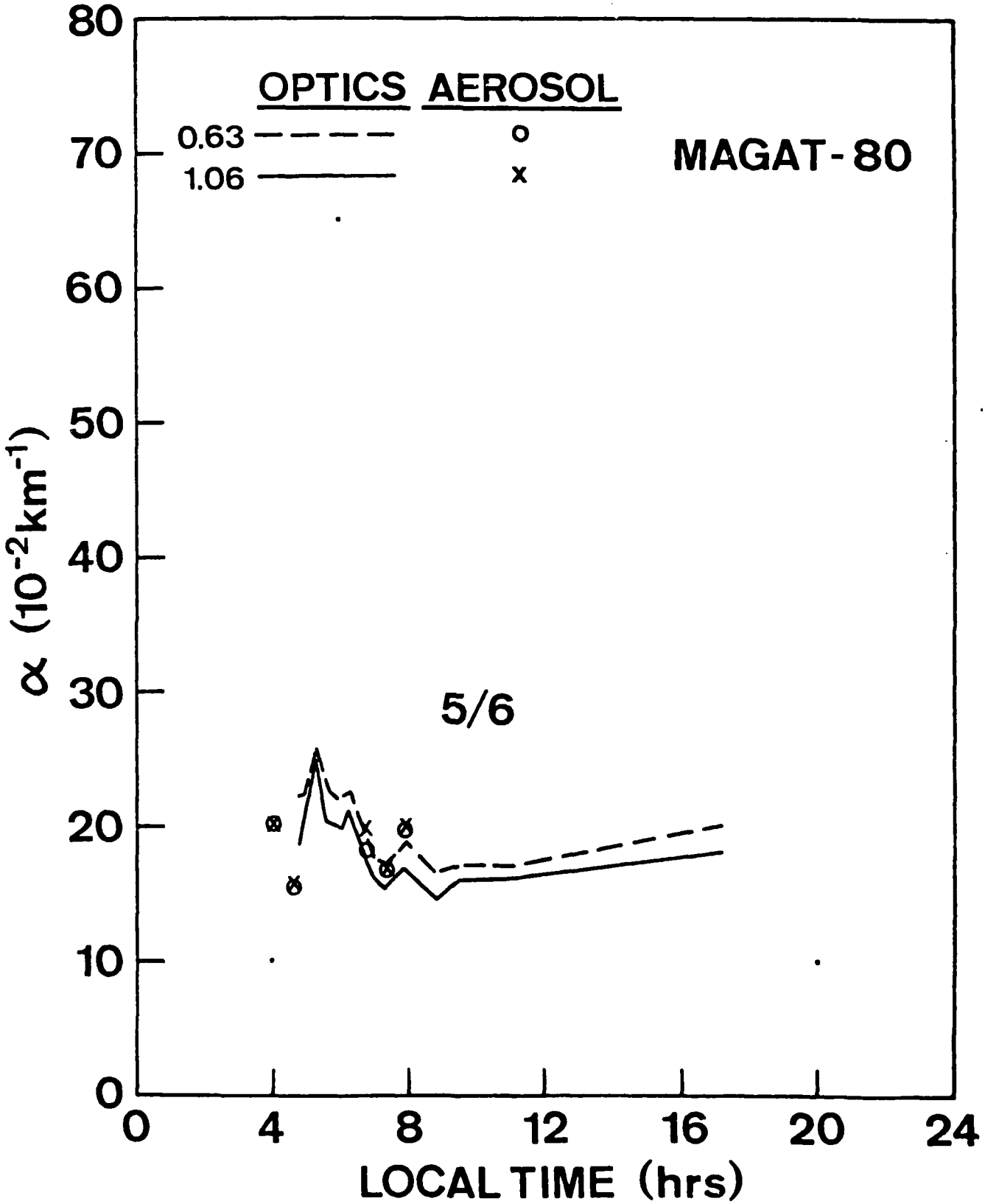


Figure 5e. Time series plot of aerosol extinctions coefficient from optical measurements (lines) and aerosol size spectra (X and O).

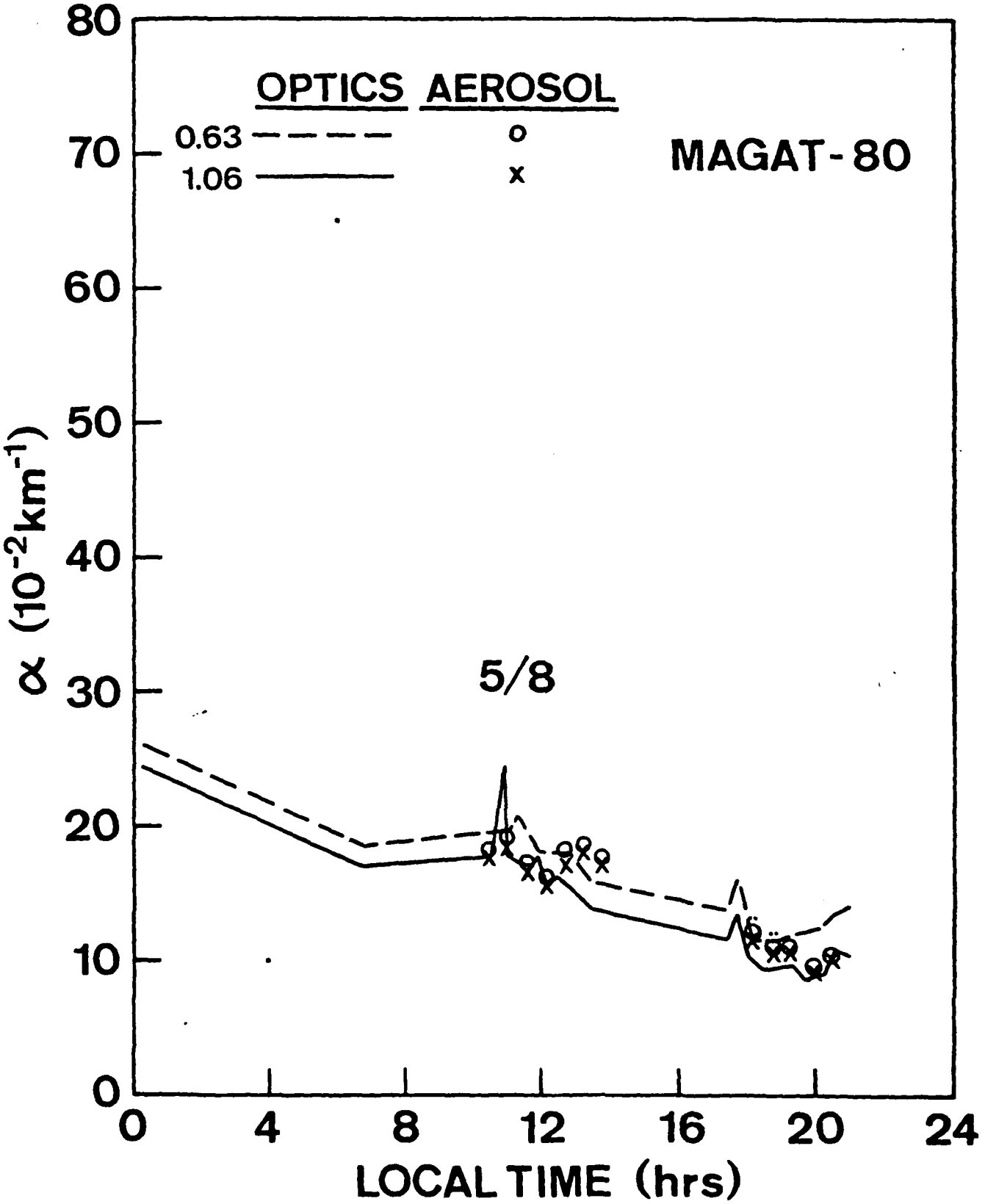


Figure 5f. Time series plot of aerosol extinctions coefficient from optical measurements (lines) and aerosol size spectra (X and O).

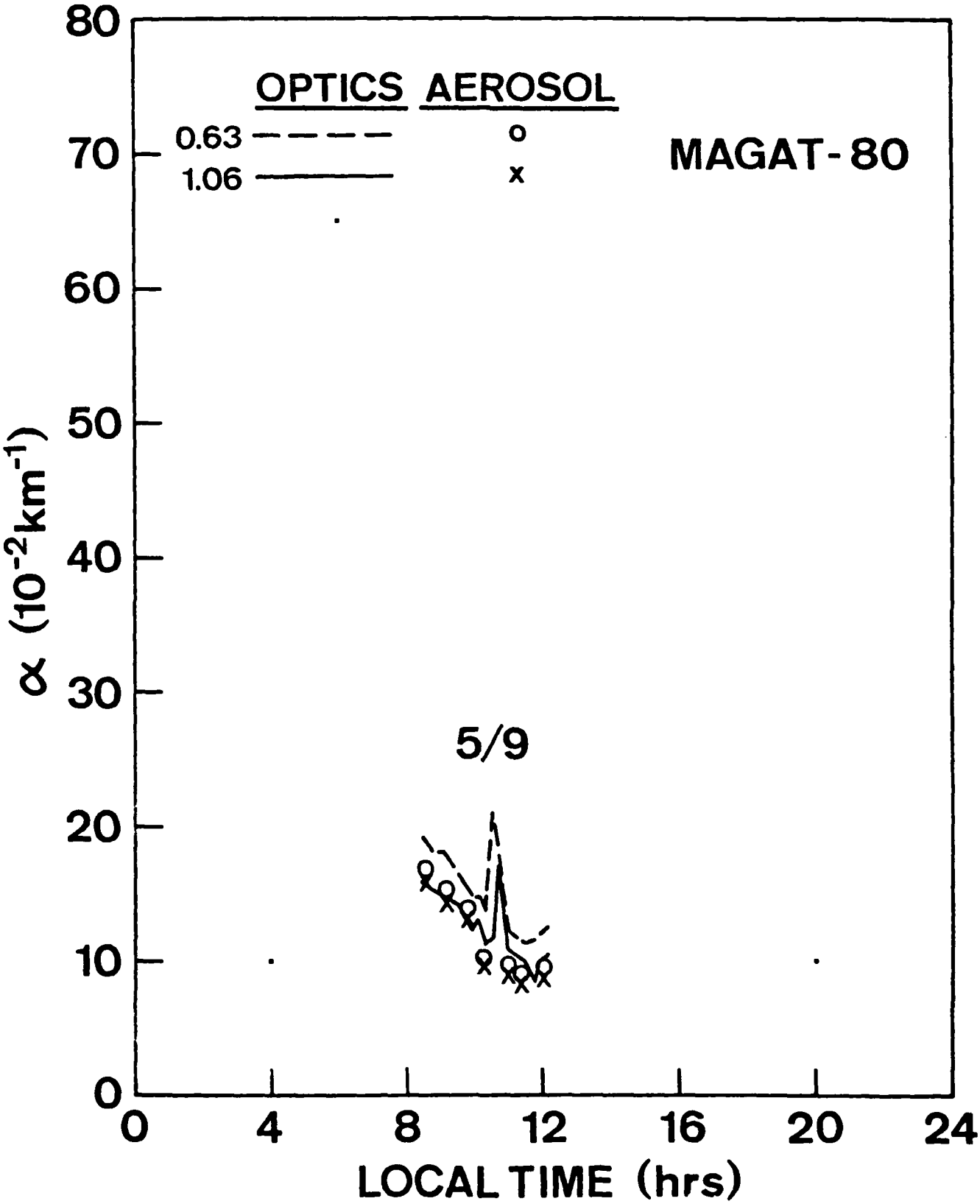


Figure 5g. Time series plot of aerosol extinctions coefficient from optical measurements (lines) and aerosol size spectra (X and O).

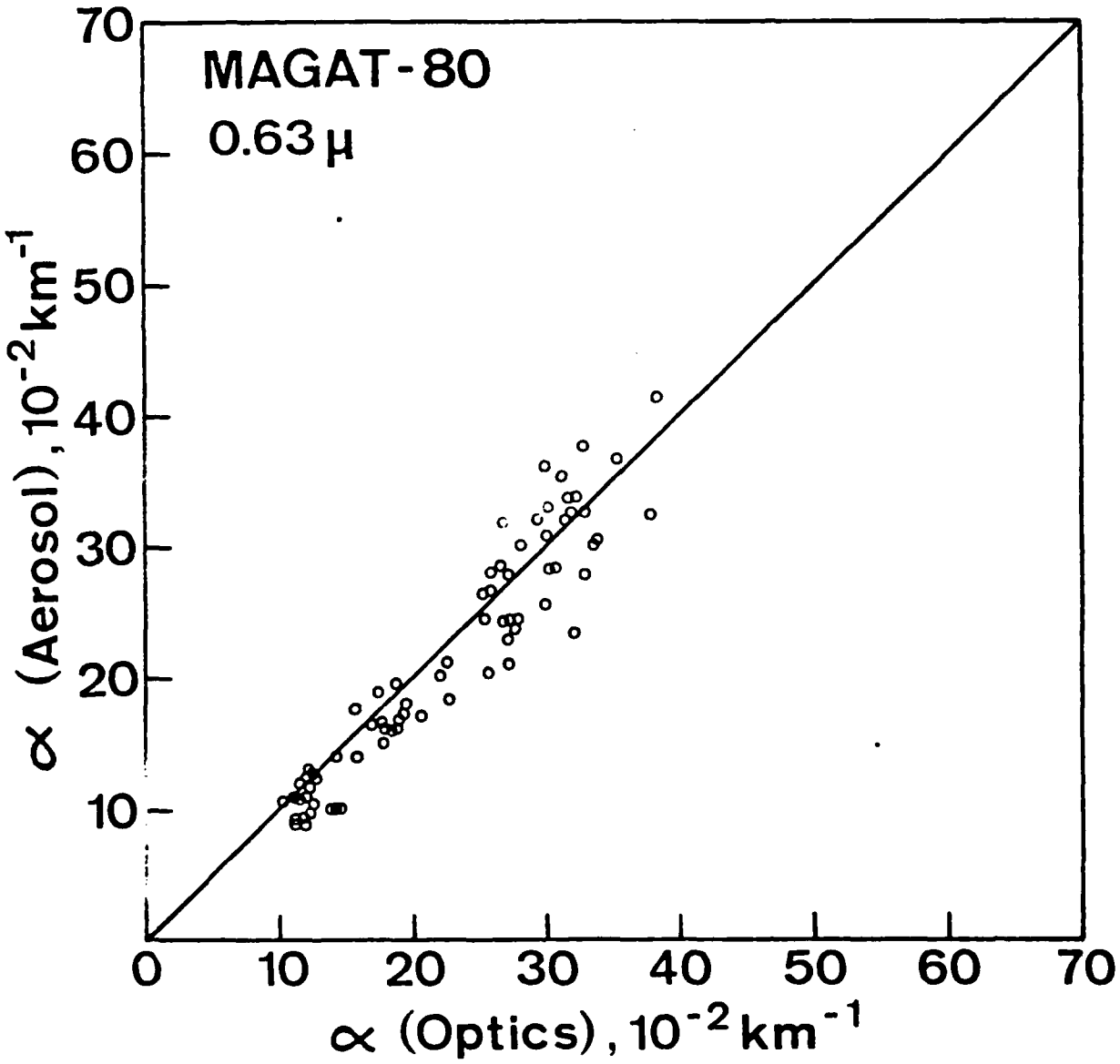


Figure 6a. Comparison of aerosol extinction coefficient from optical and aerosol size spectra measurements at $\lambda = 0.63\,\mu$.

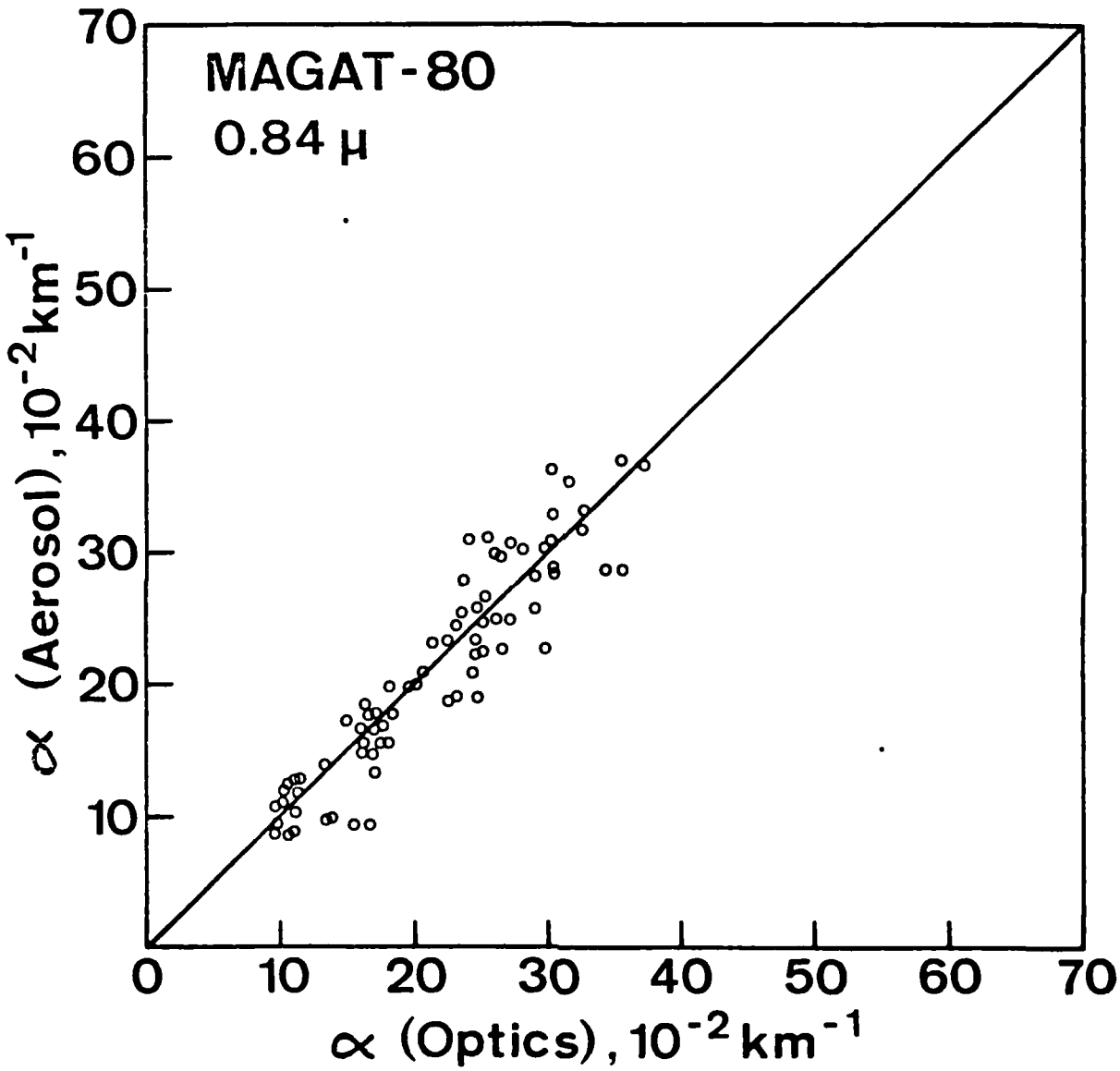


Figure 6b. Comparison of aerosol extinction coefficient from optical and aerosol size spectra measurements at $\lambda = 0.84\,\mu$.

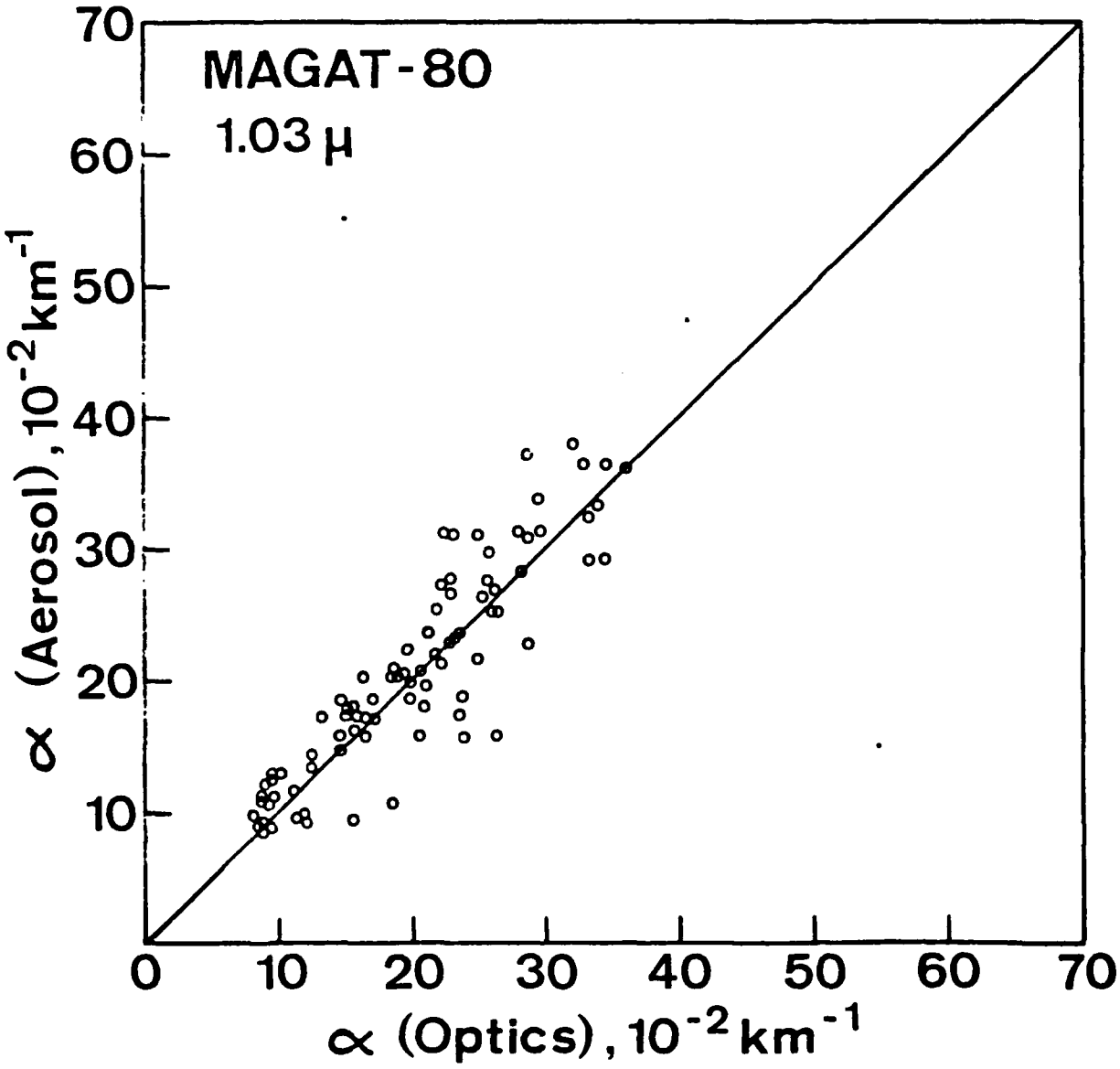


Figure 6c. Comparison of aerosol extinction coefficient from optical and aerosol size spectra measurements at $\lambda = 1.03\,\mu$.

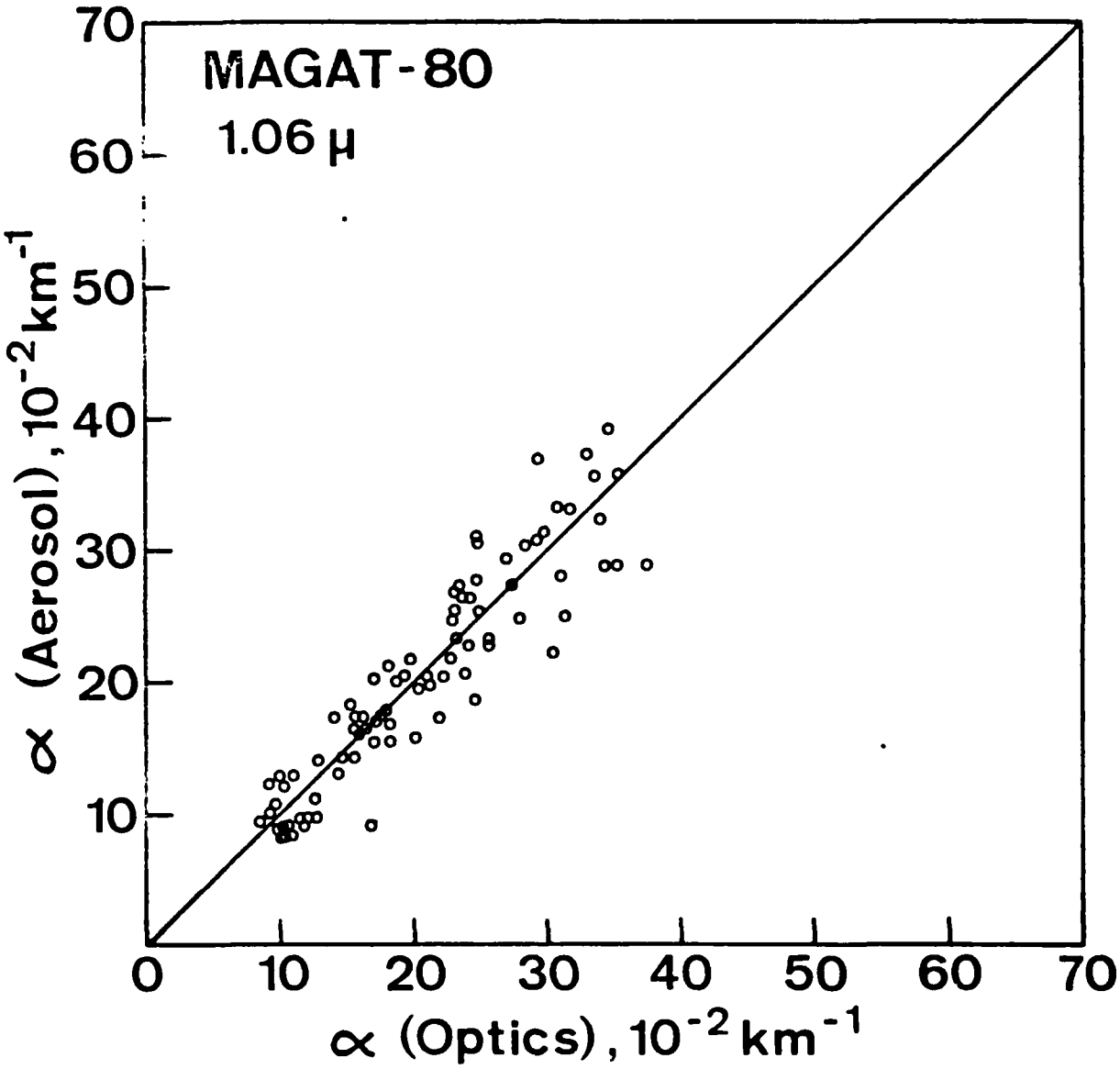


Figure 6d. Comparison of aerosol extinction coefficient from optical and aerosol size spectra measurements at $\lambda = 1.06\,\mu$.

APPENDIX A

Aircraft bulk meteorology and turbulence data on optical path in Monterey Bay

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
1	172155	40	1017.9	12.24	14.93	9.76	7.51	3.79E-03	6.79E-03	7.36E-03	1.59E-01
2	142010	40	1025.4	12.02	14.13	10.18	7.74	1.21E-02	3.70E-03	2.76E-03	1.81E-01
3	170855	40	1022.1	12.59	12.86	11.10	8.18	1.76E-11	9.58E-04	1.61E-03	1.96E-02
4	112220	40	1024.8	11.76	13.96	10.19	7.67	5.39E-04	1.69E-03	7.74E-03	1.02E-01
5	140520	40	1023.4	12.19	13.12	10.28	7.73	3.13E-03	1.29E-03	6.17E-03	1.22E-01
6	172112	40	1022.4	12.95	13.45	10.09	7.64	1.97E-03	2.51E-03	3.43E-03	6.17E-02
7	190324	40	1023.4	12.16	13.03	10.19	7.69	2.60E-03	1.34E-03	1.90E-03	5.56E-02
8	101320	40	1022.4	11.20	14.26	9.53	7.35	5.25E-04	8.61E-04	4.98E-01	7.49E-02
9	164510	40	1021.3	12.91	13.65	10.20	7.71	4.29E-03	1.18E-03	3.44E-03	3.01E-01
10	192825	40	1022.4	12.46	13.21	10.01	7.60	3.99E-03	3.43E-03	2.16E-03	1.56E-01
11	94432	40	1021.4	11.59	14.65	9.74	7.47	6.93E-04	5.89E-04	6.83E-02	1.69E-01
12	100018	40	1022.7	12.36	14.77	10.34	7.77	8.29E-04	1.33E-06	3.59E-03	1.84E-01
13	165219	10	1023.0	13.80	13.42	11.77	8.55	1.06E-01	1.81E-03	1.11E-01	1.02E-01
13	165536	40	1022.2	13.64	13.40	11.72	8.53	3.61E-02	6.42E-04	1.10E-02	8.27E-02
14	91440	40	1022.8	12.76	12.65	9.52	7.35	8.62E-03	4.15E-03	1.10E-02	1.40E-01
15	120213	40	1022.9	12.71	13.20	9.73	7.45	1.80E-02	1.95E-03	3.13E-03	1.44E-01
16	164810	40	1022.6	12.86	13.62	8.98	7.08	2.30E-02	3.04E-03	4.80E-03	1.57E-01
16	165540	40	1022.8	12.78	12.67	8.95	7.07	4.71E-02	2.16E-03	4.36E-03	1.73E-01
17	123620	40	1020.2	12.24	14.00	9.86	7.54	4.67E-03	4.98E-03	4.01E-03	2.40E-01
18	175110	10	1019.7	12.20	14.26	9.95	7.59	7.46E-03	6.30E-03	7.23E-03	2.15E-01
18	175450	30	1019.0	12.00	14.17	9.89	7.56	5.61E-03	3.66E-03	3.62E-03	2.10E-01
18	175945	60	1018.2	11.92	14.02	9.84	7.54	3.70E-03	1.92E-03	3.46E-03	2.09E-01
19	104320	10	1023.3	-.67	16.00	9.32	7.24	4.36E-03	5.87E-04	1.44E-02	1.28E-01
19	104719	30	1023.1	-.67	15.79	9.16	7.17	2.45E-03	3.62E-04	9.35E-03	1.23E-01
19	105252	60	1022.5	-.68	15.62	9.03	7.11	1.61E-03	2.18E-04	6.86E-03	1.39E-01
19	110035	50	1023.1	-.68	14.60	9.10	7.14	3.41E-03	1.67E-04	6.66E-03	1.23E-01
20	125943	10	1024.6	-.58	15.05	9.43	7.29	8.11E-03	4.02E-04	9.69E-03	1.51E-01
20	130518	30	1023.9	-.59	14.71	9.35	7.26	4.24E-03	2.41E-04	3.67E-03	1.11E-01
20	130930	60	1022.8	-.60	14.90	9.22	7.20	2.97E-03	2.15E-04	3.02E-03	1.14E-01
20	131913	100	1021.7	-.61	13.50	9.04	7.12	5.62E-03	1.87E-04	2.87E-03	1.18E-01
22	180408	10	1022.4	12.50	13.71	10.14	7.67	3.14E-02	6.62E-04	2.20E-01	8.04E-02
22	180600	30	1021.5	12.58	14.18	9.88	7.54	2.16E-02	5.55E-04	1.50E-02	7.36E-02
22	181345	60	1021.1	12.43	13.63	9.87	7.54	1.20E-02	3.43E-04	1.11E-02	7.23E-02
22	181940	60	1021.2	12.39	12.93	9.98	7.59	2.77E-02	6.30E-04	2.51E-02	6.91E-02
23	185750	10	1022.4	12.65	14.03	10.03	7.61	4.05E-02	8.03E-04	9.81E-01	6.54E-02
23	190132	30	1021.5	12.57	13.85	9.84	7.52	1.79E-02	4.21E-04	1.42E-01	6.46E-02
23	190540	60	1020.4	12.36	13.74	9.74	7.48	1.21E-02	2.47E-04	9.69E-02	6.30E-02
24	100325	10	1021.4	13.78	15.22	11.14	8.21	4.76E-11	2.14E-03	3.19E-02	6.40E-02
24	100900	30	1021.0	13.70	14.82	11.05	8.16	4.49E-11	8.40E-04	2.46E-02	6.[illegible]E-02
24	101626	60	1021.8	13.65	14.29	10.83	8.05	4.27E-11	6.57E-04	1.76E-02	6.[illegible]E-02
24	102255	100	1018.5	13.63	13.12	11.23	8.34	4.05E-11	6.86E-04	3.15E-02	1.52E-01
25	114405	10	1021.3	14.13	14.45	11.26	8.28	1.43E-02	5.61E-04	2.61E-02	5.68E-02
25	114750	30	1020.8	14.19	14.38	11.20	8.25	7.75E-03	5.39E-04	1.61E-02	6.39E-02
25	115400	60	1019.7	14.07	14.15	11.14	8.23	5.22E-03	3.18E-04	1.45E-02	6.28E-02

ALT, Altitude (ft)
PRES, Pressure (mb)
T_ROS, Temperature (cent)

T_SIR, Sea surface temperature (cent)
T_DEW, Dew point (cent)
q, Water vapor mixing ratio (g/kg)
EPS, Turbulence dissipation ratio (m^2/sec^3)
CT2, Temperature structure function ($K^2/m^{2/3}$)
CQ2, Water vapor structure function ($mb^2/m^{2/3}$)
EXT, Aerosol extinction, $\lambda = 0.49\mu$, (km^{-1})

APPENDIX B

Summary of aircraft optical measurements in Monterey Bay

DATE	#	TIME	ALT	PRES	T_ROS	T_DEW	CN2t	CN2	E(.63)	E(.84)	E(1.06)
04/30/80	1	173155	40	1017.9	12.24	9.76	6.6E-15	6.7E-15	1.3E-01	9.7E-02	7.2E-02
04/30/80	2	142010	40	1015.4	12.02	10.18	3.6E-15	3.6E-15	1.5E-01	1.1E-01	8.5E-02
05/01/80	3	170855	40	1022.1	13.59	11.10	9.5E-16	9.5E-16	1.4E-02	9.1E-03	6.2E-03
05/02/80	4	113320	40	1024.8	11.78	10.19	1.7E-15	1.7E-15	8.3E-02	6.1E-02	4.7E-02
05/02/80	5	140520	40	1023.4	12.19	10.28	1.3E-15	1.3E-15	7.5E-02	4.4E-02	2.9E-02
05/02/80	6	172112	40	1022.4	12.08	10.08	2.5E-15	2.5E-15	4.9E-02	3.3E-02	2.4E-02
05/02/80	7	190324	40	1023.4	12.10	10.19	1.3E-15	1.3E-15	4.4E-02	3.1E-02	2.2E-02
05/03/80	8	101320	40	1022.4	11.20	9.53	8.5E-16	1.9E-15	5.9E-02	4.2E-02	3.0E-02
05/03/80	9	164510	40	1021.3	12.91	10.20	1.2E-15	1.2E-15	2.2E-01	1.5E-01	1.1E-01
05/03/80	10	192825	40	1022.4	12.46	10.01	3.4E-15	3.4E-15	1.3E-01	9.7E-02	7.3E-02
05/04/80	11	94432	40	1021.4	11.58	9.74	5.8E-16	7.2E-16	1.4E-01	1.1E-01	8.7E-02
05/05/80	12	100018	40	1022.7	12.33	10.34	1.3E-18	8.6E-18	1.6E-01	1.2E-01	9.4E-02
05/05/80	13	165219	10	1023.0	13.90	11.77	1.9E-15	2.0E-15	9.1E-02	7.3E-02	5.9E-02
05/05/80	13	165536	40	1022.2	13.64	11.72	6.3E-16	6.6E-16	7.2E-02	5.6E-02	4.4E-02
05/06/80	14	91440	40	1022.8	12.76	9.52	4.1E-15	4.1E-15	1.2E-01	8.9E-02	6.8E-02
05/06/80	15	120213	40	1022.9	12.71	9.73	1.9E-15	1.9E-15	1.2E-01	9.5E-02	7.5E-02
05/06/80	16	164810	40	1022.6	12.36	8.98	3.0E-15	3.0E-15	1.3E-01	1.0E-01	8.1E-02
05/06/80	16	165540	40	1022.8	12.78	8.95	2.1E-15	2.1E-15	1.5E-01	1.1E-01	9.2E-02
05/07/80	17	123620	40	1020.2	12.24	9.86	4.9E-15	4.9E-15	2.0E-01	1.5E-01	1.2E-01
05/07/80	18	175110	10	1019.7	12.20	9.95	6.2E-15	6.2E-15	1.8E-01	1.4E-01	1.1E-01
05/07/80	18	175450	30	1019.0	12.00	9.89	3.6E-15	3.6E-15	1.8E-01	1.3E-01	9.8E-02
05/07/80	18	175945	60	1018.2	11.92	9.84	1.9E-15	1.9E-15	1.8E-01	1.3E-01	1.0E-01
05/08/80	19	104320	10	1023.3	-.67	9.32	5.8E-16	6.1E-16	1.1E-01	7.9E-02	6.2E-02
05/08/80	19	104719	30	1023.1	-.67	9.16	3.6E-16	3.8E-16	1.0E-01	7.5E-02	5.8E-02
05/08/80	19	105252	60	1022.5	-.68	9.03	2.2E-16	2.3E-16	1.2E-01	9.4E-02	7.8E-02
05/08/80	19	110035	50	1023.1	-.68	9.10	1.7E-16	1.8E-16	9.6E-02	6.4E-02	4.5E-02
05/08/80	20	125943	10	1024.6	-.58	9.43	4.0E-16	4.2E-16	1.3E-01	9.1E-02	6.7E-02
05/08/80	20	130519	30	1023.9	-.59	9.35	2.4E-16	2.5E-16	9.4E-02	6.9E-02	5.3E-02
05/08/80	20	130930	60	1022.8	-.60	9.22	2.1E-16	2.2E-16	9.7E-02	7.3E-02	5.7E-02
05/08/80	20	131913	100	1021.7	-.61	9.04	1.8E-16	1.9E-16	9.9E-02	7.3E-02	5.6E-02
05/08/80	22	180408	10	1022.4	12.50	10.14	6.5E-16	1.1E-15	6.9E-02	5.3E-02	4.2E-02
05/08/80	22	180800	30	1021.5	12.58	9.88	5.5E-16	5.8E-16	6.2E-02	4.7E-02	3.7E-02
05/08/80	22	181345	60	1021.1	12.43	9.87	3.4E-16	3.6E-16	6.1E-02	4.7E-02	3.7E-02
05/08/80	22	181940	60	1021.2	12.39	9.98	6.2E-16	6.7E-16	5.9E-02	4.4E-02	3.4E-02
05/09/80	23	185750	10	1022.4	12.65	10.03	7.9E-16	2.0E-15	5.4E-02	3.9E-02	3.0E-02
05/09/80	23	190132	30	1021.5	12.57	9.84	4.2E-16	7.0E-16	5.4E-02	3.9E-02	3.0E-02
05/09/80	23	190640	60	1020.4	12.36	9.74	2.4E-16	4.4E-16	5.3E-02	3.9E-02	3.0E-02
05/09/80	24	100325	10	1021.4	13.78	11.14	2.1E-15	2.2E-15	5.2E-02	3.9E-02	3.0E-02
05/09/80	24	100900	30	1020.3	13.70	11.05	8.3E-16	8.3E-16	5.5E-02	4.1E-02	3.1E-02
05/09/80	24	101638	60	1019.8	13.65	10.83	6.5E-16	6.8E-16	5.2E-02	3.8E-02	2.9E-02
05/09/80	24	102455	100	1018.5	12.83	11.33	8.7E-16	9.3E-16	1.3E-01	1.1E-01	9.7E-02
05/09/80	25	114405	10	1021.3	14.13	11.26	5.5E-15	6.1E-16	4.6E-02	3.2E-02	2.4E-02
05/09/80	25	114750	30	1020.8	14.19	11.20	5.3E-15	5.6E-16	5.1E-02	3.5E-02	2.7E-02
05/09/80	25	115400	60	1019.7	14.07	11.14	3.1E-16	3.4E-16	5.0E-02	3.5E-02	2.5E-02

ALT, Altitude (ft)
PRES, Pressure (mb)
T_ROS, Temperature (cent)
T_DEW, Dew point (cent)
CN2t, C_T^2 component of C_N^2 ($m^{-2/3}$)
CN2, Turbulence value of C_N^2 ($m^{-2/3}$)
E(.63), Aerosol extinction (Km^{-1}) at $\lambda = 0.63\mu$
E(.84), Aerosol extinction (Km^{-1}) at $\lambda = 0.84\mu$
E(1.06), Aerosol extinction (Km^{-1}) at $\lambda = 1.06\mu$

APPENDIX C

Complete printout of aircraft data on optical path in Monterey.

Each optical set has three parts: the micrometeorological data, the aerosol spectral plots, and the aerosol data printouts. The data format is as follows:

1. Micrometeorological Data

   ALT, Altitude (ft)
   PRES, Pressure (mb)
   T_ROS, Temperature (cent)
   T_SIR, Sea surface temperature (cent)
   T_DEW, Dew point (cent)
   q, Water vapor mixing ratio (g/Kg)
   EPS, Turbulence dissipation rate (m^2/sec^3)
   CT2, Temperature structure function ($K^2/m^{2/3}$)
   CQ2, Water vapor structure function ($mb^2/m^{2/3}$)
   EXT, Aerosol extinction (Km^{-1}) at $\lambda = 0.49\mu$

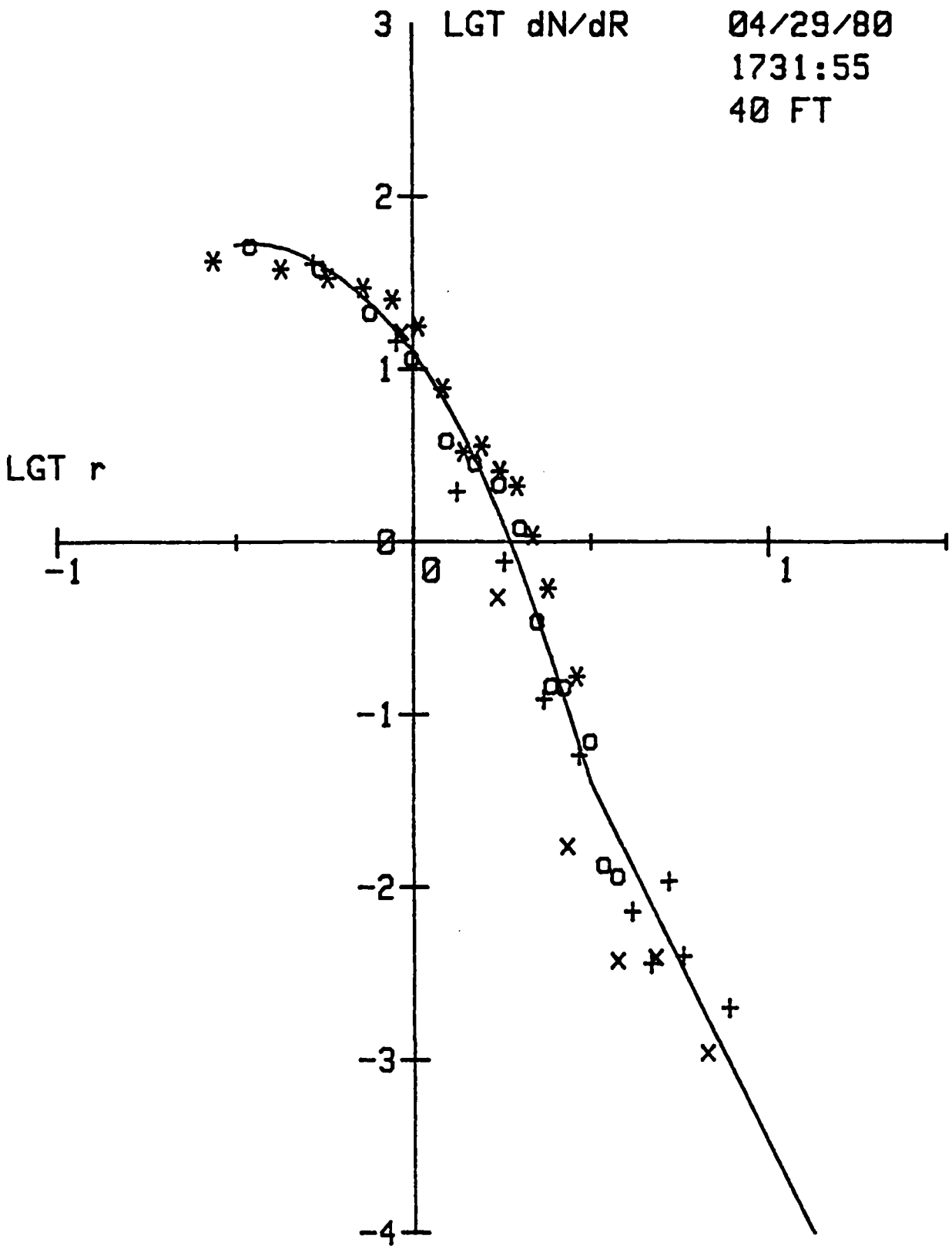
2. Graphs of aerosol spectra density ($N(r) = dN/dr$) as LGT ($N(r)$) VS LGT (r). The solid line is the combination polynomial and linear fit in log-log space.

3. Aerosol data printouts. The first columns of data are paired values of radii (r in μ) and corresponding spectral density ($N(r)$ in $\#/\mu/cm^3$). These are followed by the extrapolation points at LGT (r) = -0.5 and +1.5. The next set of numbers are the gamma function fit parameters* γ, β and N . N is approximately the total volume of the aerosols from LGT(r) = -0.5 to 1.2 in $(\mu/cm)^3$. The polynomial coefficients and the coefficients and the aerosol extinctions at nine wavelengths complete the page. There is one line of micrometeorological data, one graph and one page of printout for each pass down the optical path.

$$* \frac{4}{3}\pi r^3 N(r) = \frac{N}{\Gamma(\gamma)\beta^{\gamma}} r^{(Y-1)} \exp(-r/\beta)$$

04/29/80 OPTICAL PROFILE# 1

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
1	[illegible]	40	1017.9	12.24	14.93	9.76	7.51	3.79E-03	6.78E-03	7.36E-03	1.59E-01


LGT dN/dR
04/29/80
1731:55
40 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File 19 TO 21 04/29/80 1731:55 TO 1734:1 ALTITUDE= 40 FT

.28	4.22E+01	.35	5.39E+01	.53	4.05E+01	.94	1.72E+01
.43	3.78E+01	.55	3.98E+01	.90	1.44E+01	1.74	5.02E-01
.58	3.36E+01	.76	2.22E+01	1.33	1.94E+00	2.73	1.82E-02
.73	2.95E+01	1.00	1.20E+01	1.80	7.62E-01	3.79	3.94E-03
.88	2.52E+01	1.25	4.02E+00	2.33	1.22E-01	4.84	4.13E-03
1.04	1.76E+01	1.50	2.98E+00	2.93	5.78E-02	5.83	0.00E+00
1.21	7.71E+00	1.75	2.25E+00	3.55	1.81E-02	6.76	1.15E-03
1.39	3.30E+00	2.00	1.26E+00	4.13	7.19E-03	7.69	0.00E+00
1.56	3.57E+00	2.24	3.62E-01	4.68	3.59E-03	8.63	0.00E+00
1.75	2.56E+00	2.45	1.54E-01	5.23	1.08E-02	9.56	0.00E+00
1.95	2.10E+00	2.66	1.51E-01	5.75	3.95E-03	10.49	0.00E+00
2.16	1.08E+00	2.90	9.74E-02	6.25	0.00E+00	11.44	0.00E+00
2.39	5.37E-01	3.16	7.32E-02	6.75	0.00E+00	12.36	0.00E+00
2.63	1.61E-01	3.45	1.41E-02	7.25	0.00E+00	13.28	0.00E+00
2.88	1.65E-01	3.78	1.21E-02	7.75	1.98E-03	14.23	0.00E+00

-.50 2.04
1.50 -5.55

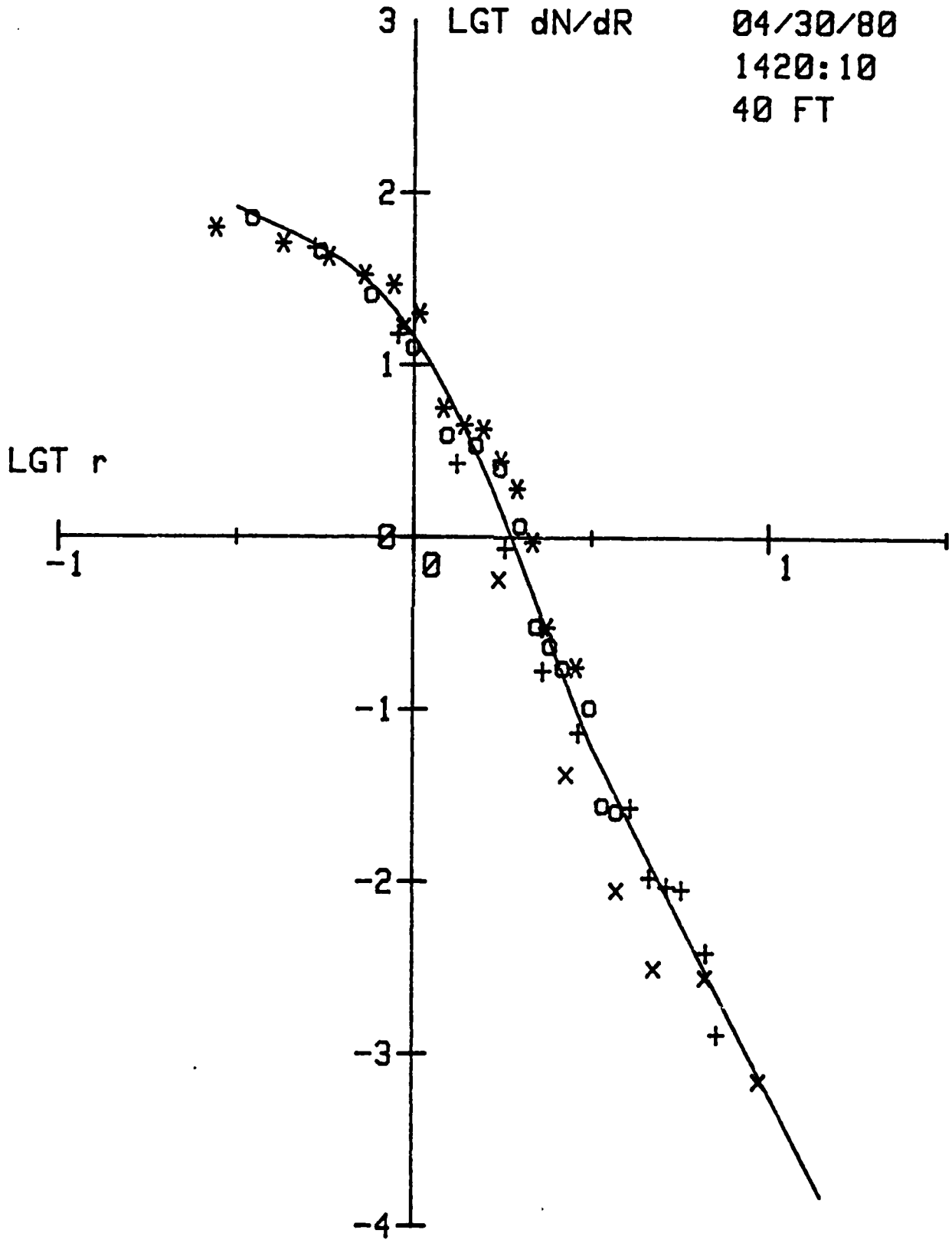
GAMMA ZERO= 3.30
BETA = .48
N ZERO= 8.59E+01

Polynomial of order 7
-4.7818200E+00
1.7662900E+00
9.0878600E+00
6.0296800E-01
-3.3418700E+00
-4.0081800E+00
-2.7685100E+00
1.1001300E+00

Wavlen	Extin(Km^-1)
.488	1.49E-01
.530	1.43E-01
.633	1.27E-01
.840	9.34E-02
1.030	7.05E-02
1.060	6.72E-02
1.600	3.39E-02
3.750	9.80E-03
10.590	2.90E-03

04/30/80 OPTICAL PROFILE# 2

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
2	142010	40	1015.4	12.02	14.13	10.18	7.74	1.21E-02	3.70E-03	2.76E-03	1.81E-01


LGT dN/dR
04/30/80
1420:10
40 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File 17 TO 20 04/30/80 1420:10 TO 1423:30 ALTITUDE= 40 FT

.28	6.23E+01	.35	7.46E+01	.53	4.77E+01	.94	1.76E+01
.43	5.07E+01	.55	4.79E+01	.90	1.50E+01	1.74	6.00E-01
.58	4.25E+01	.76	2.68E+01	1.33	2.66E+00	2.73	4.43E-02
.73	3.33E+01	1.00	1.33E+01	1.80	8.59E-01	3.79	9.40E-03
.88	2.92E+01	1.25	4.09E+00	2.33	1.68E-01	4.84	3.29E-03
1.04	1.98E+01	1.50	3.56E+00	2.93	7.34E-02	5.83	0.00E+00
1.21	5.60E+00	1.75	2.63E+00	3.55	3.87E-02	6.76	2.91E-03
1.39	4.47E+00	2.00	1.22E+00	4.13	2.70E-02	7.69	0.00E+00
1.56	4.21E+00	2.24	3.21E-01	4.68	1.05E-02	8.63	0.00E+00
1.75	2.76E+00	2.45	2.46E-01	5.23	9.38E-03	9.56	7.29E-04
1.95	1.92E+00	2.66	1.83E-01	5.75	9.03E-03	10.49	0.00E+00
2.16	9.42E-01	2.90	1.02E-01	6.25	0.00E+00	11.44	0.00E+00
2.39	2.99E-01	3.16	1.08E-01	6.75	3.87E-03	12.36	0.00E+00
2.63	2.10E-01	3.45	2.92E-02	7.25	1.29E-03	13.28	0.00E+00
2.88	1.75E-01	3.78	2.70E-02	7.75	0.00E+00	14.23	0.00E+00

-.50 2.20
1.50 -5.22

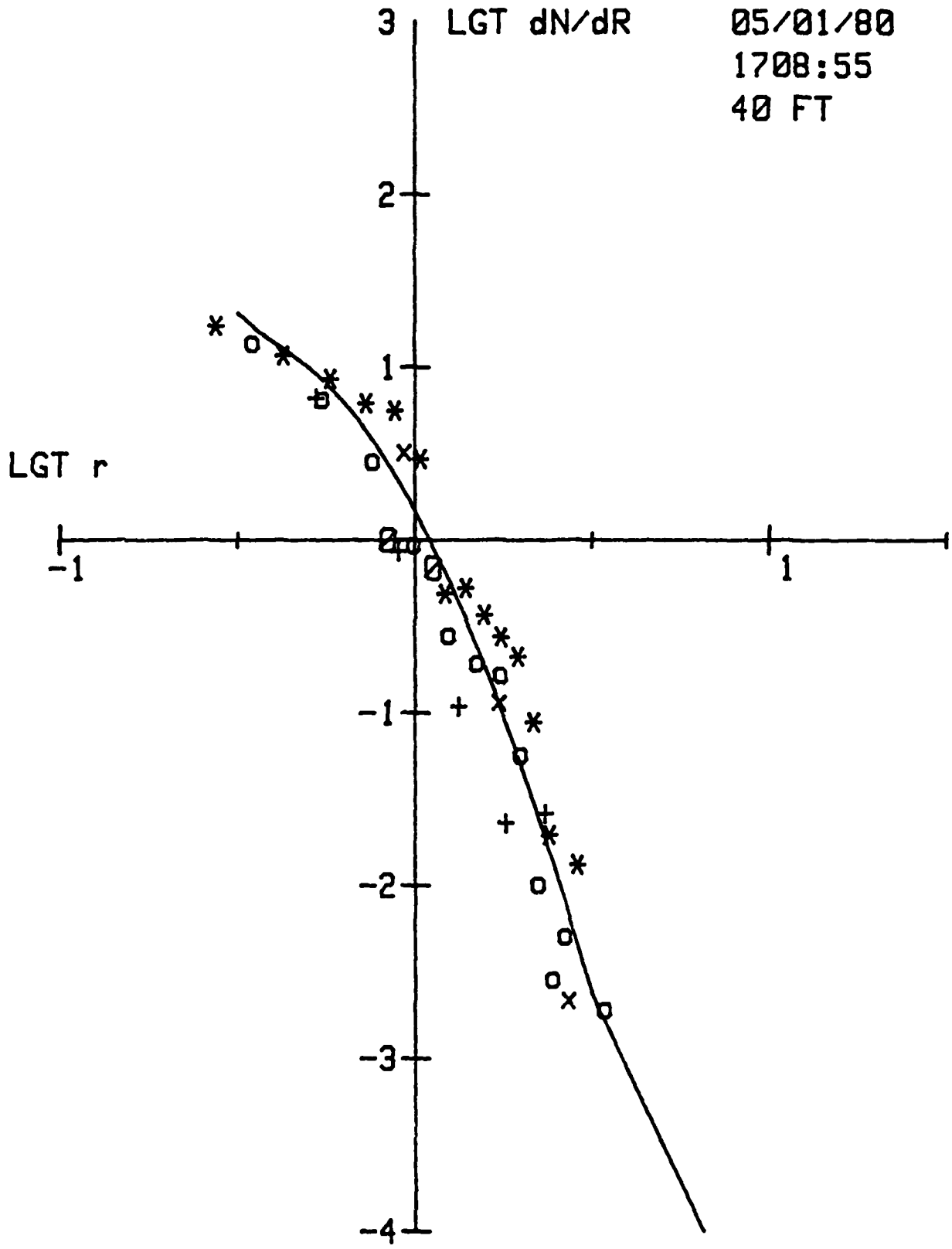
GAMMA ZERO= 2.57
BETA = .68
N ZERO= 1.03E+02

Polynomial of order 7
2.2106200E+00
-5.5311900E+00
-2.8173900E-01
7.4708300E+00
-2.5697000E-01
-4.7486700E+00
-3.0678400E+00
1.1632700E+00

Wavlen	Extin(Km^-1)
.488	1.72E-01
.530	1.64E-01
.633	1.45E-01
.840	1.08E-01
1.030	8.32E-02
1.060	7.95E-02
1.600	4.39E-02
3.750	1.57E-02
10.590	4.48E-03

05/01/80 OPTICAL PROFILE# 3

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
3	170855	40	1022.1	13.59	12.86	11.10	8.18	1.76E-11	9.58E-04	1.61E-03	1.96E-02


LGT dN/dR
05/01/80
1708:55
40 FT
LGT r
3
2
1
-1
-2
-3
-4
-1
1

File 4 TO 8 05/01/30 1708:55 TO 1712:47 ALTITUDE= 40 FT

.28	1.73E+01	.35	1.43E+01	.53	6.59E+00	.94	3.36E+00
.43	1.16E+01	.55	6.78E+00	.90	8.55E-01	1.74	1.21E-01
.58	8.52E+00	.76	2.97E+00	1.33	1.09E-01	2.73	2.26E-03
.73	6.16E+00	1.00	9.75E-01	1.80	2.31E-02	3.79	0.00E+00
.88	5.57E+00	1.25	2.92E-01	2.33	2.60E-02	4.84	0.00E+00
1.04	2.93E+00	1.50	2.02E-01	2.93	0.00E+00	5.83	0.00E+00
1.21	4.90E-01	1.75	1.73E-01	3.55	9.15E-04	6.76	0.00E+00
1.39	5.27E-01	2.00	5.93E-02	4.13	0.00E+00	7.69	0.00E+00
1.56	3.67E-01	2.24	1.05E-02	4.68	0.00E+00	8.63	0.00E+00
1.75	2.75E-01	2.45	2.97E-03	5.23	0.00E+00	9.56	0.00E+00
1.95	2.11E-01	2.66	5.27E-03	5.75	0.00E+00	10.49	0.00E+00
2.16	8.79E-02	2.90	2.37E-03	6.25	0.00E+00	11.44	0.00E+00
2.39	1.95E-02	3.16	0.00E+00	6.75	0.00E+00	12.36	0.00E+00
2.63	2.20E-03	3.45	1.98E-03	7.25	0.00E+00	13.28	0.00E+00
2.88	1.32E-02	3.78	0.00E+00	7.75	0.00E+00	14.23	0.00E+00

-.50 1.65
1.50 -6.78

GAMMA ZERO= 4.96
BETA = .24
N ZERO= 9.14E+00

Polynomial of order 7
-3.6152700E+00
7.2645700E+00
-2.7256900E+00
-5.3349000E-01
6.3057500E-01
-3.6323500E+00
-3.8737700E+00
1.6737500E-01

Wavlen	Extin(Km^-1)
.488	1.64E-02
.530	1.53E-02
.633	1.26E-02
.840	8.44E-03
1.030	5.96E-03
1.060	5.63E-03
1.600	2.49E-03
3.750	5.64E-04
10.590	2.18E-04

05/02/80 OPTICAL PROFILE# 4

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CO2	EXT
4	112320	40	1024.8	11.78	13.96	10.19	7.67	5.35E-04	1.69E-03	7.74E-03	1.02E-01

File 13 TO 16 05/02/80 1123:27 TO 1127:11 ALTITUDE= 40 FT

.23	6.50E+01	.35	6.64E+01	.53	3.11E+01	.94	1.02E+01
.43	4.40E+01	.55	3.25E+01	.90	7.26E+00	1.74	3.79E-01
.58	3.20E+01	.76	1.51E+01	1.33	1.28E+00	2.73	3.75E-02
.73	2.18E+01	1.00	6.65E+00	1.80	3.08E-01	3.79	9.02E-03
.88	1.80E+01	1.25	2.11E+00	2.33	9.71E-02	4.84	3.34E-03
1.04	9.82E+00	1.50	1.79E+00	2.93	3.10E-02	5.83	1.80E-03
1.21	2.43E+00	1.75	1.12E+00	3.55	1.78E-02	6.76	6.17E-04
1.39	2.66E+00	2.00	4.68E-01	4.13	1.08E-02	7.69	0.00E+00
1.56	2.28E+00	2.24	1.22E-01	4.68	2.16E-03	8.63	0.00E+00
1.75	1.43E+00	2.45	2.25E-01	5.23	1.08E-03	9.56	0.00E+00
1.95	1.00E+00	2.66	1.24E-01	5.75	2.37E-03	10.49	0.00E+00
2.16	3.78E-01	2.90	7.53E-02	6.25	1.19E-03	11.44	0.00E+00
2.39	1.37E-01	3.16	3.11E-02	6.75	0.00E+00	12.36	0.00E+00
2.63	1.46E-01	3.45	2.47E-02	7.25	0.00E+00	13.28	0.00E+00
2.88	1.28E-01	3.78	1.96E-02	7.75	0.00E+00	14.23	0.00E+00

-.50 2.14
1.50 -5.83

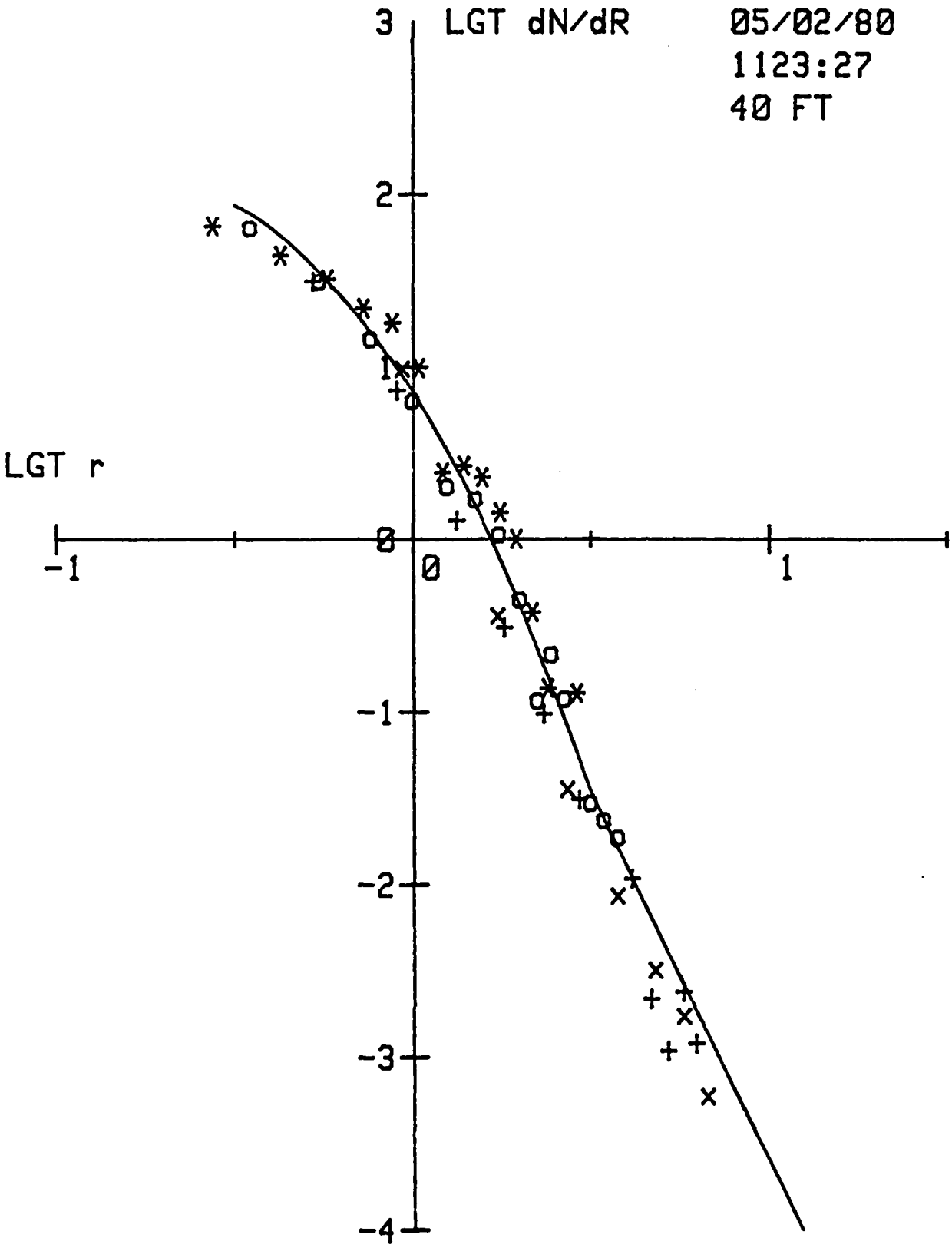
GAMMA ZERO= 2.90
BETA = .54
N ZERO= 5.21E+01

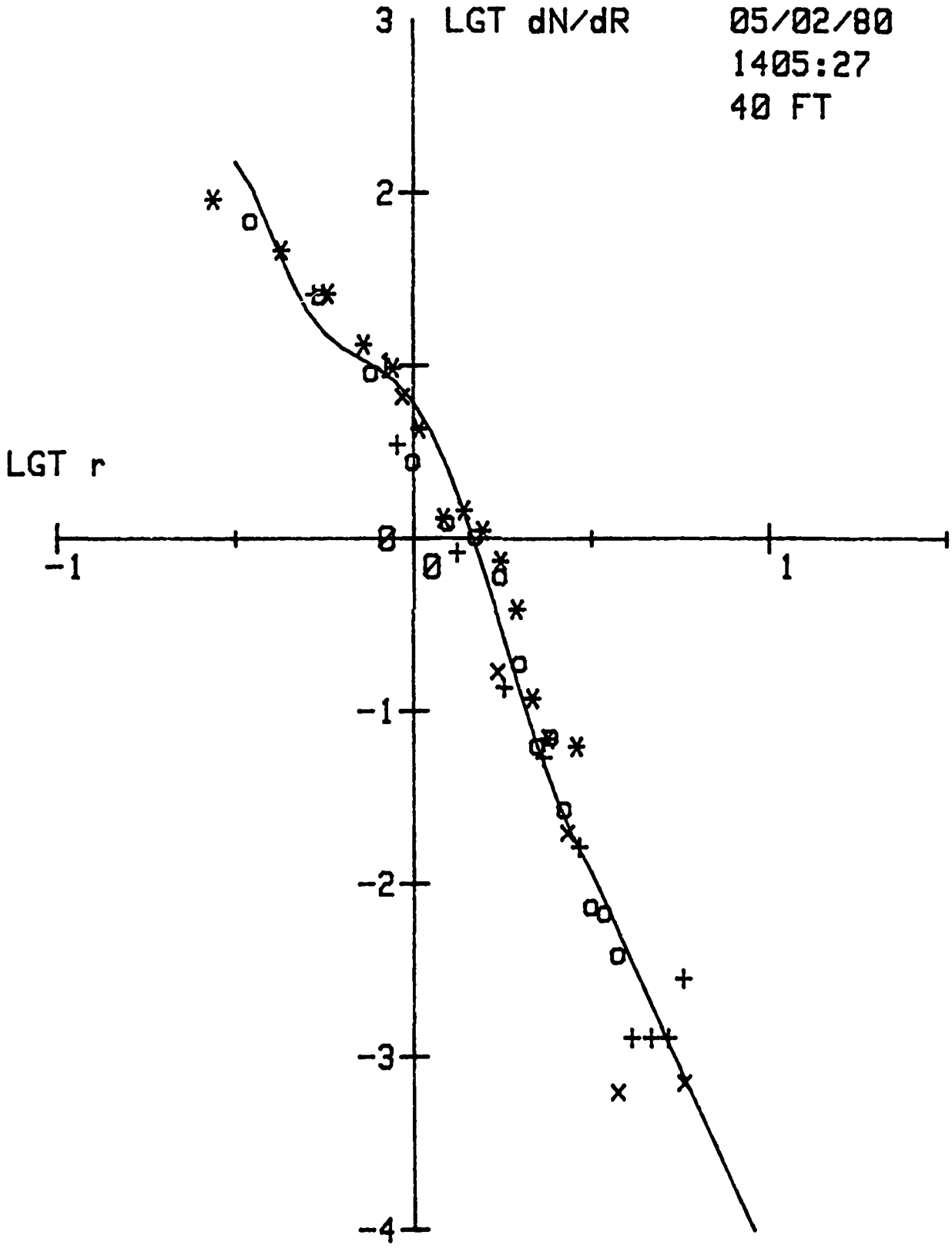
Polynomial of order 7
-7.4709200E-01
-1.9321700E+00
4.4703200E+00
1.3782600E+00
-1.7418000E+00
-2.6937200E+00
-3.2314300E+00
8.5070200E-01

Wavlen	Extin(Km^-1)
.488	9.08E-02
.530	8.65E-02
.633	7.56E-02
.840	5.61E-02
1.030	4.33E-02
1.060	4.14E-02
1.600	2.24E-02
3.750	7.19E-03
10.590	1.99E-03

05/02/80 OPTICAL PROFILE# 5

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
5	140520	40	1023.4	12.19	13.12	10.28	7.73	3.13E-03	1.29E-03	6.17E-03	1.22E-01


LGT dN/dR
05/02/80
1123:27
40 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/02/80
1405:27
40 FT
LGT r
3
2
-1
-2
-3
-4
-1
0
1

File175 T0178 05/02/80 1405:27 TO 1408:31 ALTITUDE= 40 FT

.28	9.21E+01	.35	7.19E+01	.53	2.57E+01	.94	6.94E+00
.43	4.65E+01	.55	2.63E+01	.90	3.47E+00	1.74	1.78E-01
.58	2.60E+01	.76	9.44E+00	1.33	8.27E-01	2.73	2.08E-02
.73	1.32E+01	1.00	2.90E+00	1.80	1.37E-01	3.79	6.57E-04
.88	9.65E+00	1.25	1.29E+00	2.33	5.39E-02	4.84	0.00E+00
1.04	4.30E+00	1.50	1.06E+00	2.93	1.63E-02	5.83	7.43E-04
1.21	1.30E+00	1.75	6.27E-01	3.55	2.35E-03	6.76	0.00E+00
1.39	1.45E+00	2.00	1.98E-01	4.13	1.28E-03	7.69	0.00E+00
1.56	1.10E+00	2.24	6.59E-02	4.68	1.28E-03	8.63	0.00E+00
1.75	7.38E-01	2.45	7.41E-02	5.23	1.28E-03	9.56	0.00E+00
1.95	3.89E-01	2.66	2.82E-02	5.75	2.82E-03	10.49	0.00E+00
2.16	1.19E-01	2.90	2.54E-02	6.25	0.00E+00	11.44	0.00E+00
2.39	6.92E-02	3.16	7.70E-03	6.75	0.00E+00	12.36	0.00E+00
2.63	5.63E-02	3.45	7.06E-03	7.25	0.00E+00	13.28	0.00E+00
2.88	6.23E-02	3.78	4.03E-03	7.75	0.00E+00	14.23	0.00E+00

-.50 2.17
1.50 -6.45

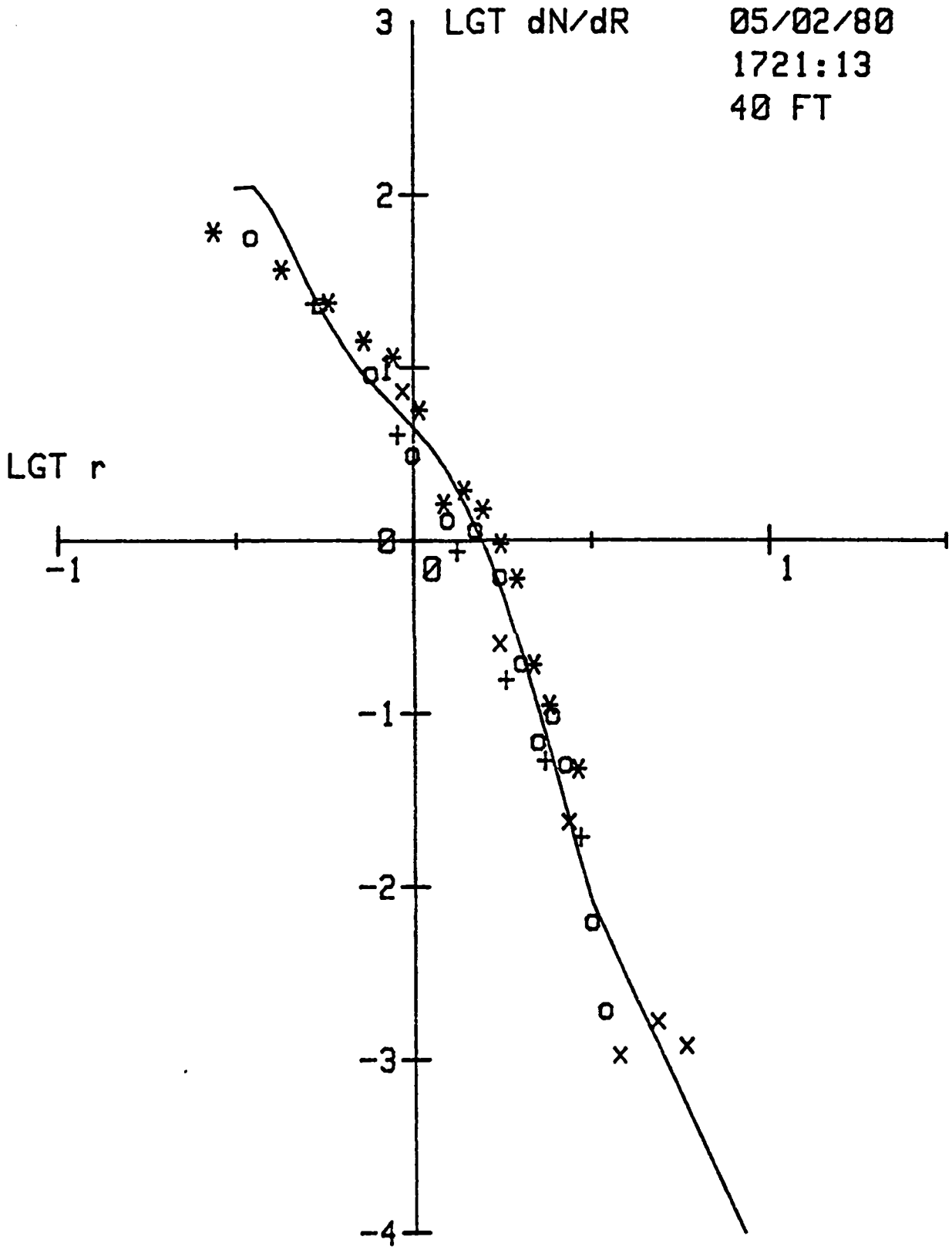
GAMMA ZERO= 2.92
BETA = .46
N ZERO= 2.88E+01

Polynomial of order 7
5.1007500E+01
-1.0136000E+02
7.2417400E+00
5.7158100E+01
-9.8602900E+00
-1.0607400E+01
-2.8915500E+00
7.8495600E-01

Wavlen	Extin(Km^-1)
.489	5.70E-02
.530	5.36E-02
.633	4.44E-02
.840	2.98E-02
1.030	2.12E-02
1.060	2.00E-02
1.600	9.13E-03
2.750	2.25E-03
10.590	7.82E-04

05/02/80 OPTICAL PROFILE# 6

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
6	172112	40	1022.4	12.08	13.45	10.08	7.64	1.97E-03	2.51E-03	3.48E-03	6.17E-02


LGT dN/dR
05/02/80
1721:13
40 FT
LGT r
3
2
-1
-2
-3
-4
-1
0
1

File 13 TO 17 05/02/80 1721:13 TO 1724:57 ALTITUDE= 40 FT

.28	6.12E+01	.35	5.92E+01	.53	2.34E+01	.94	7.69E+00
.43	3.68E+01	.55	2.41E+01	.90	4.08E+00	1.74	2.65E-01
.58	2.37E+01	.76	9.57E+00	1.33	8.63E-01	2.73	2.49E-02
.73	1.43E+01	1.00	3.25E+00	1.80	1.54E-01	3.79	1.10E-03
.88	1.14E+01	1.25	1.37E+00	2.33	5.28E-02	4.84	1.74E-03
1.04	5.66E+00	1.50	1.20E+00	2.93	1.92E-02	5.83	1.25E-03
1.21	1.63E+00	1.75	6.38E-01	3.55	5.93E-03	6.76	0.00E+00
1.39	1.95E+00	2.00	2.02E-01	4.13	0.00E+00	7.69	0.00E+00
1.56	1.51E+00	2.24	7.12E-02	4.68	0.00E+00	8.63	0.00E+00
1.75	9.52E-01	2.45	1.01E-01	5.23	0.00E+00	9.56	0.00E+00
1.95	5.96E-01	2.66	5.27E-02	5.75	0.00E+00	10.49	0.00E+00
2.16	1.90E-01	2.90	3.32E-02	6.25	0.00E+00	11.44	0.00E+00
2.39	1.11E-01	3.16	6.47E-03	6.75	0.00E+00	12.36	0.00E+00
2.63	7.12E-02	3.45	1.98E-03	7.25	0.00E+00	13.28	0.00E+00
2.88	4.74E-02	3.78	0.00E+00	7.75	0.00E+00	14.23	0.00E+00

-.50	2.08
1.50	-6.31

GAMMA ZERO= 3.57
BETA = .38
N ZERO= 3.06E+01

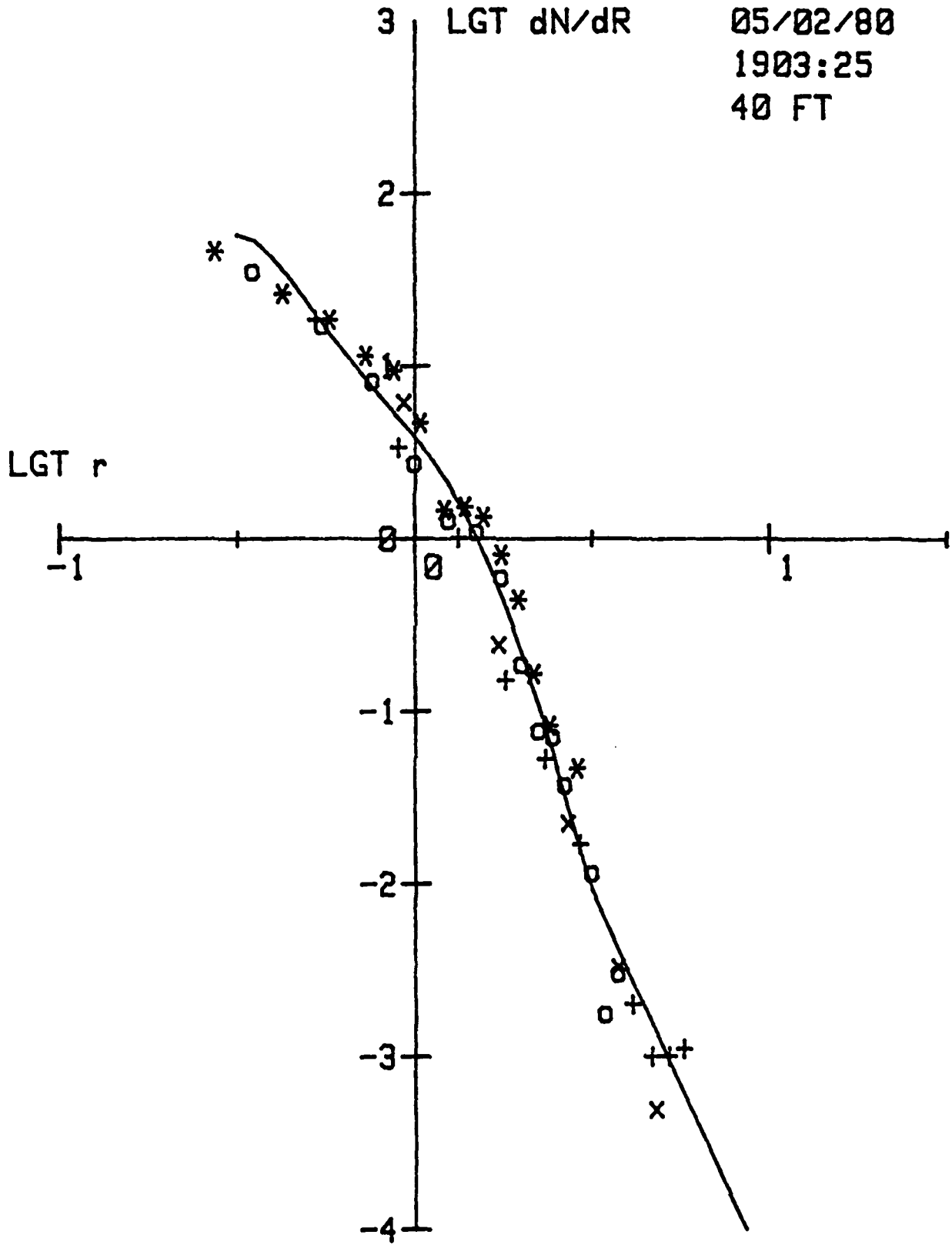
Polynomial of order 7

7.5758000E+00
-3.7243400E+01
4.0262700E+01
1.0991100E+01
-1.8029400E+01
-3.1645900E+00
-2.2700100E+00
6.5346900E-01

Wavlen	Extin(Km^-1)
.488	5.65E-02
.530	5.37E-02
.633	4.63E-02
.840	3.24E-02
1.030	2.33E-02
1.060	2.21E-02
1.600	9.71E-03
3.750	1.98E-03
10.590	7.49E-04

05/02/80 OPTICAL PROFILE# 7

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
7	190324	40	1023.4	12.10	13.03	10.19	7.69	2.60E-03	1.34E-03	1.90E-03	5.56E-02


LGT dN/dR
05/02/80
1903:25
40 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File115 T0119 05/02/80 1903:25 TO 1907:29 ALTITUDE= 40 FT

.28	4.62E+01	.35	3.68E+01	.53	1.85E+01	.94	6.49E+00
.43	2.62E+01	.55	1.79E+01	.90	3.37E+00	1.74	2.56E-01
.58	1.84E+01	.76	8.53E+00	1.33	1.00E+00	2.73	2.37E-02
.73	1.14E+01	1.00	2.85E+00	1.80	1.52E-01	3.79	3.45E-03
.88	9.43E+00	1.25	1.33E+00	2.33	5.29E-02	4.84	5.17E-04
1.04	4.67E+00	1.50	1.14E+00	2.93	1.69E-02	5.83	0.00E+00
1.21	1.46E+00	1.75	6.24E-01	3.55	2.75E-03	6.76	0.00E+00
1.39	1.52E+00	2.00	1.96E-01	4.13	2.00E-03	7.69	0.00E+00
1.56	1.33E+00	2.24	8.05E-02	4.68	9.99E-04	8.63	0.00E+00
1.75	8.08E-01	2.45	7.41E-02	5.23	9.99E-04	9.56	0.00E+00
1.95	4.45E-01	2.66	3.91E-02	5.75	1.10E-03	10.49	0.00E+00
2.16	1.65E-01	2.90	3.51E-02	6.25	0.00E+00	11.44	0.00E+00
2.39	8.24E-02	3.16	1.20E-02	6.75	0.00E+00	12.36	0.00E+00
2.63	5.30E-02	3.45	1.83E-03	7.25	0.00E+00	13.28	0.00E+00
2.88	4.66E-02	3.78	3.14E-03	7.75	0.00E+00	14.23	0.00E+00

-.50	1.95
1.50	-6.45

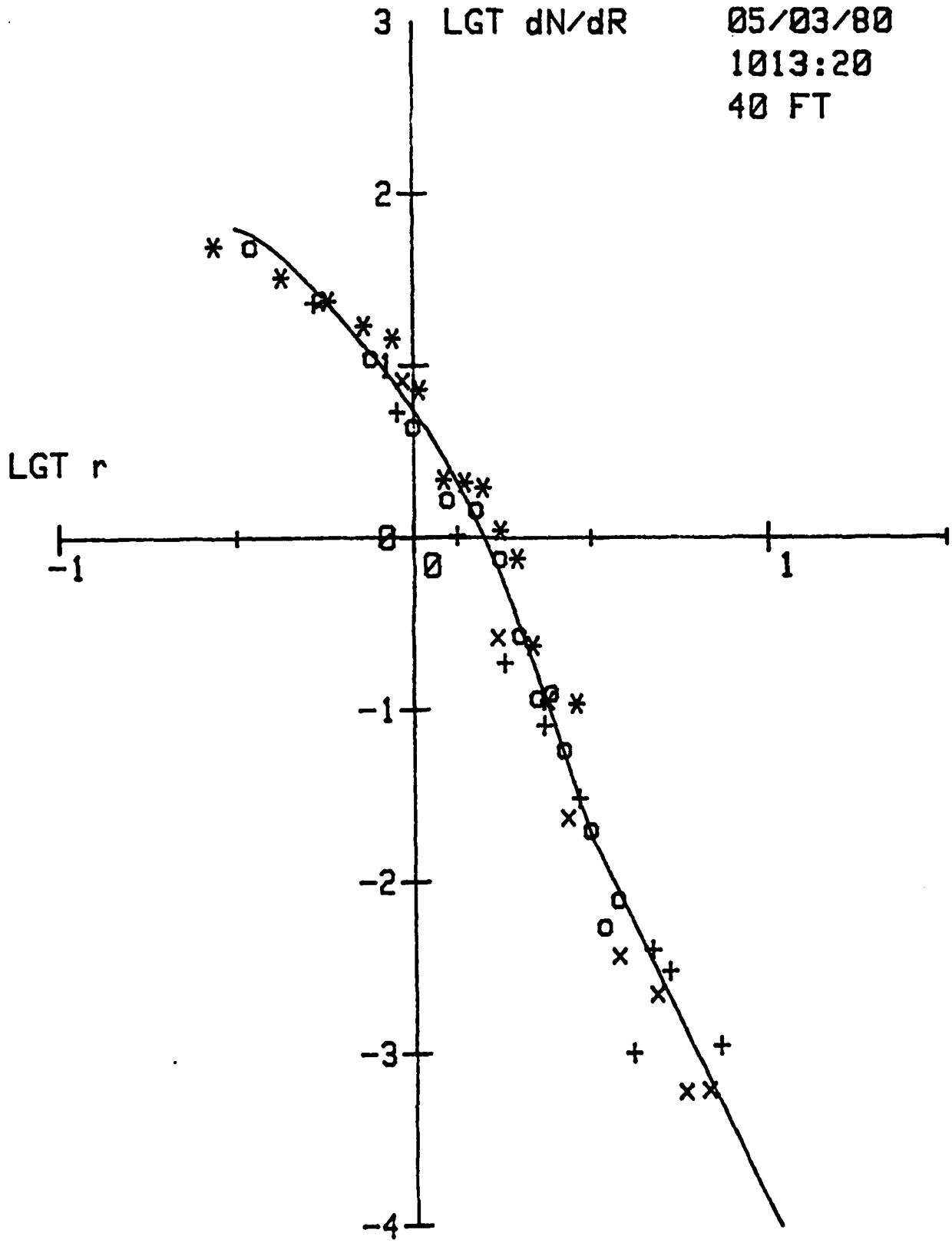
GAMMA ZERO= 3.70
BETA = .38
N ZERO= 2.65E+01

Polynomial of order 7
-5.5839900E+00
-4.7612500E+00
2.5160900E+01
-2.0807900E-01
-1.0847400E+01
-2.5654000E+00
-2.5776400E+00
5.8744100E-01

Wavlen	Extin(Km^-1)
.488	4.83E-02
.530	4.62E-02
.633	4.03E-02
.840	2.89E-02
1.030	2.12E-02
1.060	2.01E-02
1.600	9.25E-03
3.750	2.04E-03
10.590	6.87E-04

05/03/80 OPTICAL PROFILE# 8

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
8	101520	40	1022.4	11.20	14.26	9.53	7.35	5.25E-04	8.61E-04	4.98E-01	7.45E-02


LGT dN/dR
05/03/80
1013:20
40 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File 25 TO 29 05/03/80 1013:20 TO 1017:16 ALTITUDE= 40 FT

.28	4.96E+01	.35	5.09E+01	.53	2.32E+01	.94	8.61E+00
.43	3.25E+01	.55	2.56E+01	.90	5.33E+00	1.74	2.78E-01
.58	2.37E+01	.76	1.15E+01	1.33	1.03E+00	2.73	2.49E-02
.73	1.70E+01	1.00	4.60E+00	1.80	1.88E-01	3.79	3.86E-03
.88	1.43E+01	1.25	1.73E+00	2.33	8.09E-02	4.84	2.31E-03
1.04	7.20E+00	1.50	1.51E+00	2.93	3.04E-02	5.83	6.24E-04
1.21	2.15E+00	1.75	7.92E-01	3.55	1.46E-02	6.76	6.41E-04
1.39	2.08E+00	2.00	2.83E-01	4.13	9.99E-04	7.69	0.00E+00
1.56	1.94E+00	2.24	1.22E-01	4.68	3.99E-03	8.63	0.00E+00
1.75	1.10E+00	2.45	1.31E-01	5.23	3.00E-03	9.56	0.00E+00
1.95	7.57E-01	2.66	6.08E-02	5.75	0.00E+00	10.49	0.00E+00
2.16	2.35E-01	2.90	5.02E-02	6.25	0.00E+00	11.44	0.00E+00
2.39	1.13E-01	3.16	2.07E-02	6.75	0.00E+00	12.36	0.00E+00
2.63	1.25E-01	3.45	5.70E-03	7.25	1.10E-03	13.28	0.00E+00
2.88	1.08E-01	3.78	8.15E-03	7.75	0.00E+00	14.23	0.00E+00

-.50 2.02
1.50 -6.03

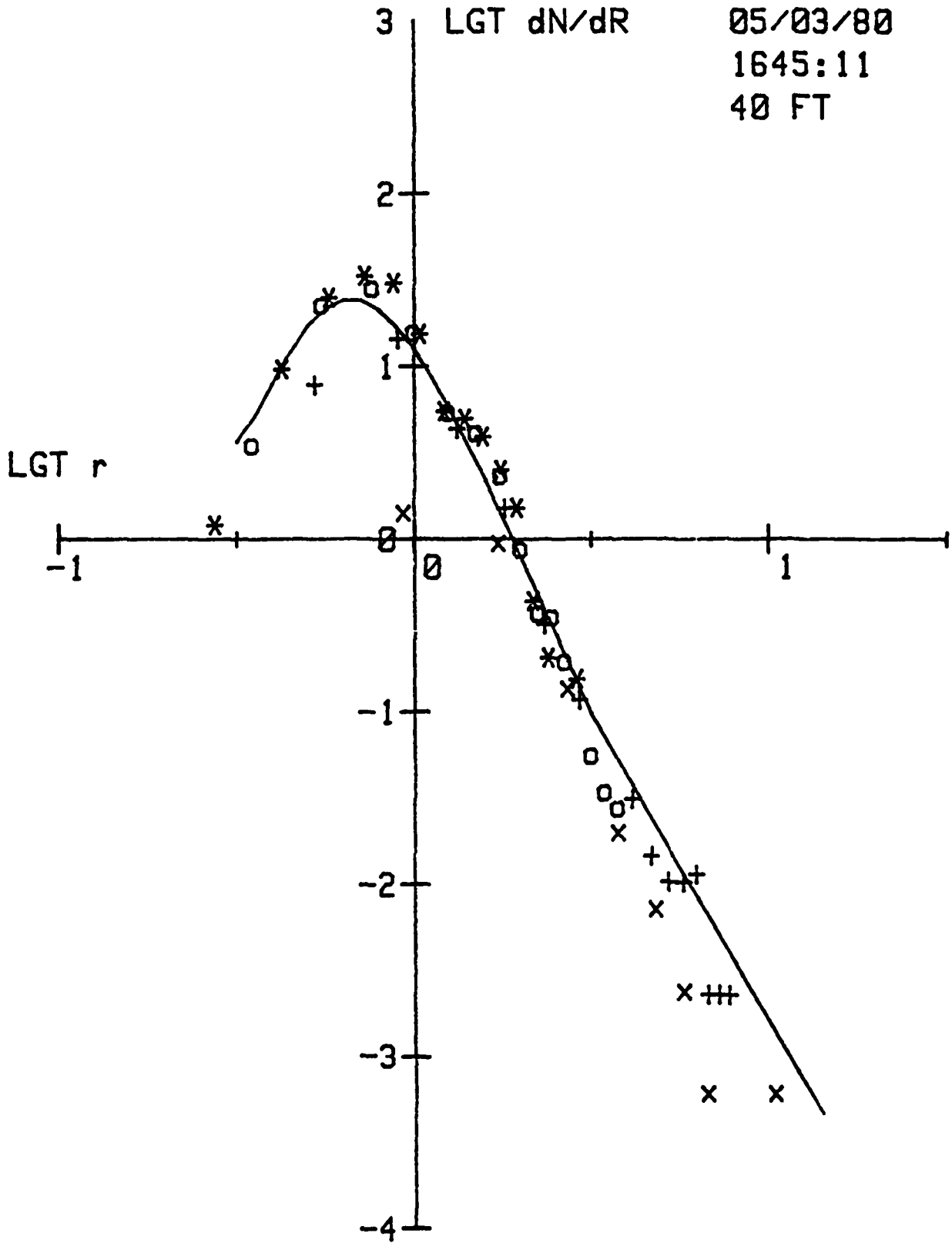
GAMMA ZERO= 2.96
BETA = .52
N ZERO= 3.96E+01

Polynomial of order 7
-3.8080500E+00
-1.0483000E-01
1.1903600E+01
7.1942700E-02
-4.8045800E+00
-2.8446100E+00
-3.0181200E+00
7.4181900E-01

Wavlen	Extin(Km^-1)
.488	6.81E-02
.530	6.49E-02
.633	5.65E-02
.840	4.10E-02
1.060	3.08E-02
1.060	2.93E-02
1.600	1.47E-02
3.750	4.08E-03
10.590	1.23E-03

05/03/80 OPTICAL PROFILE# 9

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
9	164510	40	1021.3	12.91	13.65	10.20	7.71	4.29E-03	1.18E-03	3.44E-03	3.01E-01


LGT dN/dR
05/03/80
1645:11
40 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File 9 TO 13 05/03/80 1645:11 TO 1649:1 ALTITUDE= 40 FT

.28	1.20E+00	.35	3.62E+00	.53	7.79E+00	.94	1.48E+00
.43	9.57E+00	.55	2.36E+01	.90	1.43E+01	1.74	9.89E-01
.58	2.50E+01	.76	2.95E+01	1.33	4.34E+00	2.73	1.42E-01
.73	3.33E+01	1.00	1.64E+01	1.80	1.50E+00	3.79	2.10E-02
.88	3.04E+01	1.25	5.64E+00	2.33	3.20E-01	4.84	7.52E-03
1.04	1.53E+01	1.50	4.27E+00	2.93	1.17E-01	5.83	2.50E-03
1.21	5.48E+00	1.75	2.40E+00	3.55	4.66E-02	6.76	6.41E-04
1.39	4.95E+00	2.00	9.09E-01	4.13	3.11E-02	7.69	0.00E+00
1.56	3.88E+00	2.24	3.88E-01	4.68	1.45E-02	8.63	0.00E+00
1.75	2.49E+00	2.45	3.68E-01	5.23	1.04E-02	9.56	0.00E+00
1.95	1.51E+00	2.66	2.03E-01	5.75	1.03E-02	10.49	6.41E-04
2.16	4.37E-01	2.90	1.04E-01	6.25	1.14E-02	11.44	0.00E+00
2.39	2.05E-01	3.16	5.82E-02	6.75	2.28E-03	12.36	0.00E+00
2.63	2.17E-01	3.45	3.56E-02	7.25	2.28E-03	13.28	0.00E+00
2.88	1.54E-01	3.78	2.88E-02	7.75	2.28E-03	14.23	0.00E+00

-.50 1.37
1.50 -4.72

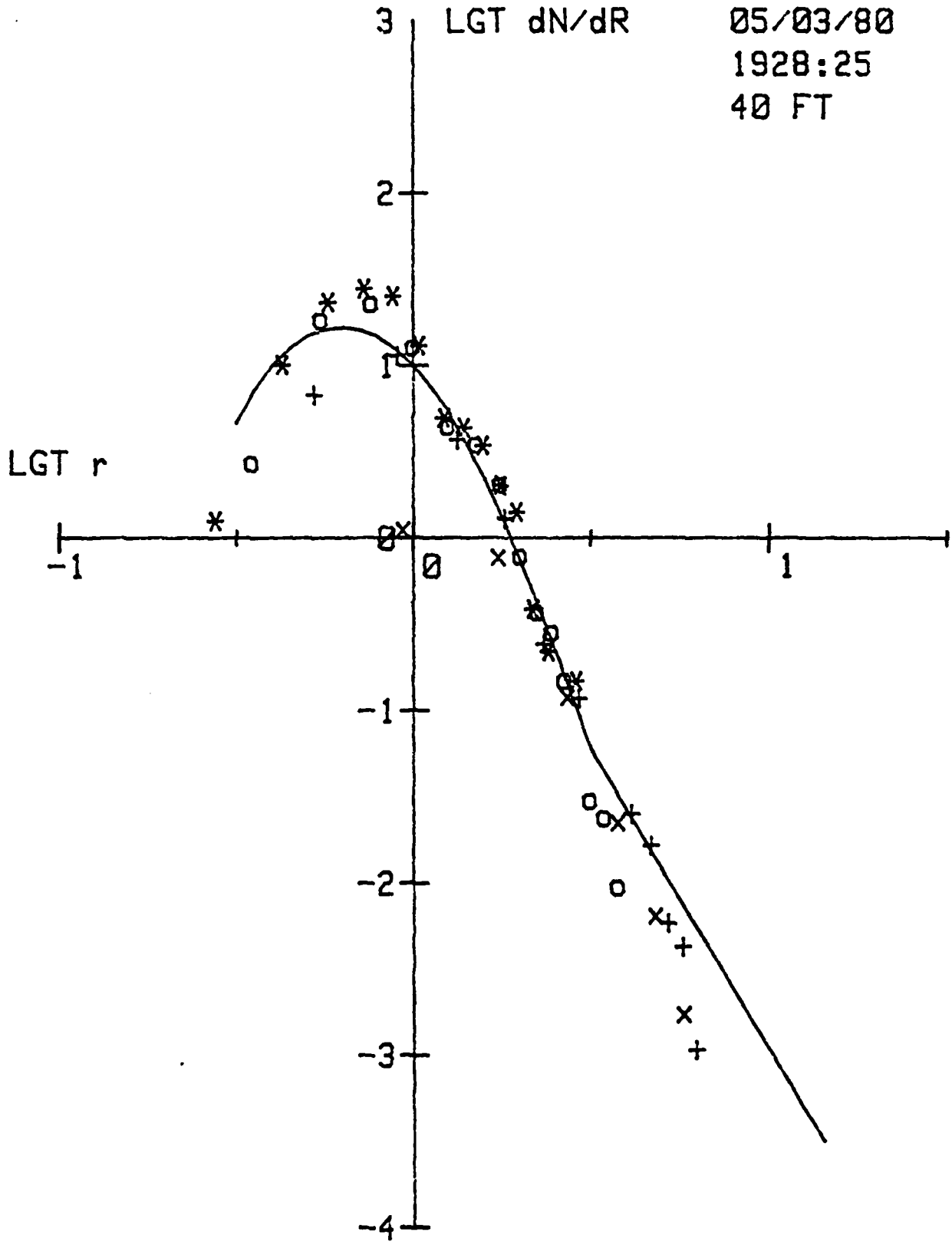
GAMMA ZERO= 2.64
BETA = .79
N ZERO= 1.02E+02

Polynomial of order 7
-8.4962100E+00
2.3207200E+01
-1.5273300E+01
-3.9549200E+00
9.9918400E+00
-5.7516500E+00
-2.9876800E+00
1.0967400E+00

Wavlen	Extin(Km^-1)
.488	1.65E-01
.530	1.60E-01
.633	1.48E-01
.840	1.19E-01
1.030	1.00E-01
1.060	9.66E-02
1.600	6.53E-02
3.750	3.42E-02
10.590	1.04E-03

05/03/80 OPTICAL PROFILE# 10

#	TIME	ALT	PRES	T_ROS	T_STR	T_DEW	q	EPS	CT2	CO2	EXT
10	192825	40	1022.4	12.46	13.21	10.01	7.60	3.99E-03	3.43E-03	2.16E-03	1.56E-01


LGT dN/dR
05/03/80
1928:25
40 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File173 T0177 05/03/80 1928:25 TO 1932:27 ALTITUDE= 40 FT

.28	1.25E+00	.35	2.82E+00	.53	6.70E+00	.94	1.17E+00
.43	1.00E+01	.55	1.90E+01	.90	1.14E+01	1.74	8.10E-01
.58	2.32E+01	.76	2.37E+01	1.33	3.68E+00	2.73	1.25E-01
.73	2.79E+01	1.00	1.32E+01	1.80	1.29E+00	3.79	2.33E-02
.88	2.53E+01	1.25	4.62E+00	2.33	2.41E-01	4.84	6.68E-03
1.04	1.30E+01	1.50	3.64E+00	2.93	1.17E-01	5.83	1.80E-03
1.21	4.95E+00	1.75	2.13E+00	3.55	3.97E-02	6.76	0.00E+00
1.39	4.34E+00	2.00	8.14E-01	4.13	2.50E-02	7.69	0.00E+00
1.56	3.42E+00	2.24	3.85E-01	4.68	1.64E-02	8.63	0.00E+00
1.75	2.01E+00	2.45	2.94E-01	5.23	5.78E-03	9.56	0.00E+00
1.95	1.41E+00	2.66	1.55E-01	5.75	4.24E-03	10.49	0.00E+00
2.16	3.84E-01	2.90	1.14E-01	6.25	1.06E-03	11.44	0.00E+00
2.39	2.18E-01	3.16	3.11E-02	6.75	0.00E+00	12.36	0.00E+00
2.63	1.86E-01	3.45	2.47E-02	7.25	0.00E+00	13.28	0.00E+00
2.88	1.47E-01	3.78	9.78E-03	7.75	0.00E+00	14.23	0.00E+00

-.50	1.34
1.50	-4.74

GAMMA ZERO= 3.81
BETA = .48
N ZERO= 7.55E+01

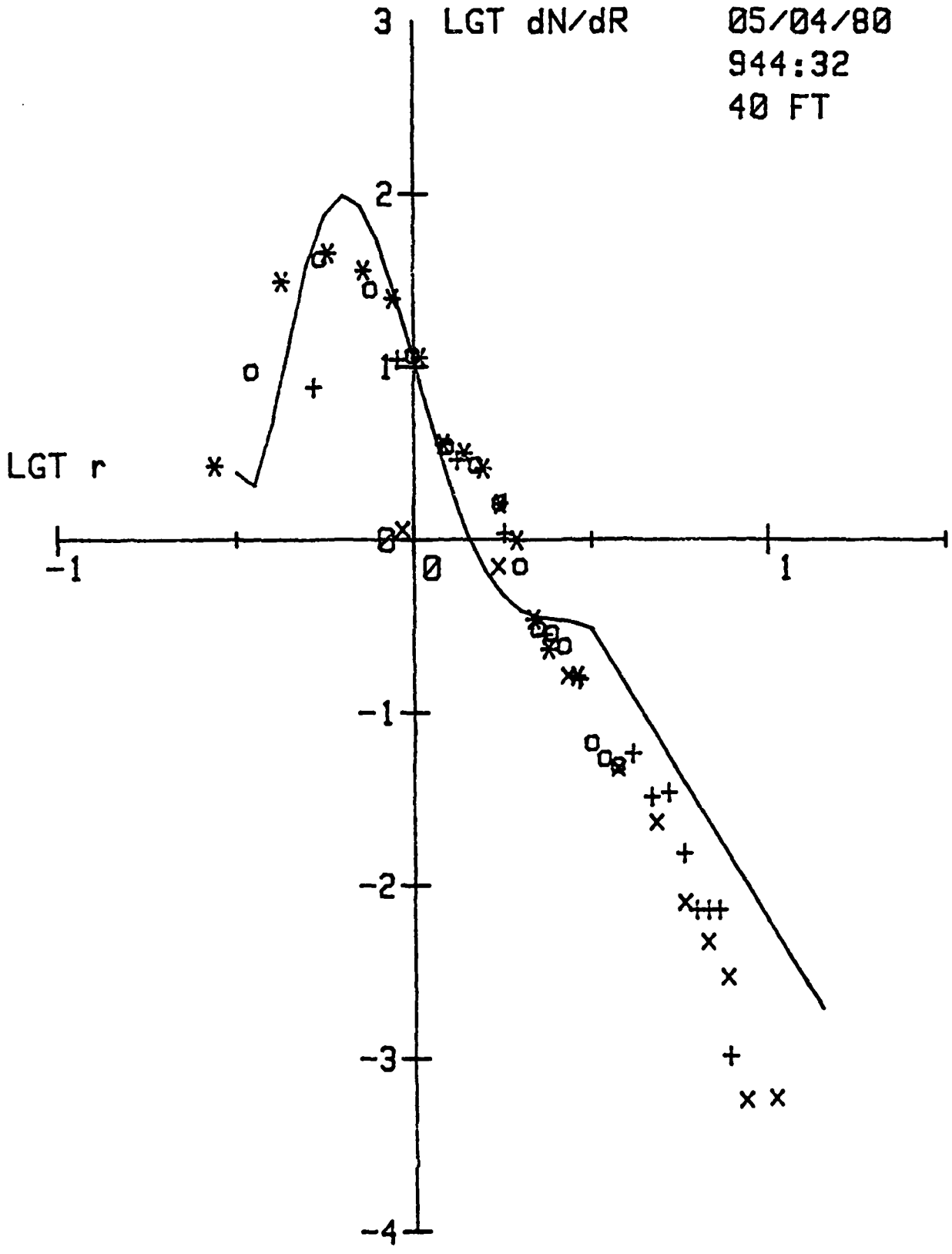
Polynomial of order 7

2.1211000E+00
-6.9040000E+00
3.5935100E+00
3.8419000E+00
2.9874300E-01
-5.6319500E+00
-2.2220900E+00
9.9709000E-01

Wavlen	Extin(Km^-1)
.488	1.34E-01
.530	1.31E-01
.633	1.22E-01
.840	9.76E-02
1.030	7.98E-02
1.060	7.67E-02
1.600	4.80E-02
3.750	2.30E-02
10.590	7.21E-03

05/04/80 OPTICAL PROFILE# 11

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
11	94432	40	1021.4	11.58	14.65	9.74	7.47	6.93E-04	5.89E-04	6.83E-02	1.69E-01


LGT dN/dR
05/04/80
944:32
40 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File 20 TO 25 05/04/80 944:32 TO 948:44 ALTITUDE= 40 FT

.28	2.66E+00	.35	9.81E+00	.53	7.59E+00	.94	1.21E+00
.43	3.11E+01	.55	4.43E+01	.90	1.10E+01	1.74	7.32E-01
.58	4.53E+01	.76	2.94E+01	1.33	2.86E+00	2.73	1.71E-01
.73	3.61E+01	1.00	1.22E+01	1.80	1.07E+00	3.79	4.99E-02
.88	2.48E+01	1.25	3.61E+00	2.33	2.81E-01	4.84	2.45E-02
1.04	1.13E+01	1.50	2.84E+00	2.93	1.55E-01	5.83	8.40E-03
1.21	3.56E+00	1.75	1.70E+00	3.55	8.01E-02	6.76	4.93E-03
1.39	3.15E+00	2.00	7.34E-01	4.13	5.76E-02	7.69	3.08E-03
1.56	2.56E+00	2.24	3.20E-01	4.68	3.25E-02	8.63	6.00E-04
1.75	1.60E+00	2.45	3.02E-01	5.23	3.44E-02	9.56	0.00E+01
1.95	9.89E-01	2.66	2.54E-01	5.75	1.53E-02	10.49	6.17E-04
2.16	3.45E-01	2.90	1.41E-01	6.25	7.16E-03	11.44	0.00E+01
2.39	2.32E-01	3.16	6.99E-02	6.75	7.16E-03	12.36	0.00E+00
2.63	2.15E-01	3.45	5.67E-02	7.25	7.16E-03	13.28	0.00E+01
2.88	1.62E-01	3.78	5.18E-02	7.75	1.02E-03	14.23	0.00E+00

-.50 1.66
1.50 -4.44

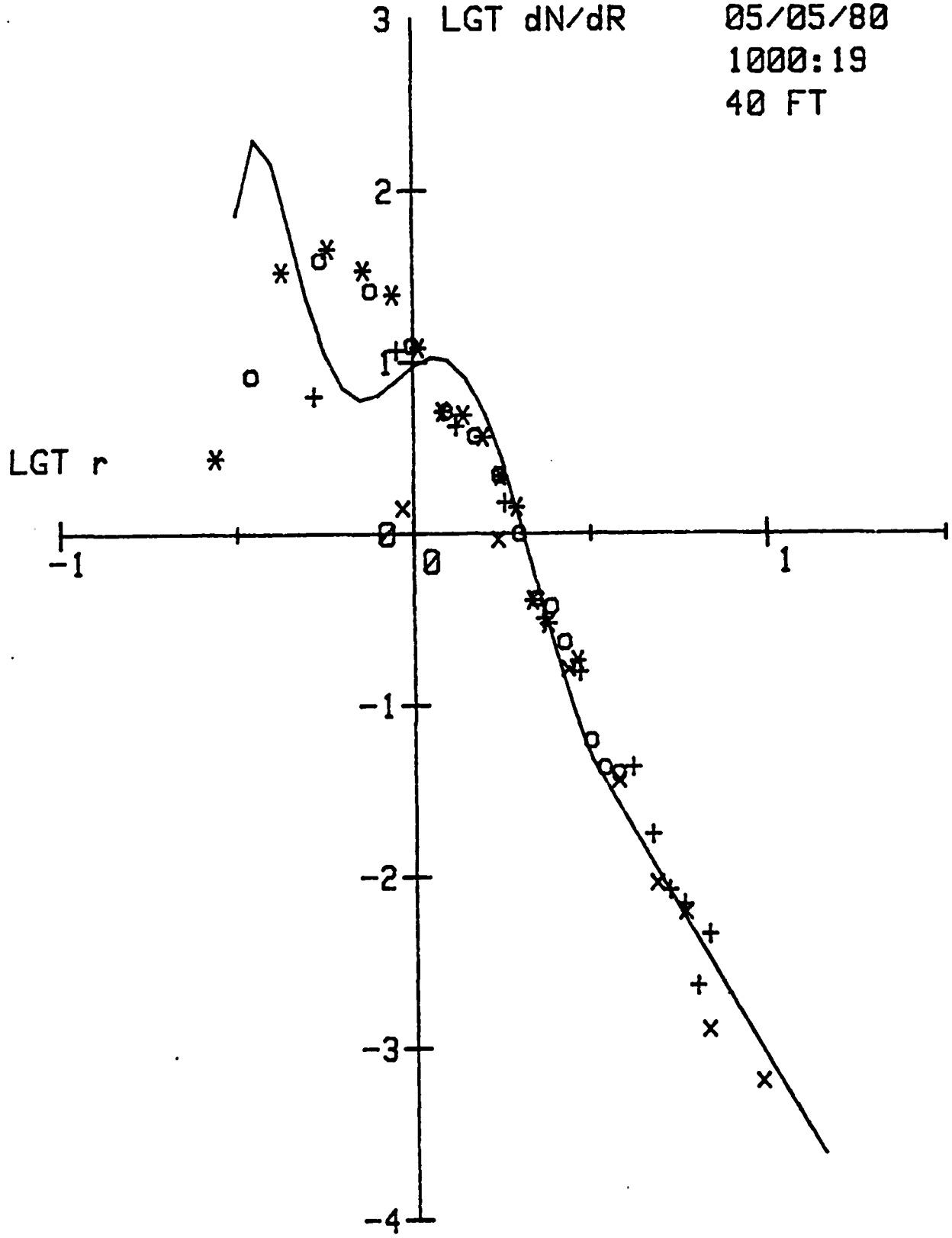
GAMMA ZERO= 2.03
BETA = 1.34
N ZERO= 1.04E+02

Polynomial of order 7
-6.0583400E+01
1.7446500E+02
-1.0541300E+02
-5.5108600E+01
5.6596400E+01
-1.5715700E+00
-7.5168100E+00
1.0452300E+00

Wavlen	Extin(Km^-1)
.488	2.57E-01
.530	2.44E-01
.633	2.17E-01
.840	1.87E-01
1.030	1.80E-01
1.060	1.76E-01
1.600	1.64E-01
3.750	1.20E-01
10.590	3.85E-02

05/05/80 OPTICAL PROFILE# 12

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
12	100018	40	1022.7	12.38	14.77	10.34	7.77	8.29E-04	1.33E-06	3.59E-03	1.84E-01


LGT dN/dR
05/05/80
1000:19
40 FT
LGT r
3
2
-1
-2
-3
-4
-1
0
1

File 13 TO 17 05/05/80 1000:19 TO 1004:5 ALTITUDE= 40 FT

.28	2.75E+00	.35	8.70E+00	.53	6.32E+00	.94	1.48E+00
.43	3.36E+01	.55	4.14E+01	.90	1.17E+01	1.74	9.71E-01
.58	4.57E+01	.76	2.75E+01	1.33	4.18E+00	2.73	1.71E-01
.73	3.45E+01	1.00	1.31E+01	1.80	1.51E+00	3.79	3.85E-02
.88	2.48E+01	1.25	5.37E+00	2.33	3.17E-01	4.84	9.64E-03
1.04	1.21E+01	1.50	3.89E+00	2.93	1.55E-01	5.83	6.50E-03
1.21	5.14E+00	1.75	2.30E+00	3.55	5.70E-02	6.76	1.34E-03
1.39	4.86E+00	2.00	1.05E+00	4.13	4.36E-02	7.69	0.00E+00
1.56	3.65E+00	2.24	4.39E-01	4.68	1.76E-02	8.63	0.00E+00
1.75	2.16E+00	2.45	3.95E-01	5.23	8.30E-03	9.56	6.68E-04
1.95	1.42E+00	2.66	2.44E-01	5.75	6.84E-03	10.49	0.00E+00
2.16	4.08E-01	2.90	1.48E-01	6.25	2.28E-03	11.44	0.00E+00
2.39	2.98E-01	3.16	6.52E-02	6.75	4.56E-03	12.36	0.00E+00
2.63	2.83E-01	3.45	4.53E-02	7.25	0.00E+00	13.28	0.00E+00
2.88	1.80E-01	3.78	4.24E-02	7.75	0.00E+00	14.23	0.00E+00

-.50 1.67
1.50 -4.65

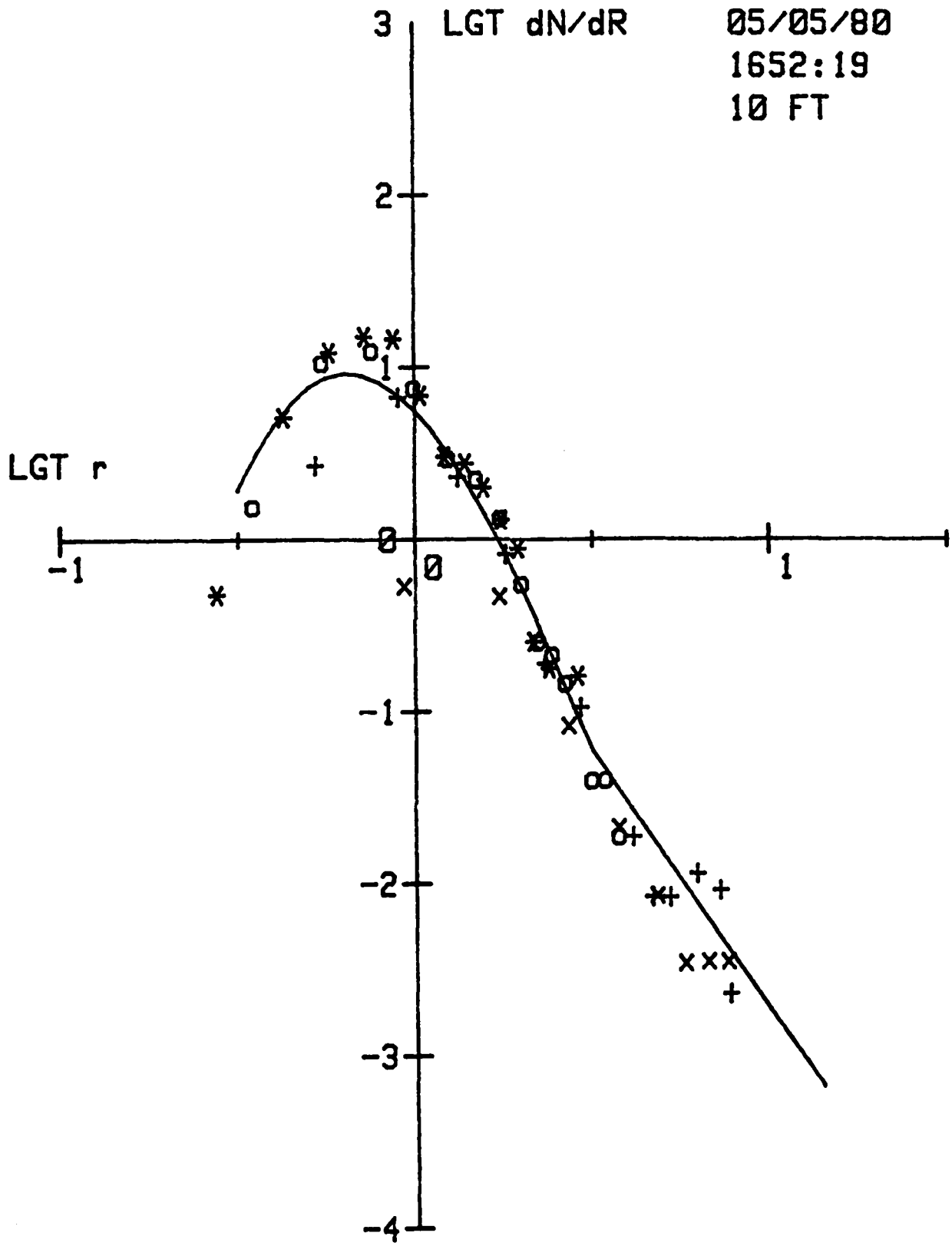
GAMMA ZERO= 2.83
BETA = .74
N ZERO= 9.79E+01

Polynomial of order 7
8.1575400E+01
-2.0582700E+02
1.1066200E+02
6.9938800E+01
-5.1515200E+01
-7.4204500E+00
1.5099300E+00
9.7356000E-01

Wavlen	Extin(Km^-1)
.488	1.87E-01
.530	1.86E-01
.633	1.78E-01
.840	1.40E-01
1.030	1.09E-01
1.060	1.04E-01
1.600	5.49E-02
3.750	1.96E-02
10.570	6.37E-03

05/05/80 OPTICAL PROFILE# 13

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
13	165719	10	1023.0	13.80	13.42	11.77	8.55	1.06E-01	1.81E-03	1.11E-01	1.02E-01
13	165536	40	1022.2	13.64	13.48	11.72	8.53	3.61E-02	6.42E-04	1.10E-02	8.27E-02


LGT dN/dR
05/05/80
1652:19
10 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File 23 TO 25 05/05/80 1652:19 TO 1654:15 ALTITUDE= 10 FT

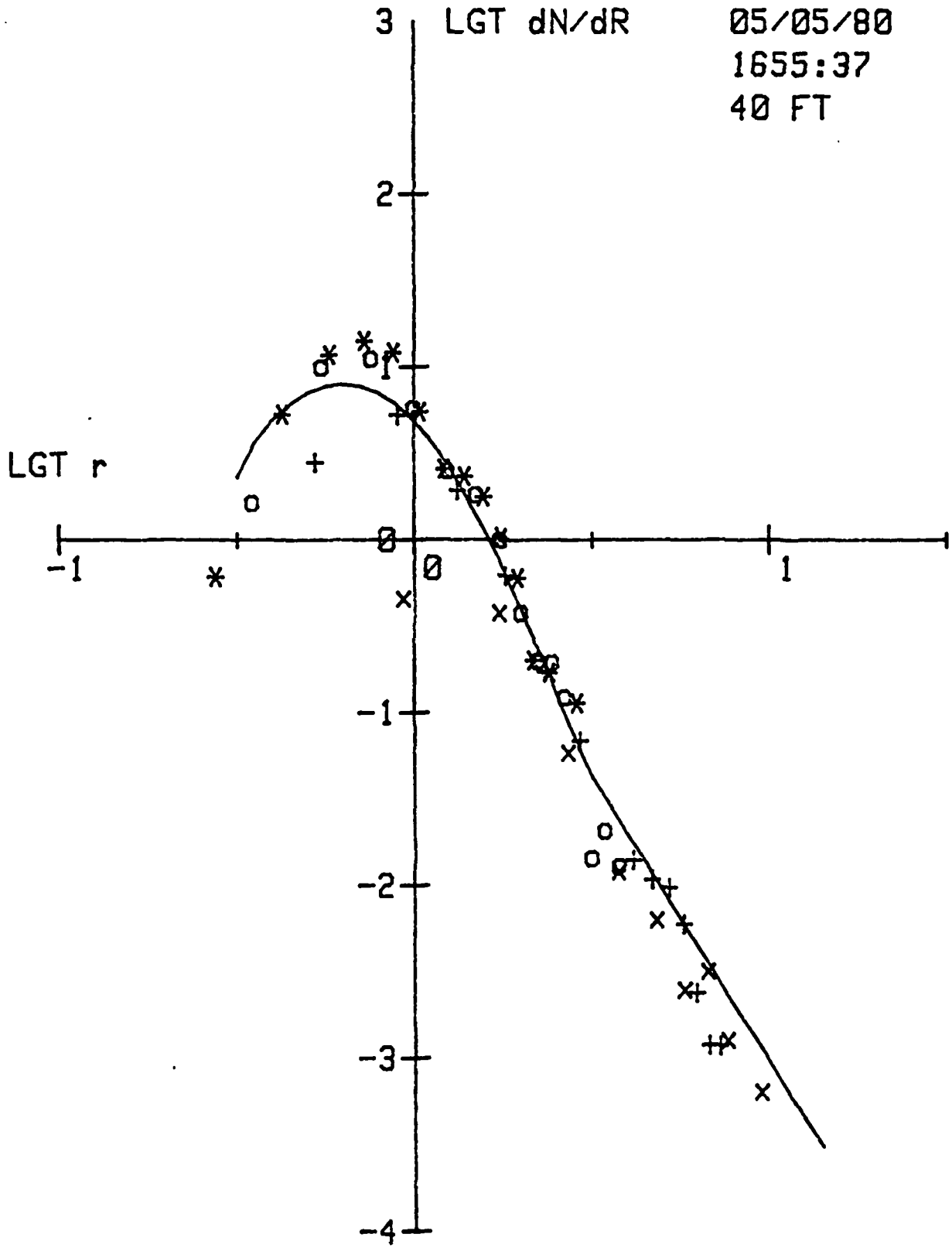
.28	4.79E-01	.35	1.61E+00	.53	2.68E+00	.94	5.64E-01
.43	5.10E+00	.55	1.10E+01	.90	6.68E+00	1.74	4.90E-01
.58	1.21E+01	.76	1.30E+01	1.33	2.29E+00	2.73	8.69E-02
.73	1.50E+01	1.00	7.89E+00	1.80	8.14E-01	3.79	2.23E-02
.88	1.46E+01	1.25	3.07E+00	2.33	1.89E-01	4.84	8.90E-03
1.04	6.82E+00	1.50	2.33E+00	2.93	1.05E-01	5.83	3.60E-03
1.21	3.02E+00	1.75	1.38E+00	3.55	2.66E-02	6.76	3.70E-03
1.39	2.74E+00	2.00	5.75E-01	4.13	1.87E-02	7.69	3.70E-03
1.56	1.98E+00	2.24	2.64E-01	4.68	8.30E-03	8.63	0.00E+00
1.75	1.29E+00	2.45	2.22E-01	5.23	8.30E-03	9.56	0.00E+00
1.95	8.84E-01	2.66	1.52E-01	5.75	0.00E+00	10.49	0.00E+00
2.16	2.53E-01	2.90	1.00E-01	6.25	1.14E-02	11.44	0.00E+00
2.39	1.77E-01	3.16	4.15E-02	6.75	0.00E+00	12.36	0.00E+00
2.63	1.41E-01	3.45	4.18E-02	7.25	9.12E-03	13.28	0.00E+00
2.88	1.60E-01	3.78	1.96E-02	7.75	2.28E-03	14.23	0.00E+00

-.50 .96
1.50 -4.18

GAMMA ZERO= 2.22
BETA = 1.19
N ZERO= 6.50E+01

Polynomial of order 7
-3.2829200E+00
4.5590000E+00
1.6189900E+00
-9.7131100E-01
2.4048400E+00
-4.9114800E+00
-2.1684200E+00
7.4586600E-01

Wavlen	Extin(Km^-1)
.488	1.01E-01
.530	9.92E-02
.633	9.57E-02
.840	8.23E-02
1.030	7.31E-02
1.060	7.08E-02
1.600	5.44E-02
3.750	3.72E-02
10.590	1.42E-02


LGT dN/dR
05/05/80
1655:37
40 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File 27 TO 30 05/05/80 1655:37 TO 1659:11 ALTITUDE= 40 FT

.28	6.10E-01	.35	1.71E+00	.53	2.80E+00	.94	4.80E-01
.43	5.31E+00	.55	1.04E+01	.90	5.22E+00	1.74	3.96E-01
.58	1.17E+01	.76	1.17E+01	1.33	1.92E+00	2.73	6.18E-02
.73	1.41E+01	1.00	6.04E+00	1.80	6.23E-01	3.79	1.26E-02
.88	1.21E+01	1.25	2.62E+00	2.33	1.73E-01	4.84	6.63E-03
1.04	5.47E+00	1.50	1.91E+00	2.93	6.84E-02	5.83	2.60E-03
1.21	2.55E+00	1.75	1.05E+00	3.55	2.67E-02	6.76	3.34E-03
1.39	2.32E+00	2.00	3.96E-01	4.13	1.40E-02	7.69	1.34E-03
1.56	1.76E+00	2.24	2.08E-01	4.68	1.08E-02	8.63	0.00E+00
1.75	1.03E+00	2.45	2.05E-01	5.23	9.71E-03	9.56	6.68E-04
1.95	5.99E-01	2.66	1.29E-01	5.75	5.93E-03	10.49	0.00E+00
2.16	2.00E-01	2.90	7.83E-02	6.25	2.37E-03	11.44	0.00E+00
2.39	1.70E-01	3.16	1.51E-02	6.75	1.19E-03	12.36	0.00E+00
2.63	1.38E-01	3.45	2.17E-02	7.25	1.19E-03	13.28	0.00E+00
2.88	1.14E-01	3.78	1.36E-02	7.75	0.00E+00	14.23	0.00E+00

-.50 1.00
1.50 -4.71

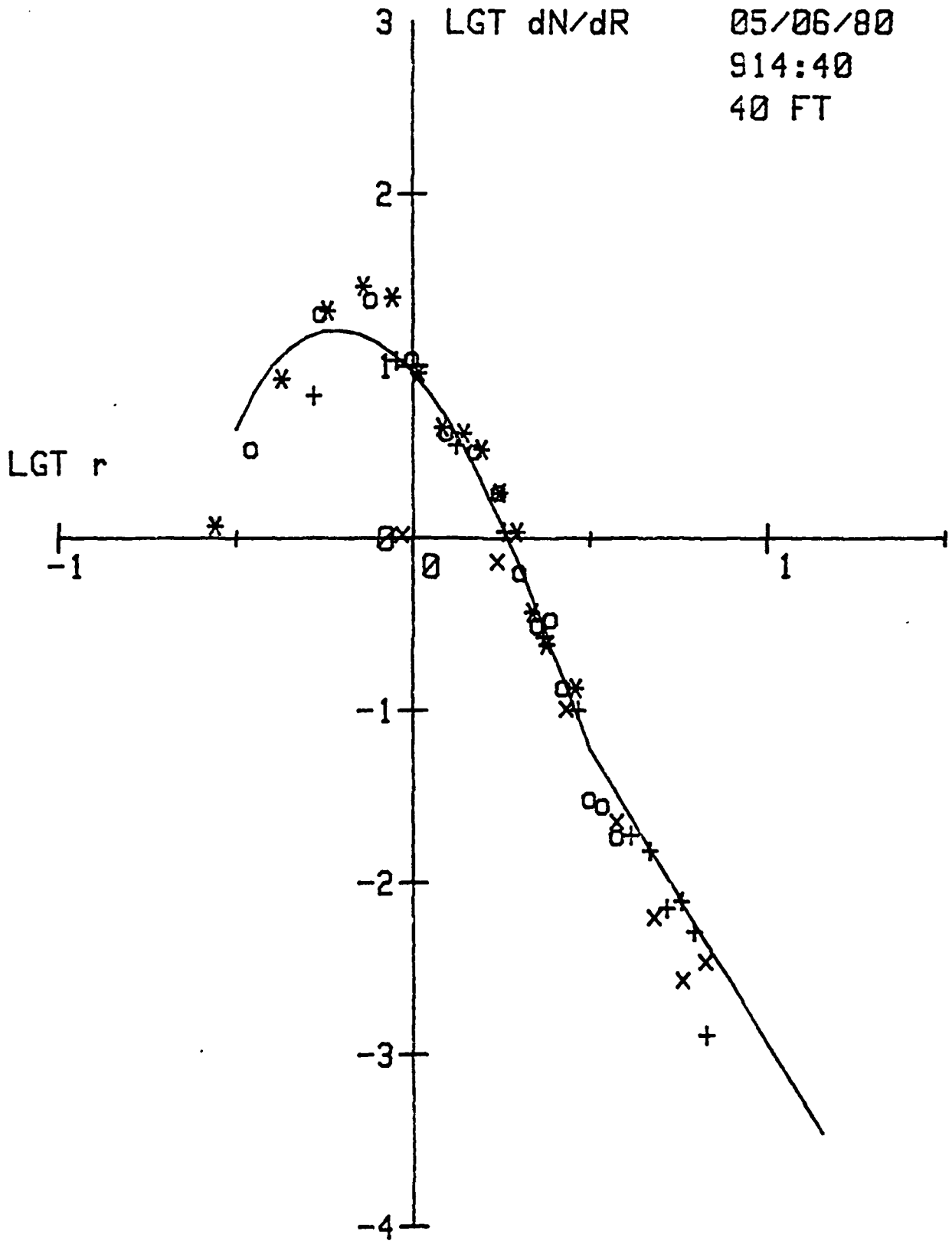
GAMMA ZERO= 2.32
BETA = 1.05
N ZERO= 4.91E+01

Polynomial of order 7
4.2673300E+00
-1.0945300E+01
3.9617400E+00
6.1114700E+00
4.6141200E-01
-5.6031100E+00
-2.1667400E+01
6.8604400E-01

Wavlen	Extin(Km^-1)
.488	7.43E-02
.530	7.30E-02
.633	6.91E-02
.840	5.75E-02
1.030	4.92E-02
1.060	4.75E-02
1.600	3.35E-02
3.750	1.95E-02
10.590	6.57E-03

05/06/80 OPTICAL PROFILE# 14

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CO2	EXT
14	91440	40	1022.8	12.76	13.65	9.52	7.35	8.62E-03	4.15E-03	1.10E-02	1.40E-01


LGT dN/dR
05/06/80
914:40
40 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File 10 TO 13 05/06/80 914:40 TO 917:58 ALTITUDE= 40 FT

.28	1.17E+00	.35	3.42E+00	.53	6.72E+00	.94	1.10E+00
.43	8.37E+00	.55	2.09E+01	.90	1.07E+01	1.74	7.70E-01
.58	2.09E+01	.76	2.54E+01	1.33	3.45E+00	2.73	1.07E-01
.73	2.91E+01	1.00	1.13E+01	1.80	1.09E+00	3.79	2.38E-02
.88	2.51E+01	1.25	4.25E+00	2.33	2.66E-01	4.84	6.58E-03
1.04	9.05E+00	1.50	3.31E+00	2.93	1.00E-01	5.83	2.84E-03
1.21	4.40E+00	1.75	1.93E+00	3.55	4.84E-02	6.76	3.64E-03
1.39	4.04E+00	2.00	6.55E-01	4.13	1.88E-02	7.69	0.00E+00
1.56	3.28E+00	2.24	3.24E-01	4.68	1.52E-02	8.63	0.00E+00
1.75	1.83E+00	2.45	3.50E-01	5.23	7.03E-03	9.56	0.00E+00
1.95	1.08E+00	2.66	1.41E-01	5.75	7.74E-03	10.49	0.00E+00
2.16	3.70E-01	2.90	8.90E-02	6.25	5.16E-03	11.44	0.00E+00
2.39	2.41E-01	3.16	3.19E-02	6.75	1.29E-03	12.36	0.00E+00
2.63	1.83E-01	3.45	2.92E-02	7.25	0.00E+00	13.28	0.00E+00
2.88	1.34E-01	3.78	1.93E-02	7.75	0.00E+00	14.23	0.00E+00

-.50 1.30
1.50 -4.65

GAMMA ZERO= 2.96
BETA = .68
N ZERO= 7.60E+01

Polynomial of order 7
1.4999400E+00
-6.4127900E+00
5.5044900E+00
2.9230100E+00
2.3725600E-01
-5.3492700E+00
-2.2871300E+00
9.6083000E-01

Wavlen	Extin(Km^-1)
.488	1.26E-01
.530	1.24E-01
.633	1.15E-01
.840	9.29E-02
1.030	7.67E-02
1.060	7.38E-02
1.600	4.77E-02
3.750	2.43E-02
10.590	7.81E-03

05/06/80 OPTICAL PROFILE# 15

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
15	120213	40	1022.9	12.71	13.20	9.73	7.45	1.80E-02	1.95E-03	3.13E-03	1.44E-01

File178 TO182 05/06/80 1202:14 TO 1206:40 ALTITUDE= 40 FT

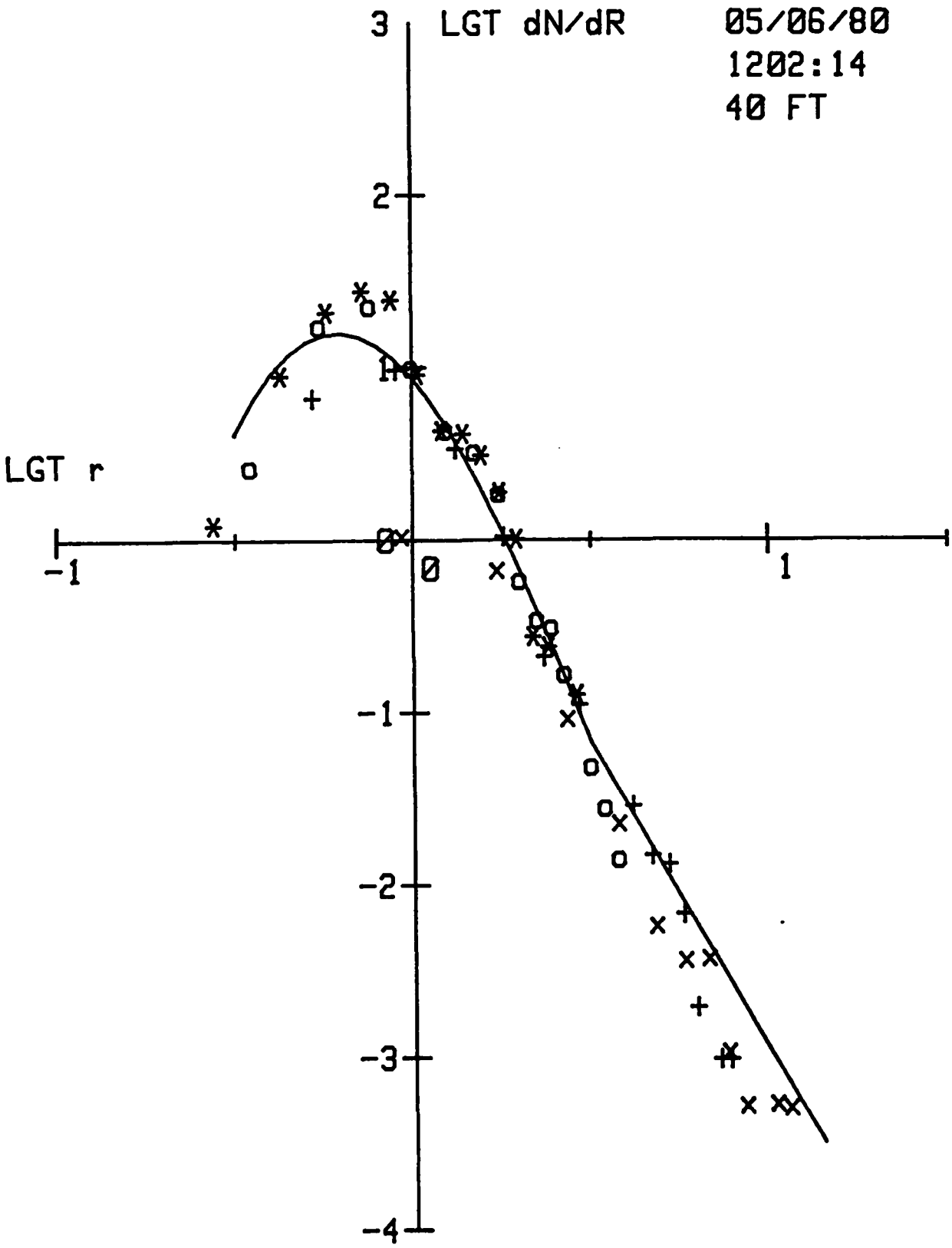
.28	1.21E+00	.35	2.73E+00	.53	6.66E+00	.94	1.10E+00
.43	8.96E+00	.55	1.81E+01	.90	9.68E+00	1.74	6.99E-01
.58	2.10E+01	.76	2.36E+01	1.33	3.36E+00	2.73	9.59E-02
.73	2.78E+01	1.00	1.03E+01	1.80	1.04E+00	3.79	2.38E-02
.88	2.46E+01	1.25	4.47E+00	2.33	2.10E-01	4.84	5.99E-03
1.04	9.06E+00	1.50	3.37E+00	2.93	1.10E-01	5.83	3.77E-03
1.21	4.29E+00	1.75	1.93E+00	3.55	2.95E-02	6.76	3.87E-03
1.39	4.10E+00	2.00	6.01E-01	4.13	2.87E-02	7.69	1.11E-03
1.56	3.09E+00	2.24	3.57E-01	4.68	1.48E-02	8.63	5.38E-04
1.75	1.88E+00	2.45	3.22E-01	5.23	1.30E-02	9.56	0.00E+00
1.95	1.01E+00	2.66	1.73E-01	5.75	6.70E-03	10.49	5.53E-04
2.16	2.74E-01	2.90	7.98E-02	6.25	1.91E-03	11.44	5.24E-04
2.39	2.39E-01	3.16	5.02E-02	6.75	0.00E+00	12.36	0.00E+00
2.63	2.30E-01	3.45	2.90E-02	7.25	9.57E-04	13.28	0.00E+00
2.88	1.26E-01	3.78	1.46E-02	7.75	9.57E-04	14.23	0.00E+00

-.50 1.32
1.50 -4.86

GAMMA ZERO= 2.18
BETA = 1.06
N ZERO= 8.30E+01

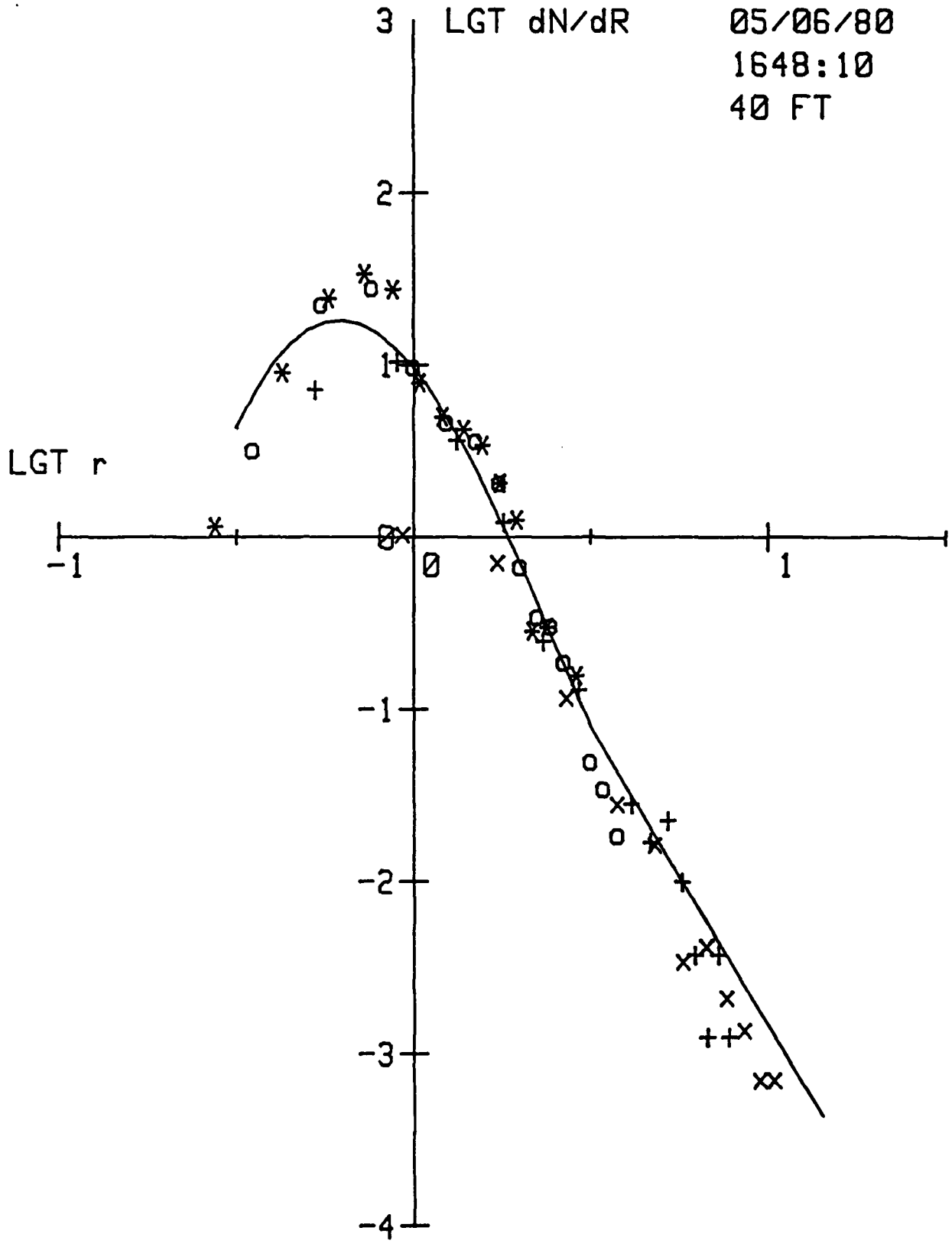
Polynomial of order 7
8.2721100E-01
-2.4127400E+00
9.8873400E-01
1.8678900E+00
2.2050500E+00
-5.1994000E+00
-2.4196300E+00
9.3848900E-01

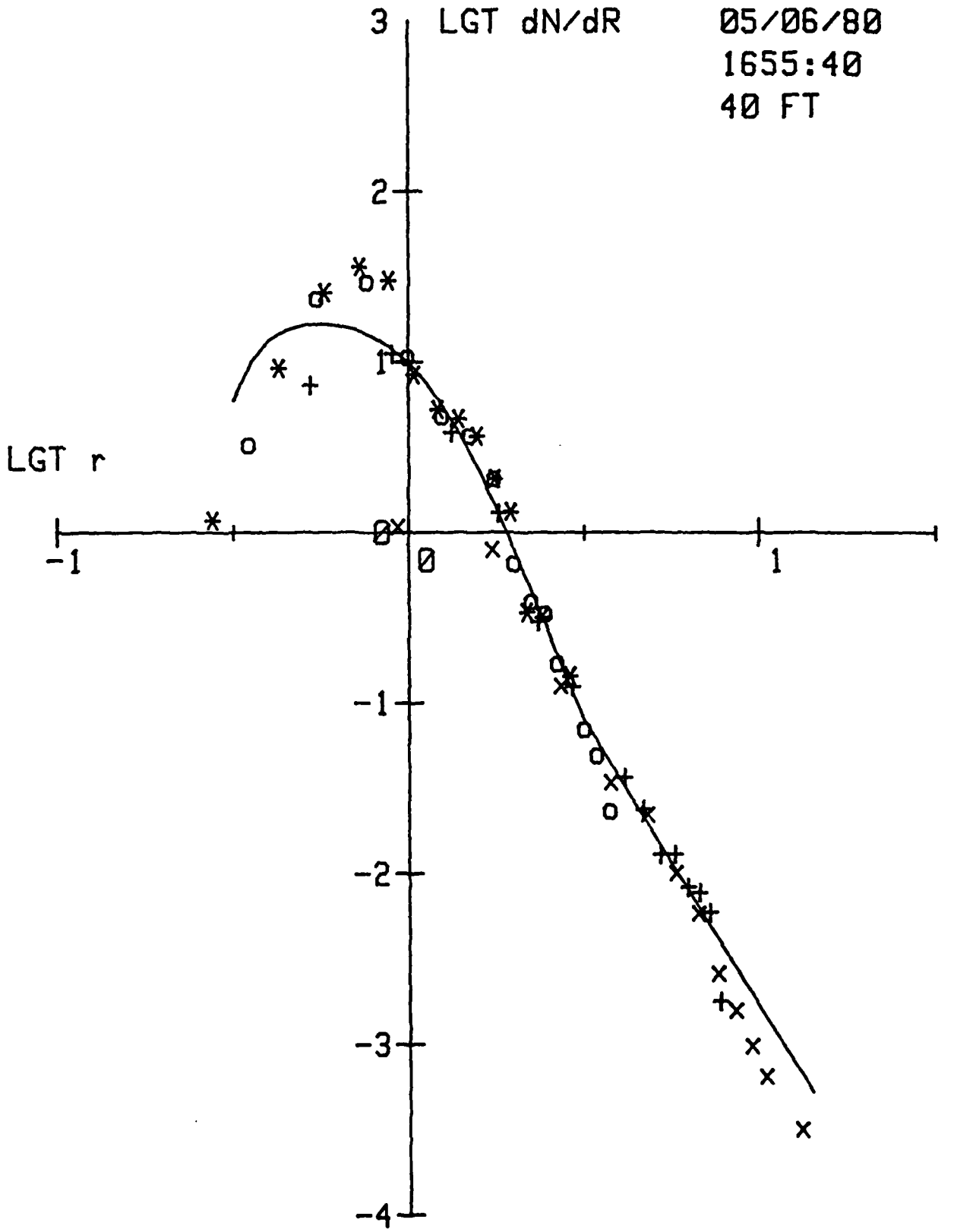
Wavlen	Extin(Km^-1)
.488	1.21E-01
.530	1.18E-01
.633	1.10E-01
.640	8.98E-02
1.030	7.48E-02
1.060	7.20E-02
1.600	4.70E-02
3.750	2.33E-02
10.590	7.03E-02


LGT dN/dR
05/06/80
1202:14
40 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

05/06/80 OPTICAL PROFILE# 16

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
16	164810	40	1022.6	12.86	13.62	8.98	7.08	2.30E-02	3.04E-03	4.80E-03	1.57E-01
16	165540	40	1022.8	12.78	12.67	8.95	7.07	4.71E-02	2.16E-03	4.38E-03	1.73E-01


LGT dN/dR
05/06/80
1648:10
40 FT
LGT r
3
2
1
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/06/80
1655:40
40 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File 10 TO 13 05/06/80 1648:10 TO 1651:32 ALTITUDE= 40 FT

.28	1.15E+00	.35	3.33E+00	.53	7.16E+00	.94	1.09E+00
.43	9.00E+00	.55	2.35E+01	.90	1.04E+01	1.74	7.43E-01
.58	2.44E+01	.76	2.91E+01	1.33	3.62E+00	2.73	1.22E-01
.73	3.37E+01	1.00	1.01E+01	1.80	1.21E+00	3.79	2.95E-02
.88	2.76E+01	1.25	4.82E+00	2.33	2.47E-01	4.84	1.71E-02
1.04	7.86E+00	1.50	3.76E+00	2.93	1.28E-01	5.83	3.55E-03
1.21	4.97E+00	1.75	2.14E+00	3.55	5.05E-02	6.76	4.37E-03
1.39	4.21E+00	2.00	6.96E-01	4.13	2.81E-02	7.69	2.19E-03
1.56	3.41E+00	2.24	3.59E-01	4.68	1.69E-02	8.63	1.42E-03
1.75	2.05E+00	2.45	3.17E-01	5.23	2.25E-02	9.56	7.29E-04
1.95	1.25E+00	2.66	1.95E-01	5.75	9.89E-03	10.49	7.29E-04
2.16	2.83E-01	2.90	1.05E-01	6.25	3.71E-03	11.44	0.00E+00
2.39	2.99E-01	3.16	5.15E-02	6.75	1.24E-03	12.36	0.00E+00
2.63	1.95E-01	3.45	3.59E-02	7.25	3.71E-03	13.28	0.00E+00
2.88	1.56E-01	3.78	1.93E-02	7.75	1.24E-03	14.23	0.00E+00

-.50 1.32
1.50 -4.66

GAMMA ZERO= 2.09
BETA = 1.20
N ZERO= 9.68E+01

Polynomial of order 7
1.5185100E+00
-3.5100100E+00
-3.0297300E-01
2.6098400E+00
3.2024700E+00
-5.2899200E+00
-2.5446800E+00
9.8286100E-01

Wavlen	Extin(Km^-1)
.488	1.36E-01
.530	1.33E-01
.633	1.24E-01
.840	1.02E-01
1.030	8.60E-02
1.060	8.30E-02
1.600	5.65E-02
3.750	3.03E-02
10.590	7.46E-03

File 17 TO 24 05/06/80 1655:40 TO 1702:52 ALTITUDE= 40 FT

.28	1.17E+00	.35	3.40E+00	.53	7.25E+00	.94	1.14E+00
.43	9.14E+00	.55	2.45E+01	.90	1.11E+01	1.74	8.33E-01
.58	2.55E+01	.76	3.07E+01	1.33	3.84E+00	2.73	1.33E-01
.73	3.60E+01	1.00	1.11E+01	1.80	1.30E+00	3.79	3.61E-02
.88	3.00E+01	1.25	4.97E+00	2.33	2.99E-01	4.84	2.34E-02
1.04	8.37E+00	1.50	3.84E+00	2.93	1.25E-01	5.83	1.06E-02
1.21	5.23E+00	1.75	2.16E+00	3.55	5.09E-02	6.76	6.14E-03
1.39	4.60E+00	2.00	6.87E-01	4.13	3.67E-02	7.69	2.73E-03
1.56	3.66E+00	2.24	4.14E-01	4.68	2.37E-02	8.63	1.66E-03
1.75	2.05E+00	2.45	3.52E-01	5.23	1.29E-02	9.56	1.02E-03
1.95	1.32E+00	2.66	1.78E-01	5.75	1.30E-02	10.49	6.82E-04
2.16	3.41E-01	2.90	1.11E-01	6.25	8.30E-03	11.44	0.00E+00
2.39	3.18E-01	3.16	7.34E-02	6.75	7.71E-03	12.36	0.00E+00
2.63	2.20E-01	3.45	5.15E-02	7.25	5.93E-03	13.28	3.32E-04
2.88	1.44E-01	3.78	2.43E-02	7.75	1.78E-03	14.23	0.00E+00

-.50 1.34
1.50 -4.44

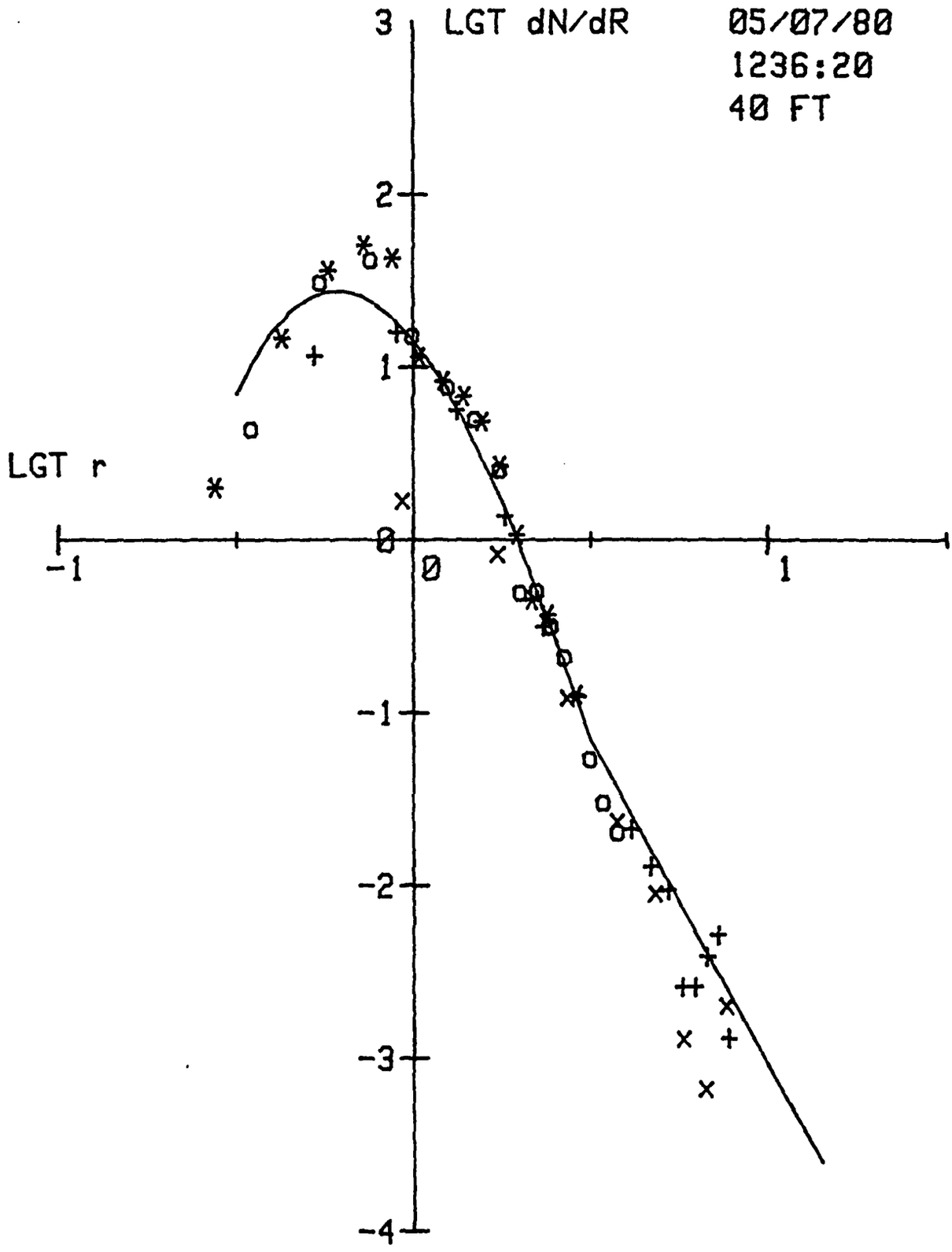
GAMMA ZERO= 1.88
BETA = 1.49
N ZERO= 1.13E+02

Polynomial of order 7
9.6029200E+00
-2.6075700E+01
1.1704200E+01
1.0294000E+01
-2.9302900E+00
-5.5708000E+00
-2.0283100E+00
9.9436400E-01

Wavlen	Extin(Km^-1)
.488	1.48E-01
.530	1.45E-01
.633	1.37E-01
.840	1.12E-01
1.030	9.49E-02
1.060	9.15E-02
1.600	6.24E-02
3.750	3.46E-02
10.590	1.14E-02

05/07/80 OPTICAL PROFILE# 17

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CO2	EXT
17	123620	40	1020.2	12.24	14.00	9.86	7.54	4.67E-03	4.98E-03	4.01E-03	2.40E-01


LGT dN/dR
05/07/80
1236:20
40 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File182 T0185 05/07/80 1236:20 TO 1239:42 ALTITUDE= 40 FT

.28	1.99E+00	.35	4.56E+00	.53	1.15E+01	.94	1.78E+00
.43	1.47E+01	.55	3.22E+01	.90	1.59E+01	1.74	8.66E-01
.58	3.61E+01	.76	4.35E+01	1.33	5.61E+00	2.73	1.28E-01
.73	5.07E+01	1.00	1.58E+01	1.80	1.37E+00	3.79	2.46E-02
.88	4.27E+01	1.25	8.00E+00	2.33	3.16E-01	4.84	9.43E-03
1.04	1.15E+01	1.50	5.21E+00	2.93	1.23E-01	5.83	1.36E-03
1.21	8.27E+00	1.75	2.64E+00	3.55	4.41E-02	6.76	6.97E-04
1.39	6.77E+00	2.00	5.20E-01	4.13	2.11E-02	7.69	2.09E-03
1.56	4.82E+00	2.24	5.30E-01	4.68	1.29E-02	8.63	0.00E+00
1.75	2.67E+00	2.45	3.30E-01	5.23	9.38E-03	9.56	0.00E+00
1.95	1.07E+00	2.66	2.19E-01	5.75	2.58E-03	10.49	0.00E+00
2.16	4.50E-01	2.90	7.28E-02	6.25	2.58E-03	11.44	0.00E+00
2.39	3.68E-01	3.16	5.64E-02	6.75	3.87E-03	12.36	0.00E+00
2.63	2.57E-01	3.45	3.15E-02	7.25	5.16E-03	13.28	0.00E+00
2.88	1.26E-01	3.78	2.12E-02	7.75	1.29E-03	14.23	0.00E+00

-.50 1.58
1.50 -4.96

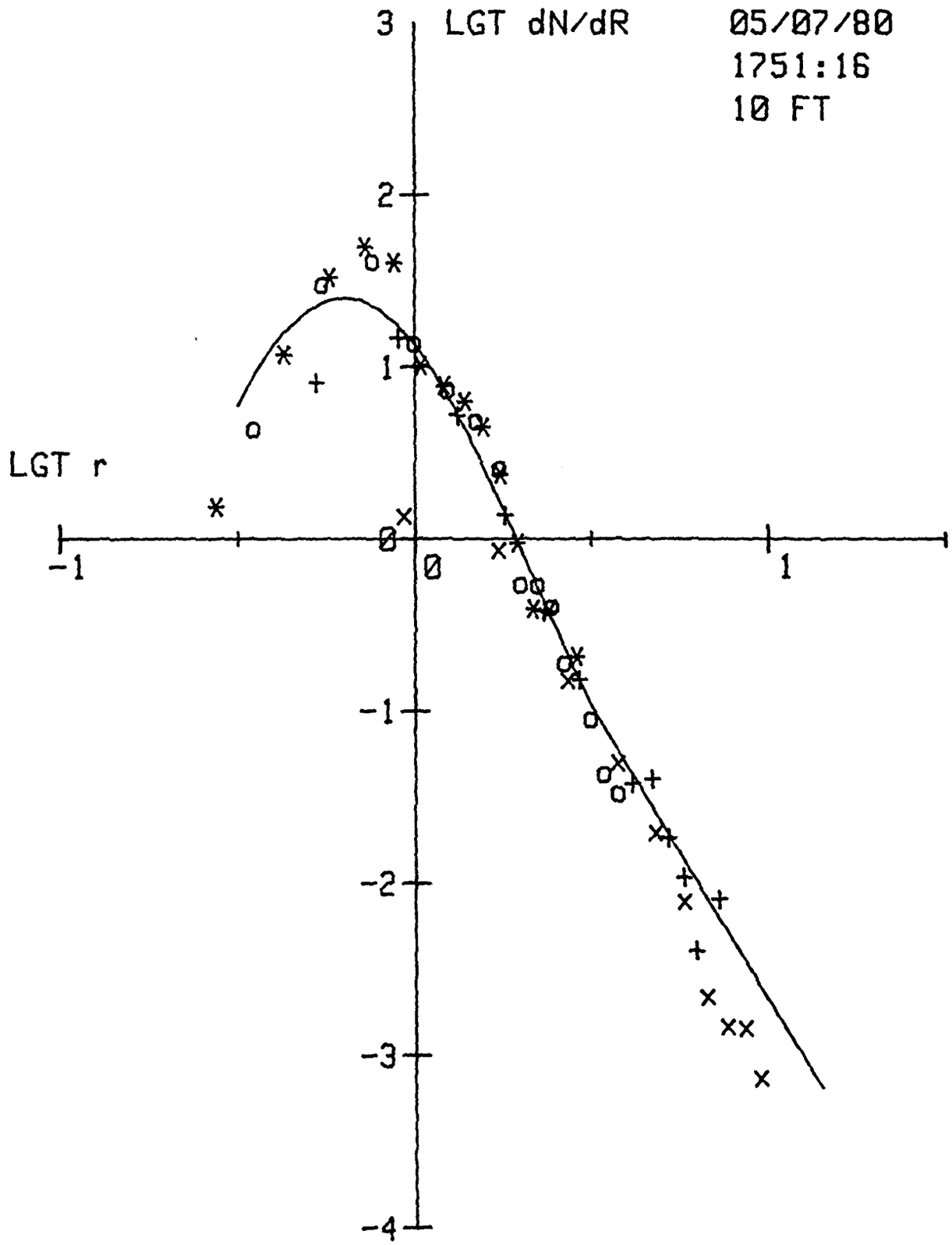
GAMMA ZERO= 2.79
BETA = .68
N ZERO= 1.08E+02

Polynomial of order 7
-2.3675300E+00
2.2912600E+00
2.8097200E+00
-2.4993800E-01
1.6554700E+00
-5.3148700E+00
-2.5557400E+00
1.1533600E+00

Wavlen	Extin(Km^-1)
.488	1.76E-01
.530	1.71E-01
.633	1.56E-01
.840	1.21E-01
1.030	9.60E-02
1.060	9.20E-02
1.600	5.34E-02
3.750	2.17E-02
10.590	6.37E-03

05/07/80 OPTICAL PROFILE# 18

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
18	175110	10	1019.7	12.20	14.26	9.95	7.59	7.46E-03	6.30E-03	7.23E-03	2.15E-01
18	175450	30	1019.0	12.00	14.17	9.89	7.56	5.61E-03	3.66E-03	3.62E-03	2.10E-01
18	175945	60	1018.2	11.92	14.02	9.84	7.54	3.70E-03	1.92E-03	3.46E-03	2.09E-01


LGT dN/dR
05/07/80
1751:16
10 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

AD-A098 898 BDM CORP MONTEREY CA F/G 20/6
ATMOSPHERIC OPTICAL PROPAGATION COMPARISONS DURING MAGAT-80.(U)
SEP 80 C W FAIRALL N00014-78-C-0204
UNCLASSIFIED BDM/M-010-80 NL

2 OF 2
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END
DATE
FILMED
6-81
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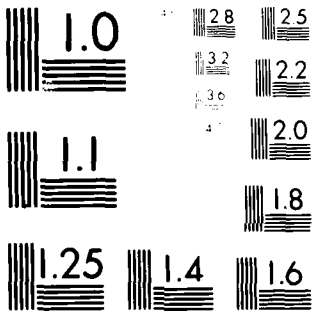
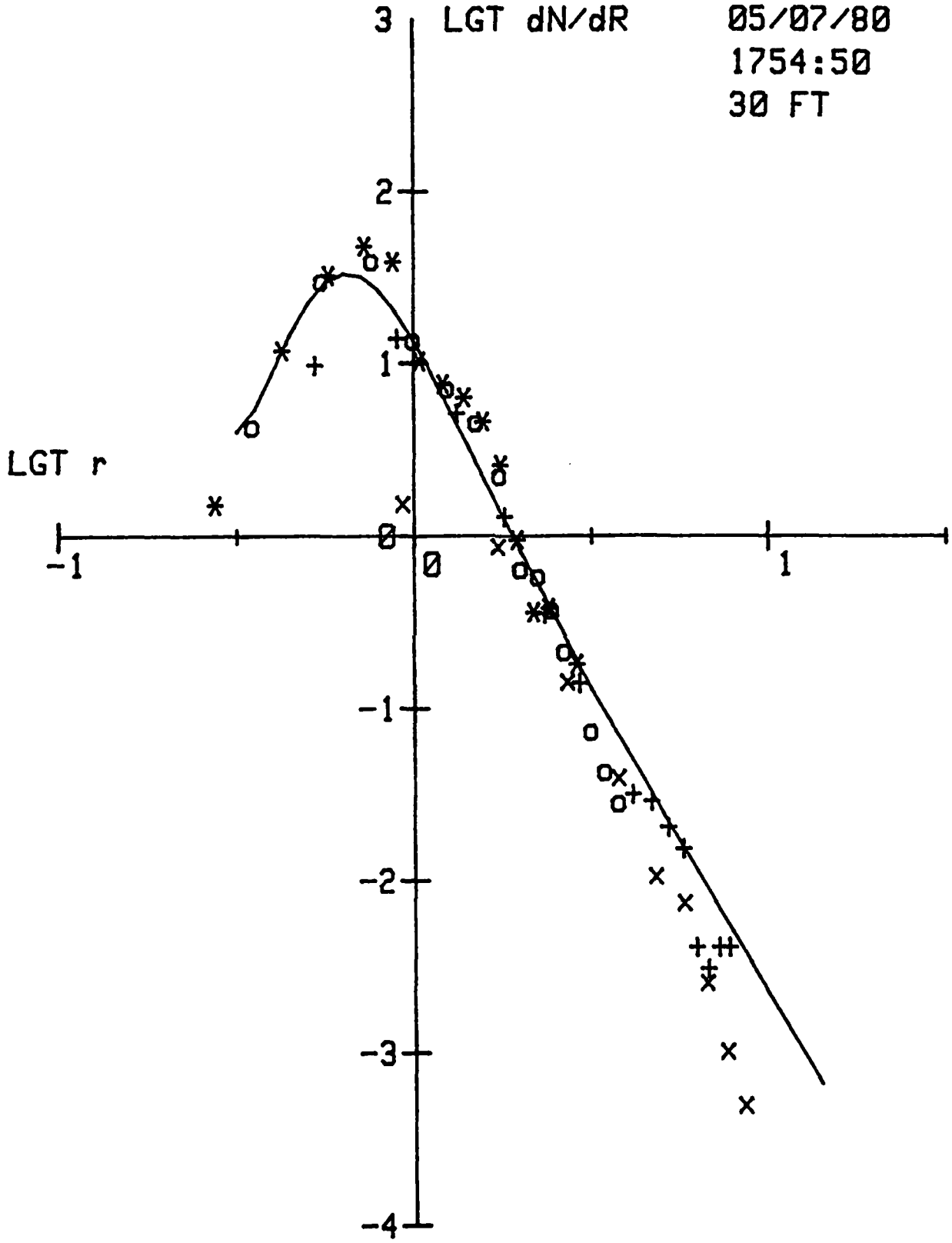
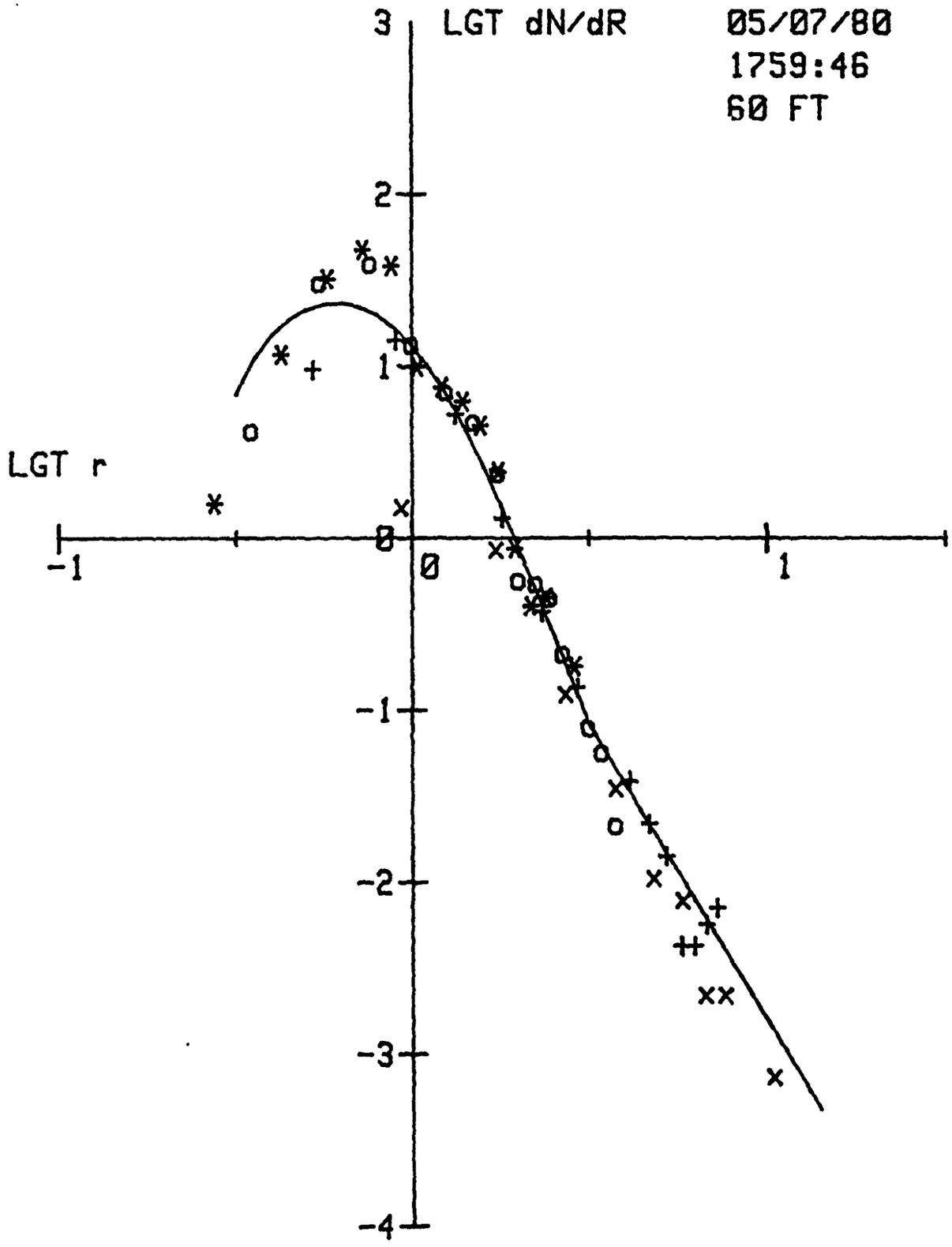


MICROCOPY RESOLUTION TEST CHART


LGT dN/dR
05/07/80
1754:50
30 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/07/80
1759:46
60 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File 27 TO 30 05/07/80 1751:16 TO 1754:26 ALTITUDE= 10 FT

.28	1.53E+00	.35	4.51E+00	.53	8.06E+00	.94	1.42E+00
.43	1.17E+01	.55	3.14E+01	.90	1.47E+01	1.74	8.98E-01
.58	3.29E+01	.76	4.27E+01	1.33	5.21E+00	2.73	1.58E-01
.73	4.95E+01	1.00	1.43E+01	1.80	1.37E+00	3.79	5.25E-02
.88	4.03E+01	1.25	7.60E+00	2.33	3.84E-01	4.84	2.07E-02
1.04	1.01E+01	1.50	5.02E+00	2.93	1.51E-01	5.83	8.18E-03
1.21	7.72E+00	1.75	2.65E+00	3.55	5.95E-02	6.76	2.29E-03
1.39	6.27E+00	2.00	5.61E-01	4.13	3.80E-02	7.69	1.53E-03
1.56	4.49E+00	2.24	5.60E-01	4.68	4.04E-02	8.63	1.49E-03
1.75	2.36E+00	2.45	4.21E-01	5.23	1.84E-02	9.56	7.63E-04
1.95	9.43E-01	2.66	1.98E-01	5.75	1.08E-02	10.49	0.00E+00
2.16	3.92E-01	2.90	1.37E-01	6.25	4.04E-03	11.44	0.00E+00
2.39	3.77E-01	3.16	9.31E-02	6.75	0.00E+00	12.36	0.00E+00
2.63	3.19E-01	3.45	4.49E-02	7.25	8.09E-03	13.28	0.00E+00
2.88	2.06E-01	3.78	3.47E-02	7.75	0.00E+00	14.23	0.00E+00

-.50 1.47
1.50 -4.46

GAMMA ZERO= 2.30
BETA = 1.00
N ZERO= 1.21E+02

Polynomial of order 7
3.8785900E+00
-6.4654300E+00
-3.3031500E+00
5.8781600E+00
4.2874600E+00
-5.9624000E+00
-2.6722600E+00
1.1288200E+00

Wavlen	Extin(Km^-1)
.488	1.85E-01
.530	1.80E-01
.633	1.67E-01
.340	1.36E-01
1.030	1.15E-01
1.060	1.11E-01
1.500	7.71E-02
3.750	4.31E-02
10.590	1.38E-02

File 31 TO 36 05/07/80 1754:50 TO 1759:16 ALTITUDE= 30 FT

.28	1.51E+00	.35	4.46E+00	.53	9.70E+00	.94	1.62E+00
.43	1.18E+01	.55	3.10E+01	.90	1.39E+01	1.74	9.09E-01
.58	3.25E+01	.76	4.08E+01	1.33	5.12E+00	2.73	1.49E-01
.73	4.80E+01	1.00	1.41E+01	1.80	1.29E+00	3.79	4.14E-02
.88	3.89E+01	1.25	7.40E+00	2.33	3.53E-01	4.84	1.11E-02
1.04	1.03E+01	1.50	4.70E+00	2.93	1.39E-01	5.83	7.80E-03
1.21	7.57E+00	1.75	2.31E+00	3.55	5.54E-02	6.76	2.67E-03
1.39	6.34E+00	2.00	6.65E-01	4.13	3.16E-02	7.69	1.07E-03
1.56	4.59E+00	2.24	6.02E-01	4.68	2.88E-02	8.63	5.20E-04
1.75	2.56E+00	2.45	3.86E-01	5.23	2.05E-02	9.56	0.00E+00
1.95	9.49E-01	2.66	2.20E-01	5.75	1.53E-02	10.49	0.00E+01
2.16	3.60E-01	2.90	9.20E-02	6.25	4.09E-03	11.44	0.00E+00
2.39	3.82E-01	3.16	7.62E-02	6.75	3.07E-03	12.36	0.00E+00
2.63	2.97E-01	3.45	4.43E-02	7.25	4.09E-03	13.28	0.00E+00
2.88	1.80E-01	3.78	2.92E-02	7.75	4.09E-03	14.23	0.00E+01

-.50 1.47
1.50 -4.61

GAMMA ZERO= 2.40
BETA = .92
N ZERO= 1.15E+02

Polynomial of order 7
-1.5411300E+01
4.1200800E+01
-2.6617700E+01
-1.0943000E+01
1.6050100E+01
-4.9389100E+00
-3.6061200E+00
1.1329900E+00

Wavlen	Extin(Km^-1)
.488	1.87E-01
.530	1.81E-01
.633	1.66E-01
.840	1.36E-01
1.030	1.17E-01
1.060	1.13E-01
1.600	8.17E-02
3.750	4.63E-02
10.590	1.41E-02

File 37 TO 40 05/07/80 1759:46 TO 1802:50 ALTITUDE= 60 FT

.28	1.58E+00	.35	4.34E+00	.53	9.56E+00	.94	1.58E+00
.43	1.16E+01	.55	3.17E+01	.90	1.40E+01	1.74	8.96E-01
.58	3.22E+01	.76	4.08E+01	1.33	5.24E+00	2.73	1.30E-01
.73	4.76E+01	1.00	1.39E+01	1.80	1.31E+00	3.79	3.68E-02
.88	3.82E+01	1.25	7.33E+00	2.33	3.71E-01	4.84	1.10E-02
1.04	9.88E+00	1.50	4.88E+00	2.93	1.35E-01	5.83	8.18E-03
1.21	7.52E+00	1.75	2.47E+00	3.55	6.24E-02	6.76	2.29E-03
1.39	6.22E+00	2.00	5.87E-01	4.13	3.85E-02	7.69	2.29E-03
1.56	4.49E+00	2.24	5.62E-01	4.68	2.18E-02	8.63	0.00E+00
1.75	2.43E+00	2.45	4.66E-01	5.23	1.41E-02	9.56	0.00E+00
1.95	8.71E-01	2.66	2.20E-01	5.75	4.24E-03	10.49	7.63E-04
2.16	4.02E-01	2.90	9.60E-02	6.25	4.24E-03	11.44	0.00E+00
2.39	4.51E-01	3.16	8.22E-02	6.75	5.65E-03	12.36	0.00E+00
2.63	2.40E-01	3.45	5.88E-02	7.25	7.06E-03	13.28	0.00E+00
2.88	1.78E-01	3.78	2.22E-02	7.75	0.00E+00	14.23	0.00E+00

-.50 1.47
1.50 -4.53

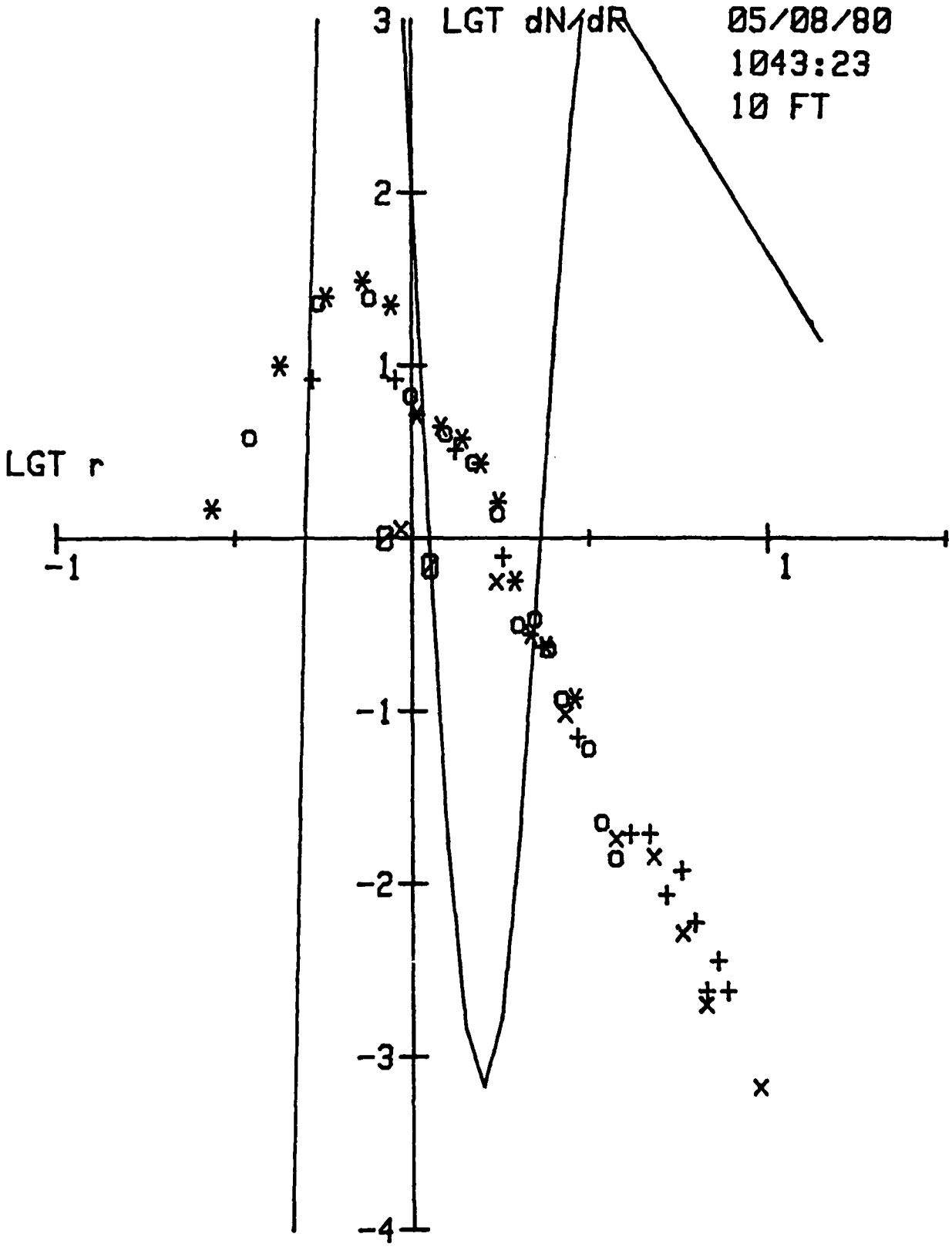
GAMMA ZERO= 2.32
BETA = .96
N ZERO= 1.15E+02

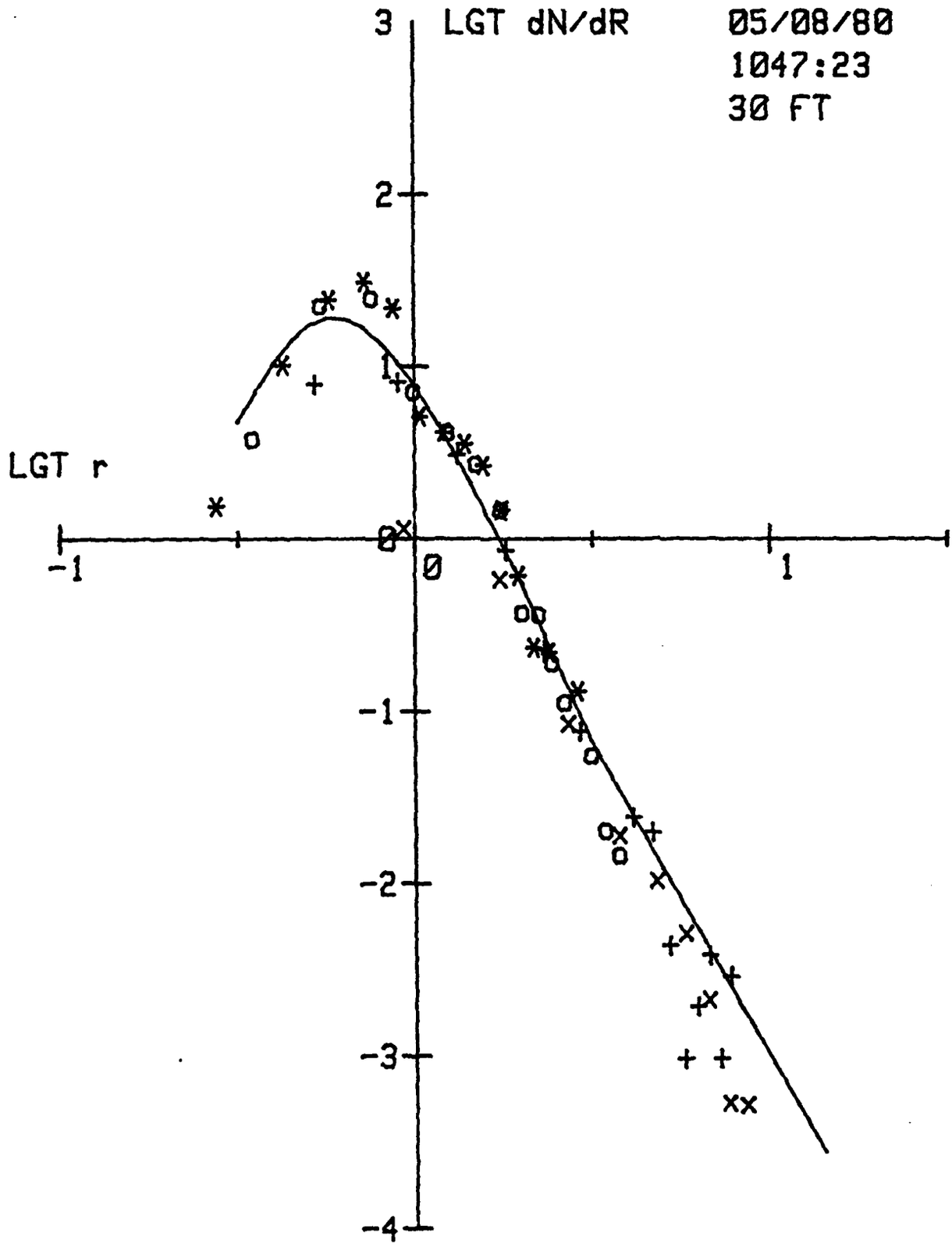
Polynomial of order 7
5.1950000E+00
-1.3272400E+01
4.6845400E+00
6.9258600E+00
3.5177600E-01
-5.8540900E+00
-2.3763100E+00
1.1178800E+00

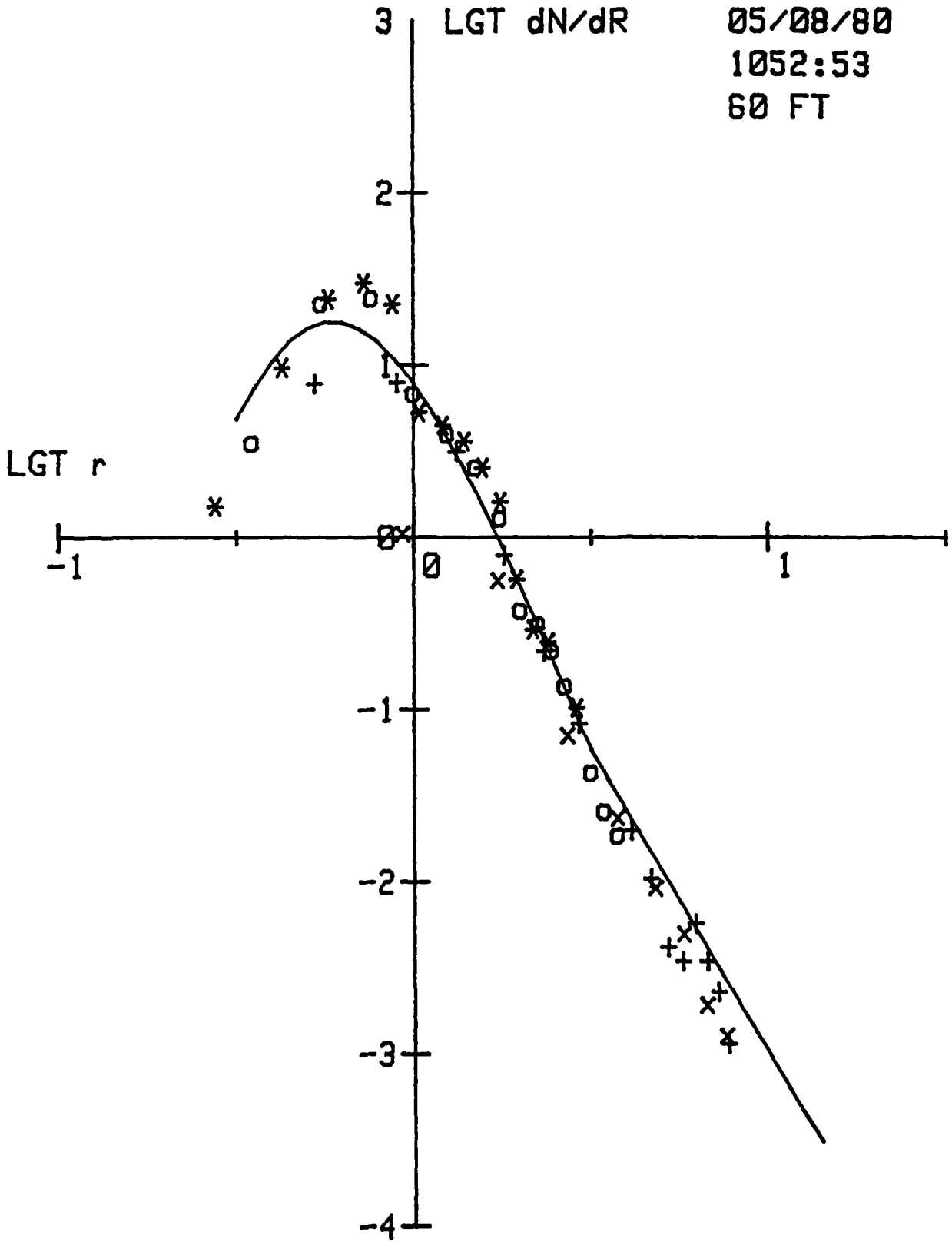
Wavlen	Extin(Km^-1)
.488	1.75E-01
.530	1.71E-01
.633	1.58E-01
.840	1.27E-01
1.060	1.04E-01
1.060	1.00E-01
1.600	6.49E-02
2.750	3.31E-02
10.590	1.06E-02

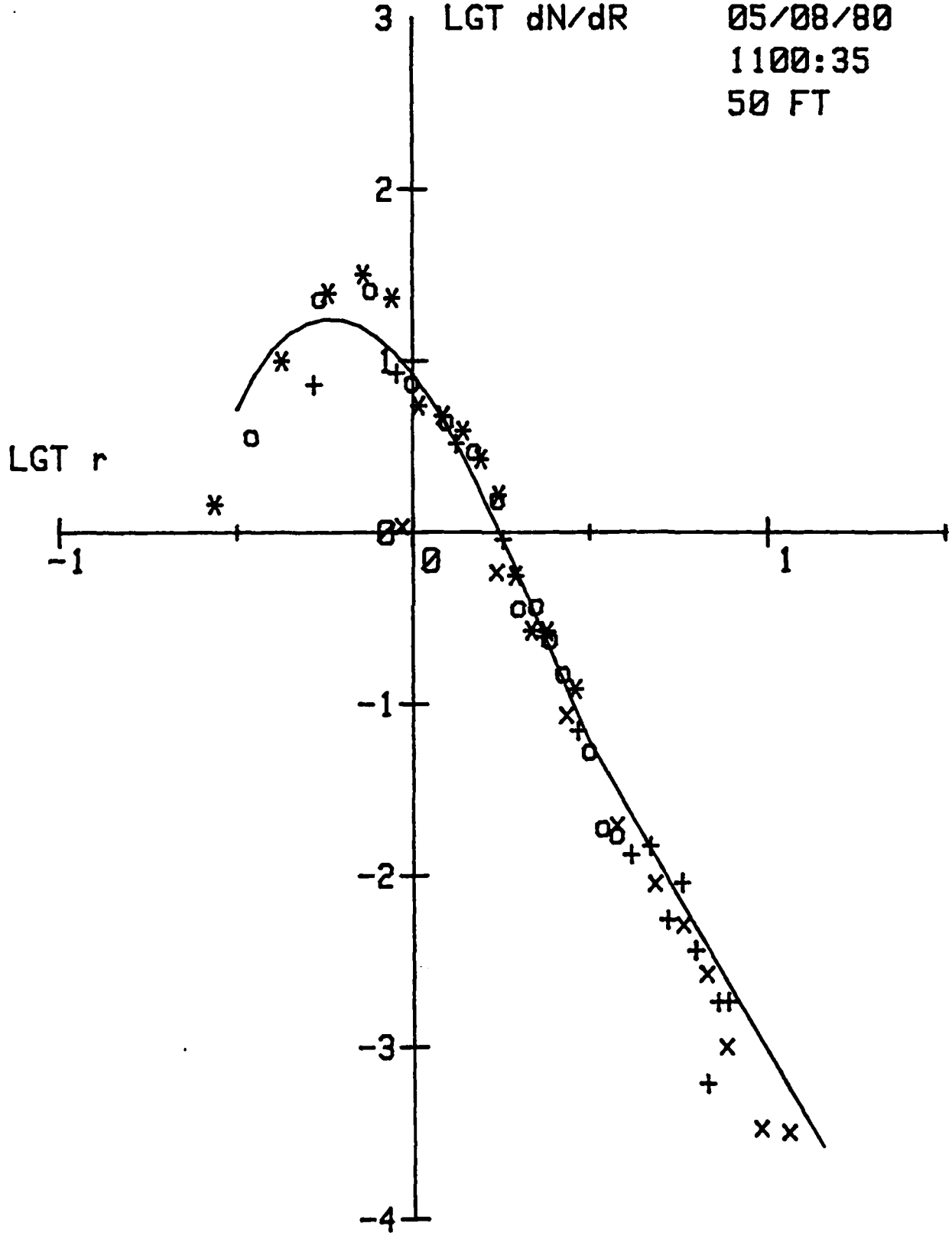
05/08/80 OPTICAL PROFILE# 19

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
19	104320	10	1023.3	-.67	16.00	9.32	7.24	4.36E-03	5.87E-04	1.44E-02	1.28E-01
19	104719	30	1023.1	-.67	15.79	9.16	7.17	2.45E-03	3.62E-04	9.35E-03	1.23E-01
19	105252	60	1022.5	-.68	15.62	9.03	7.11	1.61E-03	2.18E-04	6.86E-03	1.39E-01
19	110035	50	1023.1	-.68	14.60	9.10	7.14	3.41E-03	1.67E-04	6.66E-03	1.23E-01


LGT dN/dR
05/08/80
1043:23
10 FT
LGT r
3
2
1
-1
-2
-3
-4
-1
1


LGT dN/dR
05/08/80
1047:23
30 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/08/80
1052:53
60 FT
LGT r
3
2
1
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/08/80
1100:35
50 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File 10 TO 13 05/08/80 1043:23 TO 1046:53 ALTITUDE= 10 FT

.28	1.47E+00	.35	4.01E+00	.53	8.28E+00	.94	1.19E+00
.43	9.93E+00	.55	2.41E+01	.90	8.26E+00	1.74	5.90E-01
.58	2.49E+01	.76	2.59E+01	1.33	3.24E+00	2.73	1.01E-01
.73	3.09E+01	1.00	6.98E+00	1.80	7.77E-01	3.79	1.92E-02
.88	2.22E+01	1.25	4.24E+00	2.33	2.35E-01	4.84	1.51E-02
1.04	5.18E+00	1.50	2.88E+00	2.93	7.03E-02	5.83	5.43E-03
1.21	4.42E+00	1.75	1.46E+00	3.55	3.36E-02	6.76	2.09E-03
1.39	3.76E+00	2.00	3.30E-01	4.13	1.94E-02	7.69	0.00E+00
1.56	2.70E+00	2.24	3.58E-01	4.68	1.94E-02	8.63	0.00E+00
1.75	1.61E+00	2.45	2.39E-01	5.23	8.63E-03	9.56	6.97E-04
1.95	5.63E-01	2.66	1.23E-01	5.75	1.19E-02	10.49	0.00E+00
2.16	2.77E-01	2.90	6.96E-02	6.25	5.93E-03	11.44	0.00E+00
2.39	2.37E-01	3.16	6.33E-02	6.75	2.37E-03	12.36	0.00E+00
2.63	1.90E-01	3.45	2.36E-02	7.25	3.56E-03	13.28	0.00E+00
2.88	1.19E-01	3.78	1.47E-02	7.75	2.37E-03	14.23	0.00E+00

-.50 1.37
1.50 -4.62

GAMMA ZERO= 2.20
BETA = 1.06
N ZERO= 7.31E+01

Polynomial of order 7
-7.3799900E+02
2.0245200E+03
-1.1466200E+03
-6.2780700E+02
5.6601700E+02
7.2264800E+00
-4.4220700E+01
2.1032500E+00

Wavlen	Extin(Km^-1)
.488	2.50E+03
.530	2.27E+03
.633	1.79E+03
.840	1.30E+03
1.030	1.19E+03
1.060	1.17E+03
1.500	1.10E+03
3.750	8.60E+02
10.590	2.81E+02

File 15 TO 19 05/08/80 1047:23 TO 1051:45 ALTITUDE= 30 FT

.28	1.54E+00	.35	3.95E+00	.53	7.88E+00	.94	1.21E+00
.43	1.01E+01	.55	2.37E+01	.90	8.12E+00	1.74	6.11E-01
.58	2.42E+01	.76	2.60E+01	1.33	3.07E+00	2.73	8.91E-02
.73	3.09E+01	1.00	7.45E+00	1.80	8.51E-01	3.79	2.00E-02
.88	2.17E+01	1.25	4.33E+00	2.33	2.30E-01	4.84	1.10E-02
1.04	5.10E+00	1.50	2.84E+00	2.93	7.65E-02	5.83	5.38E-03
1.21	4.15E+00	1.75	1.54E+00	3.55	3.43E-02	6.76	2.21E-03
1.39	3.54E+00	2.00	3.88E-01	4.13	2.44E-02	7.69	5.53E-04
1.56	2.66E+00	2.24	3.81E-01	4.68	2.00E-02	8.63	5.38E-04
1.75	1.46E+00	2.45	1.99E-01	5.23	4.35E-03	9.56	0.00E+00
1.95	6.10E-01	2.66	1.18E-01	5.75	9.57E-04	10.49	0.00E+00
2.16	2.34E-01	2.90	5.72E-02	6.25	1.91E-03	11.44	0.00E+00
2.39	2.19E-01	3.16	5.78E-02	6.75	3.83E-03	12.36	0.00E+00
2.63	1.51E-01	3.45	2.12E-02	7.25	9.57E-04	13.28	0.00E+00
2.88	1.30E-01	3.78	1.51E-02	7.75	2.87E-03	14.23	0.00E+00

-.50 1.39
1.50 -4.99

GAMMA ZERO= 2.38
BETA = .92
N ZERO= 6.90E+01

Polynomial of order 7
-7.0866000E+00
1.5838200E+01
-7.3649300E+00
-5.6030300E+00
7.1827300E+00
-4.1534800E+00
-3.0855000E+00
8.8911300E-01

Wavlen	Extin(Km^-1)
.488	1.07E-01
.530	1.04E-01
.633	9.58E-02
.840	7.76E-02
1.030	6.52E-02
1.060	6.29E-02
1.600	4.22E-02
2.750	2.12E-02
0.390	6.19E-02

File 20 TO 24 05/08/80 1052:53 TO 1056:35 ALTITUDE= 60 FT

.28	1.51E+00	.35	3.68E+00	.53	7.79E+00	.94	1.10E+00
.43	9.62E+00	.55	2.38E+01	.90	7.87E+00	1.74	5.90E-01
.58	2.42E+01	.76	2.55E+01	1.33	3.13E+00	2.73	7.41E-02
.73	3.00E+01	1.00	7.11E+00	1.80	7.82E-01	3.79	2.47E-02
.88	2.26E+01	1.25	4.13E+00	2.33	2.16E-01	4.84	9.64E-03
1.04	5.30E+00	1.50	2.67E+00	2.93	8.25E-02	5.83	5.20E-03
1.21	4.46E+00	1.75	1.34E+00	3.55	3.04E-02	6.76	2.00E-03
1.39	3.60E+00	2.00	3.90E-01	4.13	1.97E-02	7.69	1.34E-03
1.56	2.53E+00	2.24	3.27E-01	4.68	1.04E-02	8.63	0.00E+00
1.75	1.60E+00	2.45	2.29E-01	5.23	4.15E-03	9.56	0.00E+00
1.95	5.66E-01	2.66	1.43E-01	5.75	3.42E-03	10.49	0.00E+00
2.16	2.90E-01	2.90	4.45E-02	6.25	5.70E-03	11.44	0.00E+00
2.39	2.45E-01	3.16	4.49E-02	6.75	3.42E-03	12.36	0.00E+00
2.63	1.45E-01	3.45	2.68E-02	7.25	2.28E-03	13.28	0.00E+00
2.88	1.02E-01	3.78	1.94E-02	7.75	1.14E-03	14.23	0.00E+00

-.50 1.37
1.50 -4.79

GAMMA ZERO= 2.39
BETA = .91
N ZERO= 6.74E+01

Polynomial of order 7
-2.3295800E+00
5.4891800E+00
-2.9489600E+00
-1.1244400E+00
4.8215300E+00
-4.7337500E+00
-2.9087500E+00
8.9390900E-01

Wavlen	Extin(Km^-1)
.488	1.07E-01
.530	1.04E-01
.633	9.53E-02
.840	7.67E-02
1.030	6.40E-02
1.060	6.17E-02
1.600	4.14E-02
3.750	2.18E-02
10.590	6.79E-03

File 28 TO 35 05/08/80 1100:35 TO 1107:37 ALTITUDE= 50 FT

.28	1.45E+00	.35	3.75E+00	.53	7.24E+00	.94	1.14E+00
.43	9.89E+00	.55	2.39E+01	.90	8.44E+00	1.74	6.16E-01
.58	2.48E+01	.76	2.69E+01	1.33	3.28E+00	2.73	9.09E-02
.73	3.18E+01	1.00	7.71E+00	1.80	9.05E-01	3.79	2.07E-02
.88	2.32E+01	1.25	4.60E+00	2.33	2.45E-01	4.84	9.43E-03
1.04	5.46E+00	1.50	3.08E+00	2.93	6.98E-02	5.83	5.43E-03
1.21	4.76E+00	1.75	1.60E+00	3.55	4.19E-02	6.76	2.79E-03
1.39	3.89E+00	2.00	3.76E-01	4.13	1.32E-02	7.69	1.05E-03
1.56	2.68E+00	2.24	3.87E-01	4.68	1.49E-02	8.63	0.00E+00
1.75	1.65E+00	2.45	2.45E-01	5.23	5.50E-03	9.56	3.48E-04
1.95	5.58E-01	2.66	1.57E-01	5.75	9.08E-03	10.49	0.00E+00
2.16	2.68E-01	2.90	7.64E-02	6.25	3.63E-03	11.44	3.31E-04
2.39	2.64E-01	3.16	5.51E-02	6.75	6.05E-04	12.36	0.00E+00
2.63	1.53E-01	3.45	1.98E-02	7.25	1.82E-03	13.28	0.00E+00
2.88	1.22E-01	3.78	1.79E-02	7.75	1.82E-03	14.23	0.00E+00

-.50 1.37
1.50 -4.94

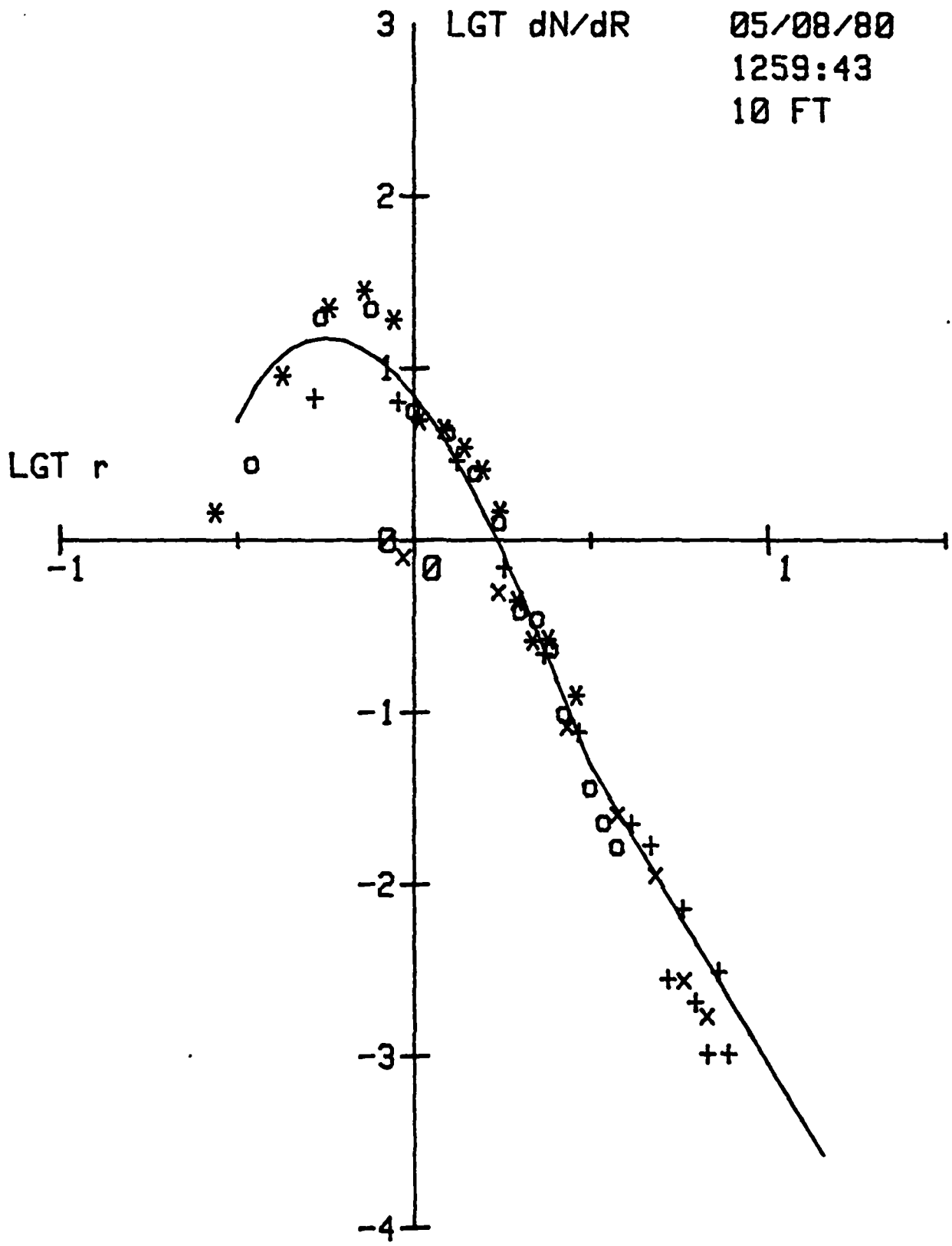
GAMMA ZERO= 2.21
BETA = 1.02
N ZERO= 7.43E+01

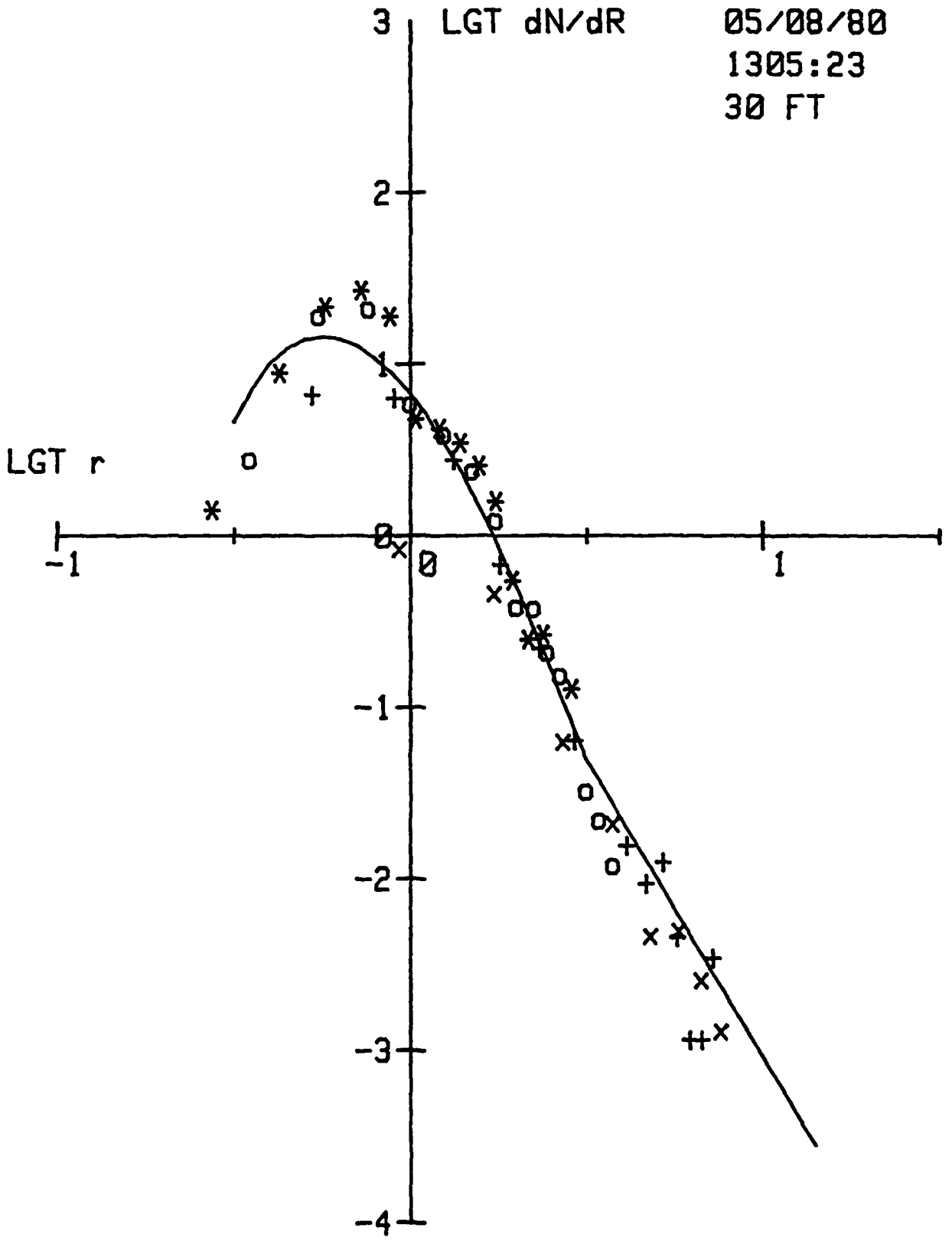
Polynomial of order 7
2.3270900E+00
-5.6517700E+00
1.9000600E+00
3.3129700E+00
2.3077600E+00
-5.1667000E+00
-2.6763300E+00
9.1991700E-01

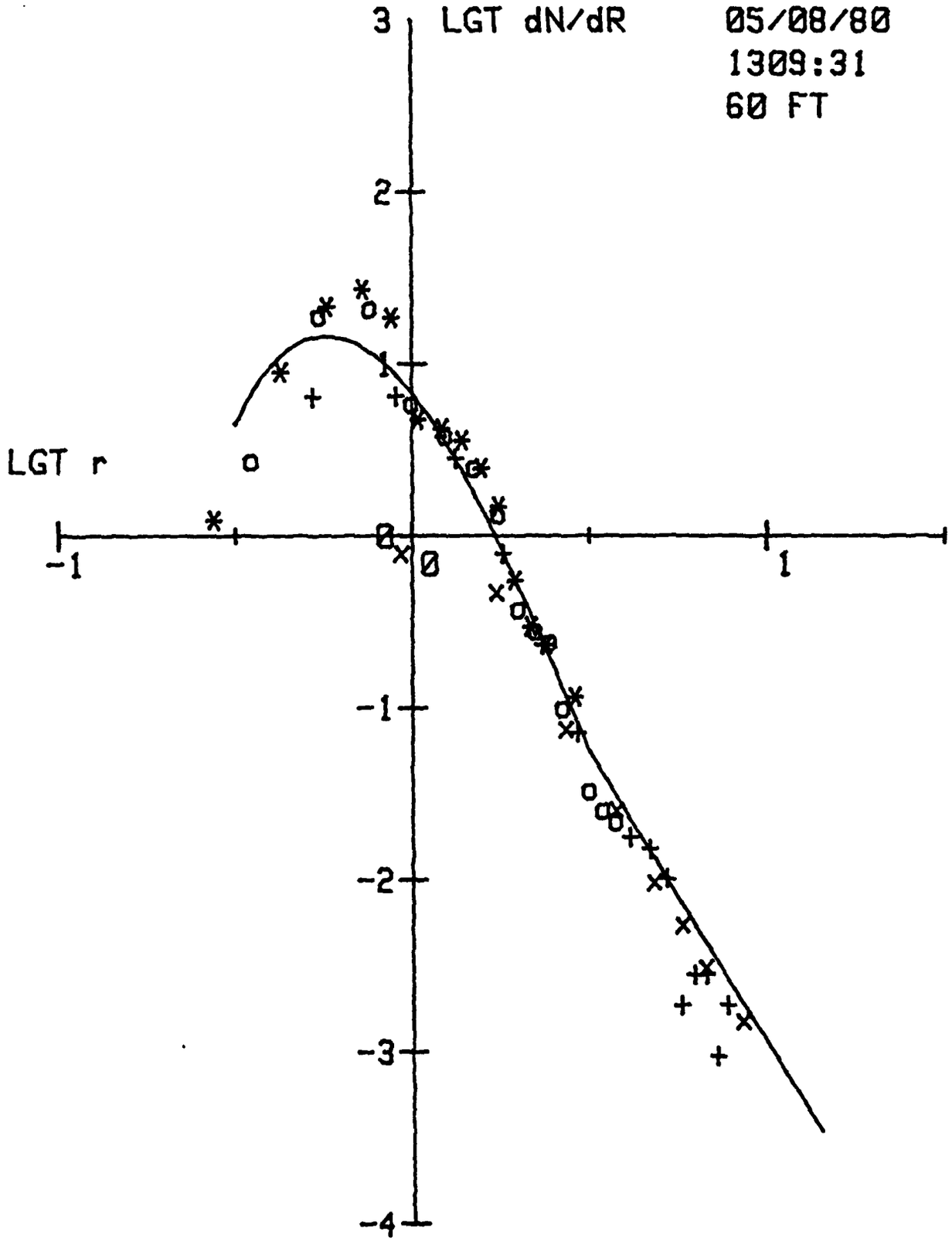
Wavlen	Extin(Km^-1)
.488	1.11E-01
.530	1.08E-01
.633	9.90E-02
.840	7.92E-02
1.030	6.54E-02
1.060	6.30E-02
1.600	4.08E-02
3.750	1.99E-02
10.590	5.92E-03

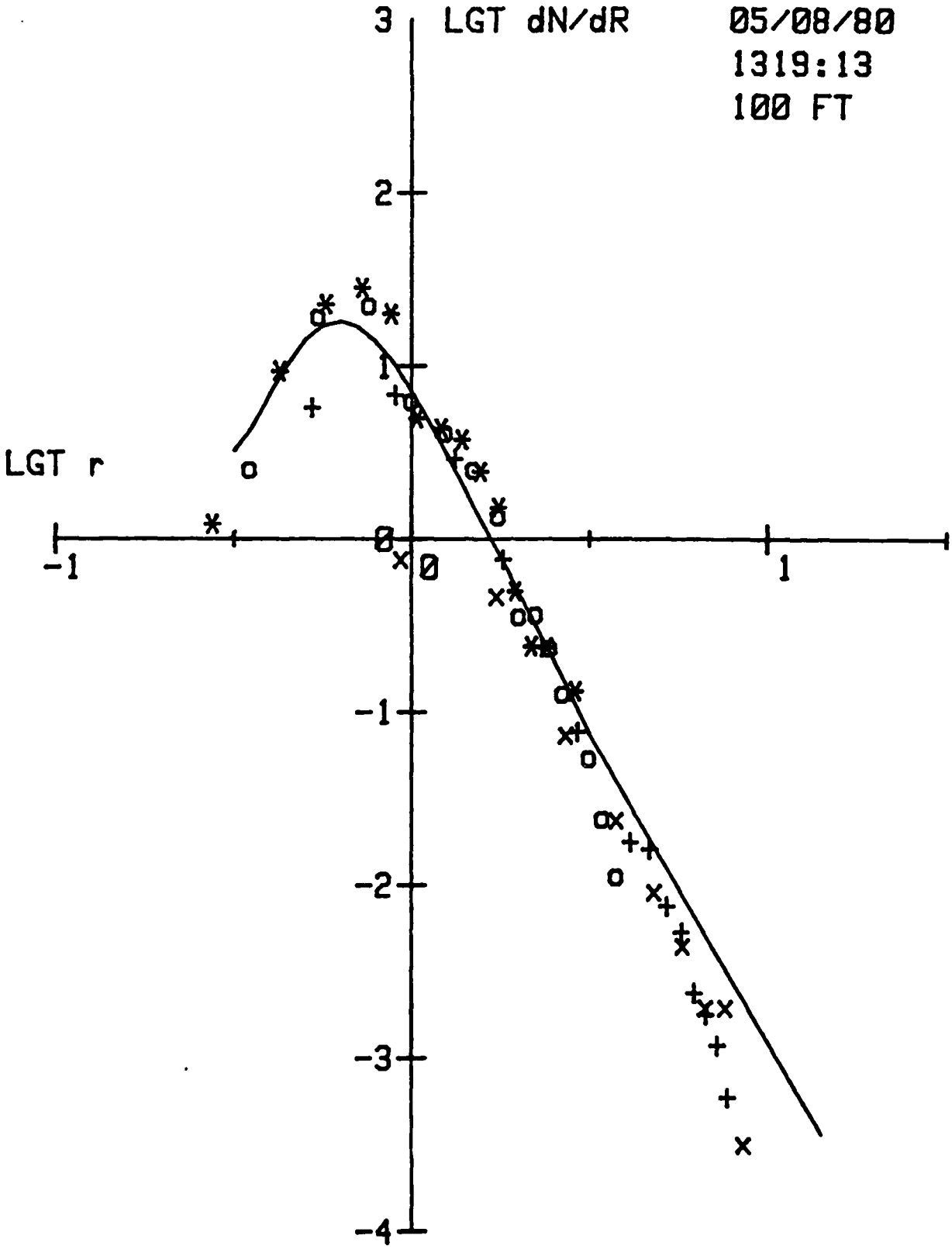
05/08/80 OPTICAL PROFILE# 20

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
20	125943	10	1024.6	-.58	15.05	9.43	7.29	8.11E-03	4.02E-04	9.69E-03	1.51E-01
20	130518	30	1023.9	-.59	14.71	9.35	7.26	4.24E-03	2.41E-04	3.67E-03	1.11E-01
20	130930	60	1022.8	-.60	14.90	9.22	7.20	2.97E-03	2.15E-04	3.02E-03	1.14E-01
20	131913	100	1021.7	-.61	13.50	9.04	7.12	5.62E-03	1.87E-04	2.87E-03	1.18E-01


LGT dN/dR
05/08/80
1259:43
10 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/08/80
1305:23
30 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/08/80
1309:31
60 FT
LGT r
3
2
1
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/08/80
1319:13
100 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

1@146 T0150 05/08/80 1259:43 TO 1303:51 ALTITUDE= 10 FT

.28	1.45E+00	.35	2.87E+00	.53	6.67E+00	.94	8.42E-01
.43	8.96E+00	.55	2.06E+01	.90	6.35E+00	1.74	5.23E-01
.58	2.23E+01	.76	2.32E+01	1.33	2.89E+00	2.73	8.68E-02
.73	2.84E+01	1.00	5.92E+00	1.80	6.89E-01	3.79	2.66E-02
.88	1.90E+01	1.25	4.41E+00	2.33	2.17E-01	4.84	1.18E-02
1.04	4.96E+00	1.50	2.56E+00	2.93	7.63E-02	5.83	2.89E-03
1.21	4.39E+00	1.75	1.33E+00	3.55	3.24E-02	6.76	1.78E-03
1.39	3.44E+00	2.00	4.04E-01	4.13	2.23E-02	7.69	0.00E+00
1.56	2.55E+00	2.24	3.61E-01	4.68	1.67E-02	8.63	0.00E+00
1.75	1.47E+00	2.45	2.42E-01	5.23	2.79E-03	9.56	0.00E+00
1.95	4.45E-01	2.66	1.03E-01	5.75	7.16E-03	10.49	0.00E+00
2.16	2.59E-01	2.90	7.25E-02	6.25	2.05E-03	11.44	0.00E+00
2.39	2.64E-01	3.16	3.79E-02	6.75	1.02E-03	12.36	0.00E+00
2.63	1.88E-01	3.45	2.38E-02	7.25	3.07E-03	13.28	0.00E+00
2.88	1.25E-01	3.78	1.73E-02	7.75	1.02E-03	14.23	0.00E+00

-.50 1.33
1.50 -4.80

GAMMA ZERO= 2.62
BETA = .82
N ZERO= 6.15E+01

Polynomial of order 7
1.8982100E+00
-5.8975500E+00
3.1969200E+00
1.9996000E+00
1.4205800E+00
-4.7160800E+00
-2.5892200E+00
8.3860400E-01

Wavlen	Extin(Km^-1)
.488	9.58E-02
.530	9.34E-02
.633	8.66E-02
.840	6.98E-02
1.030	5.80E-02
1.060	5.59E-02
1.600	3.67E-02
3.750	1.89E-02
10.590	5.94E-03

File152 TO155 05/08/80 1305:23 TO 1309:1 ALTITUDE= 30 FT

.28	1.40E+00	.35	2.89E+00	.53	6.60E+00	.94	8.73E-01
.43	8.81E+00	.55	1.97E+01	.90	6.29E+00	1.74	4.81E-01
.58	2.15E+01	.76	2.18E+01	1.33	2.75E+00	2.73	6.59E-02
.73	2.67E+01	1.00	6.08E+00	1.80	6.76E-01	3.79	2.18E-02
.88	1.89E+01	1.25	4.01E+00	2.33	2.19E-01	4.84	4.82E-03
1.04	4.74E+00	1.50	2.47E+00	2.93	6.40E-02	5.83	5.20E-03
1.21	4.20E+00	1.75	1.27E+00	3.55	3.99E-02	6.76	2.67E-03
1.39	3.46E+00	2.00	3.98E-01	4.13	1.56E-02	7.69	1.34E-03
1.56	2.54E+00	2.24	3.90E-01	4.68	9.33E-03	8.63	0.00E+00
1.75	1.58E+00	2.45	2.16E-01	5.23	1.24E-02	9.56	0.00E+00
1.95	5.45E-01	2.66	1.59E-01	5.75	4.56E-03	10.49	0.00E+00
2.16	2.48E-01	2.90	6.43E-02	6.25	1.14E-03	11.44	0.00E+00
2.39	2.64E-01	3.16	3.37E-02	6.75	1.14E-03	12.36	0.00E+00
2.63	1.44E-01	3.45	2.27E-02	7.25	3.42E-03	13.28	0.00E+00
2.88	1.28E-01	3.78	1.24E-02	7.75	0.00E+00	14.23	0.00E+00

-.50 1.31
1.50 -4.80

GAMMA ZERO= 2.47
BETA = .88
N ZERO= 6.08E+01

Polynomial of order 7
-1.1020700E+00
-4.9537500E-01
4.6128900E+00
-6.2522300E-01
1.1943300E+00
-4.3917800E+00
-2.5380600E+00
8.2456500E-01

Wavlen	Extin(Km^-1)
.489	9.52E-02
.530	9.30E-02
.633	8.66E-02
.840	7.02E-02
1.030	5.86E-02
1.060	5.65E-02
1.600	3.74E-02
3.750	1.94E-02
10.590	6.14E-03

File156 T0160 05/08/80 1309:31 TO 1314:3 ALTITUDE= 60 FT

.28	1.23E+00	.35	2.80E+00	.53	6.39E+00	.94	8.27E-01
.43	8.93E+00	.55	1.96E+01	.90	6.47E+00	1.74	4.91E-01
.58	2.14E+01	.76	2.16E+01	1.33	2.82E+00	2.73	7.86E-02
.73	2.71E+01	1.00	6.06E+00	1.80	7.87E-01	3.79	2.67E-02
.88	1.86E+01	1.25	3.94E+00	2.33	2.33E-01	4.84	1.01E-02
1.04	4.73E+00	1.50	2.57E+00	2.93	7.13E-02	5.83	5.72E-03
1.21	4.18E+00	1.75	1.38E+00	3.55	4.48E-02	6.76	3.21E-03
1.39	3.58E+00	2.00	3.88E-01	4.13	1.77E-02	7.69	0.00E+00
1.56	2.46E+00	2.24	2.90E-01	4.68	1.52E-02	8.63	1.56E-03
1.75	1.47E+00	2.45	2.50E-01	5.23	1.01E-02	9.56	0.00E+00
1.95	5.49E-01	2.66	1.03E-01	5.75	1.85E-03	10.49	0.00E+00
2.16	2.97E-01	2.90	5.54E-02	6.25	2.78E-03	11.44	0.00E+00
2.39	2.33E-01	3.16	3.41E-02	6.75	2.78E-03	12.36	0.00E+00
2.63	1.50E-01	3.45	2.64E-02	7.25	9.27E-04	13.28	0.00E+00
2.88	1.15E-01	3.78	2.26E-02	7.75	1.85E-03	14.23	0.00E+00

-.50 1.29
1.50 -4.70

GAMMA ZERO= 2.28
BETA = 1.02
N ZERO= 6.50E+01

Polynomial of order 7
8.9009500E-01
-3.7333000E+00
2.9366100E+00
1.3086800E+00
1.9697500E+00
-4.6169600E+00
-2.5949900E+00
8.2937400E-01

Wavlen	Extin(Km^-1)
.488	9.86E-02
.530	9.63E-02
.633	8.98E-02
.840	7.36E-02
1.030	6.23E-02
1.060	6.02E-02
1.600	4.14E-02
3.750	2.29E-02
10.590	7.39E-03

File165 T0173 05/08/80 1319:13 TO 1326:31 ALTITUDE= 100 FT

.28	1.22E+00	.35	2.63E+00	.53	5.73E+00	.94	7.98E-01
.43	9.27E+00	.55	2.00E+01	.90	6.77E+00	1.74	4.88E-01
.58	2.27E+01	.76	2.33E+01	1.33	2.90E+00	2.73	7.69E-02
.73	2.83E+01	1.00	6.51E+00	1.80	7.60E-01	3.79	2.49E-02
.88	2.00E+01	1.25	4.27E+00	2.33	2.37E-01	4.84	9.54E-03
1.04	4.99E+00	1.50	2.61E+00	2.93	7.66E-02	5.83	4.65E-03
1.21	4.36E+00	1.75	1.41E+00	3.55	3.06E-02	6.76	2.05E-03
1.39	3.74E+00	2.00	3.72E-01	4.13	1.78E-02	7.69	2.05E-03
1.56	2.45E+00	2.24	3.81E-01	4.68	1.62E-02	8.63	3.32E-04
1.75	1.52E+00	2.45	2.45E-01	5.23	7.55E-03	9.56	0.00E+00
1.95	4.99E-01	2.66	1.33E-01	5.75	5.34E-03	10.49	0.00E+00
2.16	2.40E-01	2.90	5.93E-02	6.25	2.37E-03	11.44	0.00E+00
2.39	2.36E-01	3.16	5.62E-02	6.75	1.78E-03	12.36	0.00E+00
2.63	1.72E-01	3.45	2.52E-02	7.25	1.19E-03	13.28	0.00E+00
2.88	1.31E-01	3.78	1.17E-02	7.75	5.93E-04	14.23	0.00E+00

-.50 1.31
1.50 -4.89

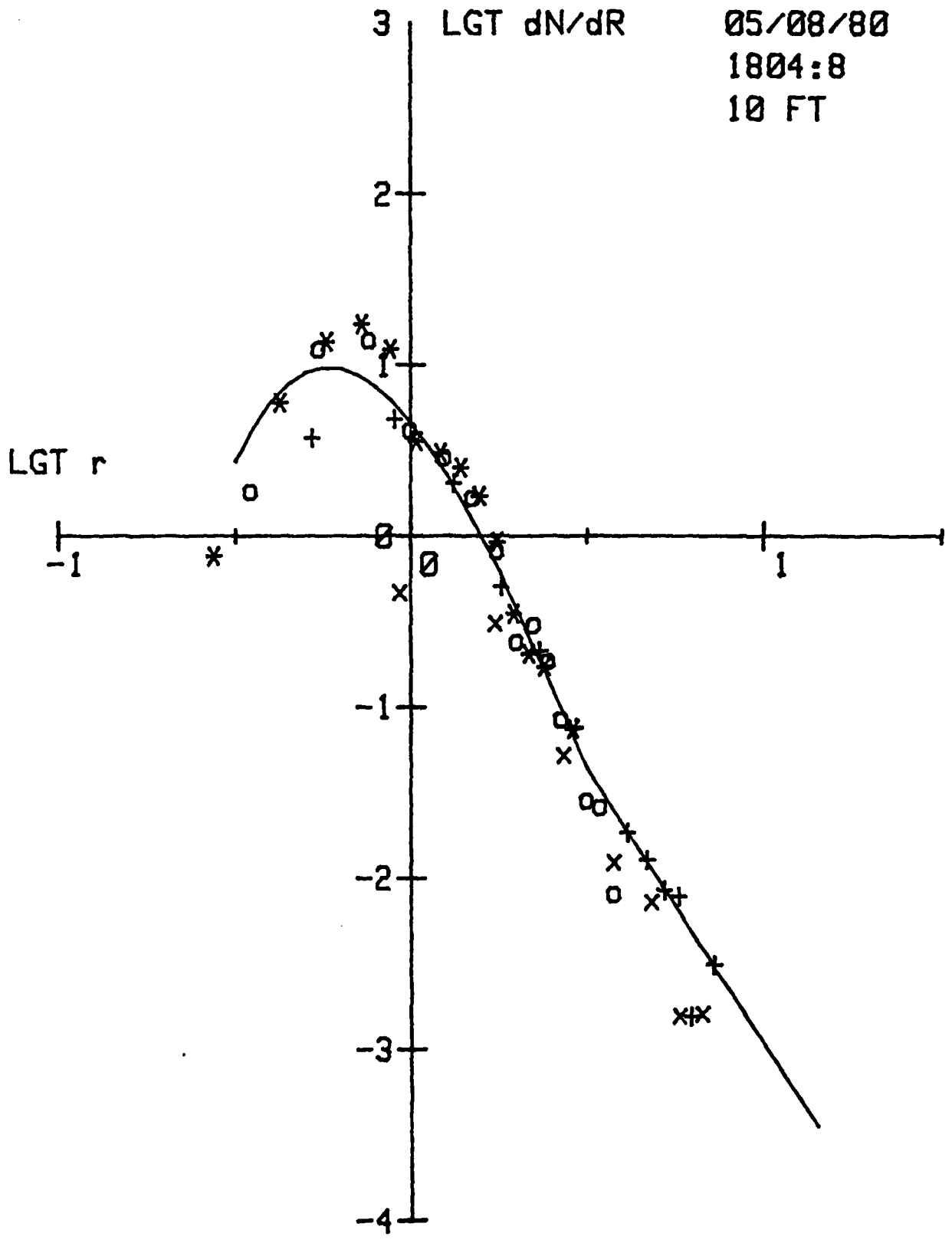
GAMMA ZERO= 2.42
BETA = .92
N ZERO= 6.47E+01

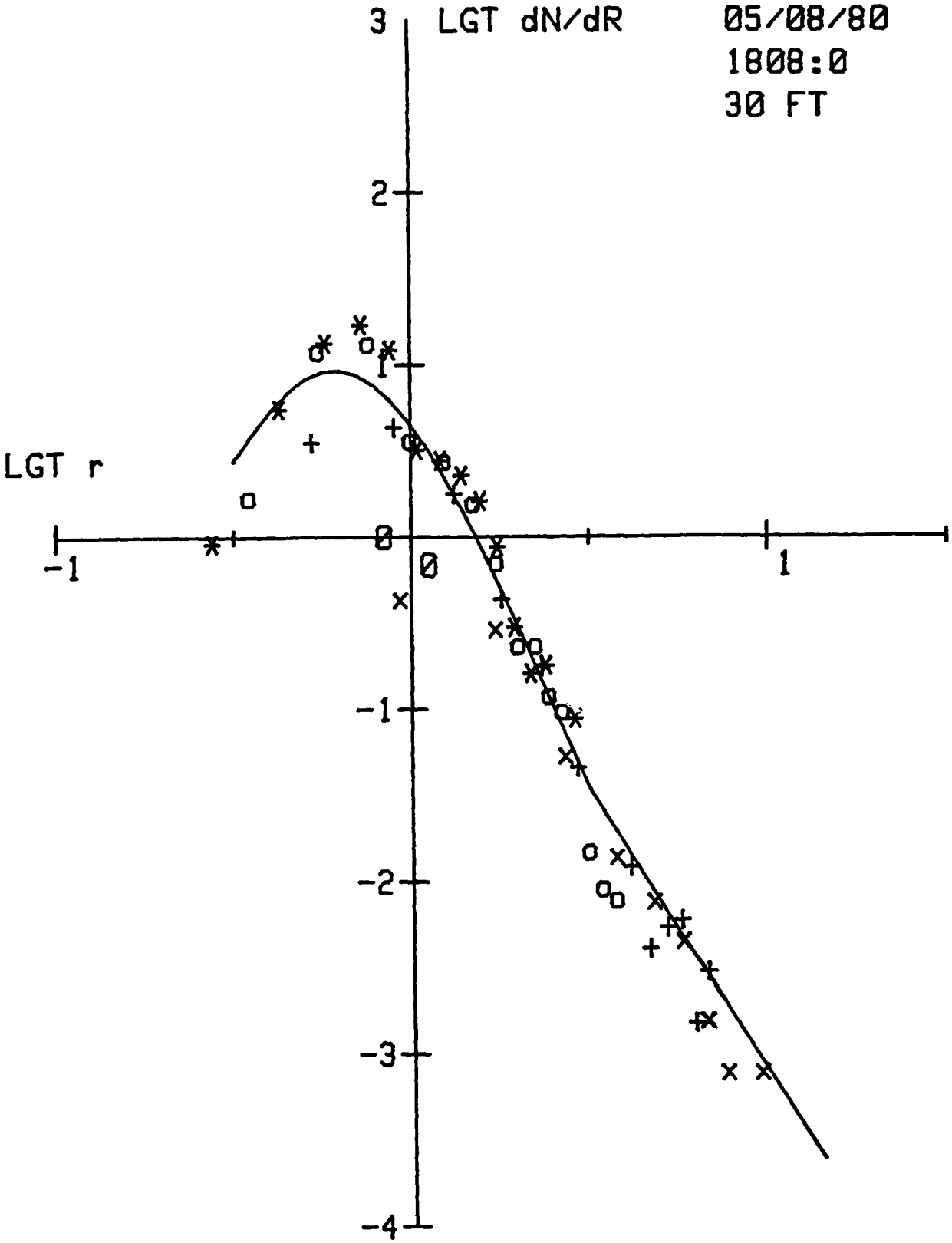
Polynomial of order 7
-1.2279100E+01
3.1675500E+01
-1.9021100E+01
-9.5917300E+00
1.2497000E+01
-4.2398900E+00
-3.3834900E+00
8.5602700E-01

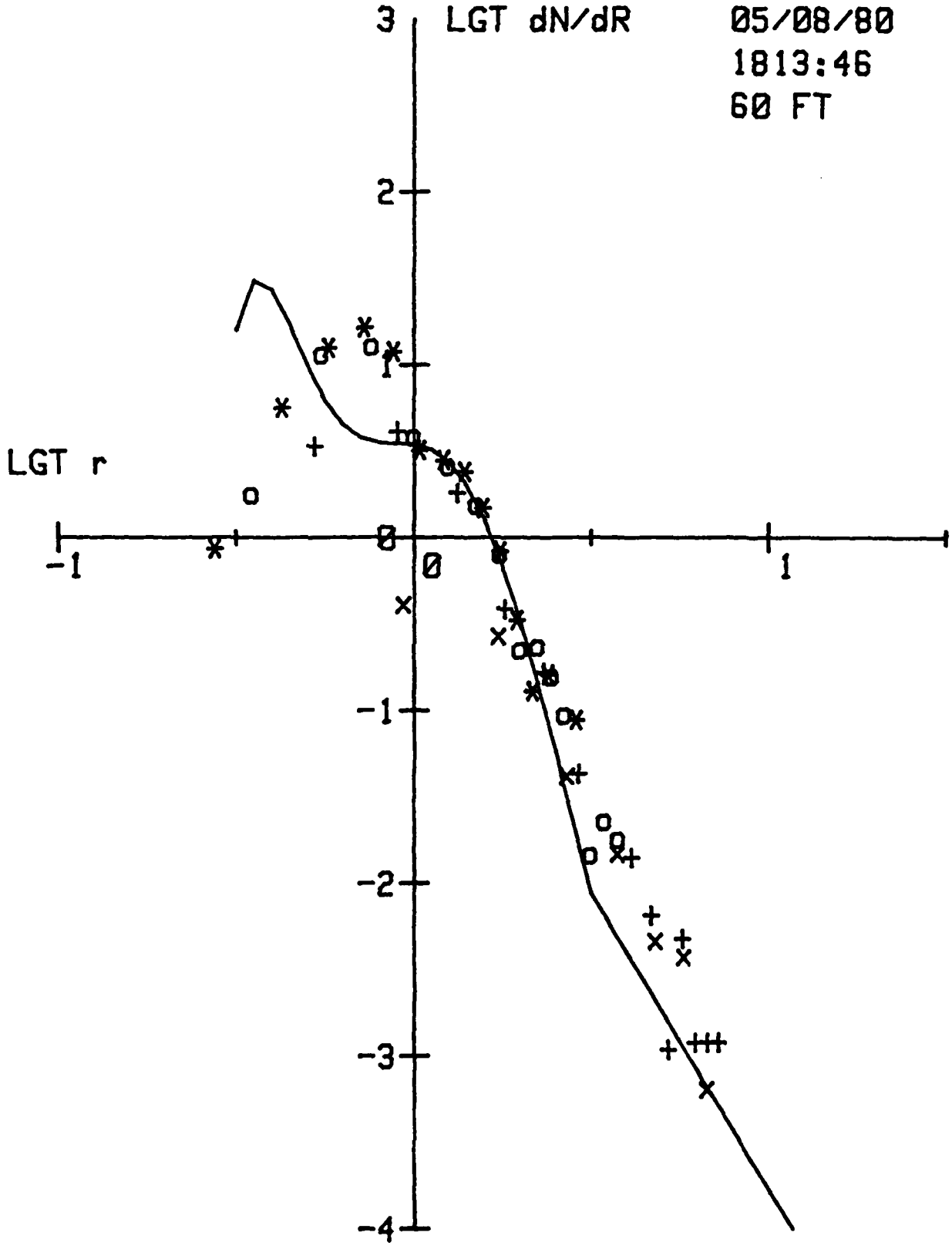
Wavlen	Extin(Km^-1)
.488	1.04E-01
.530	1.01E-01
.633	9.37E-02
.840	7.76E-02
1.030	6.71E-02
1.060	6.49E-02
1.600	4.67E-02
3.750	2.61E-02
10.590	7.85E-03

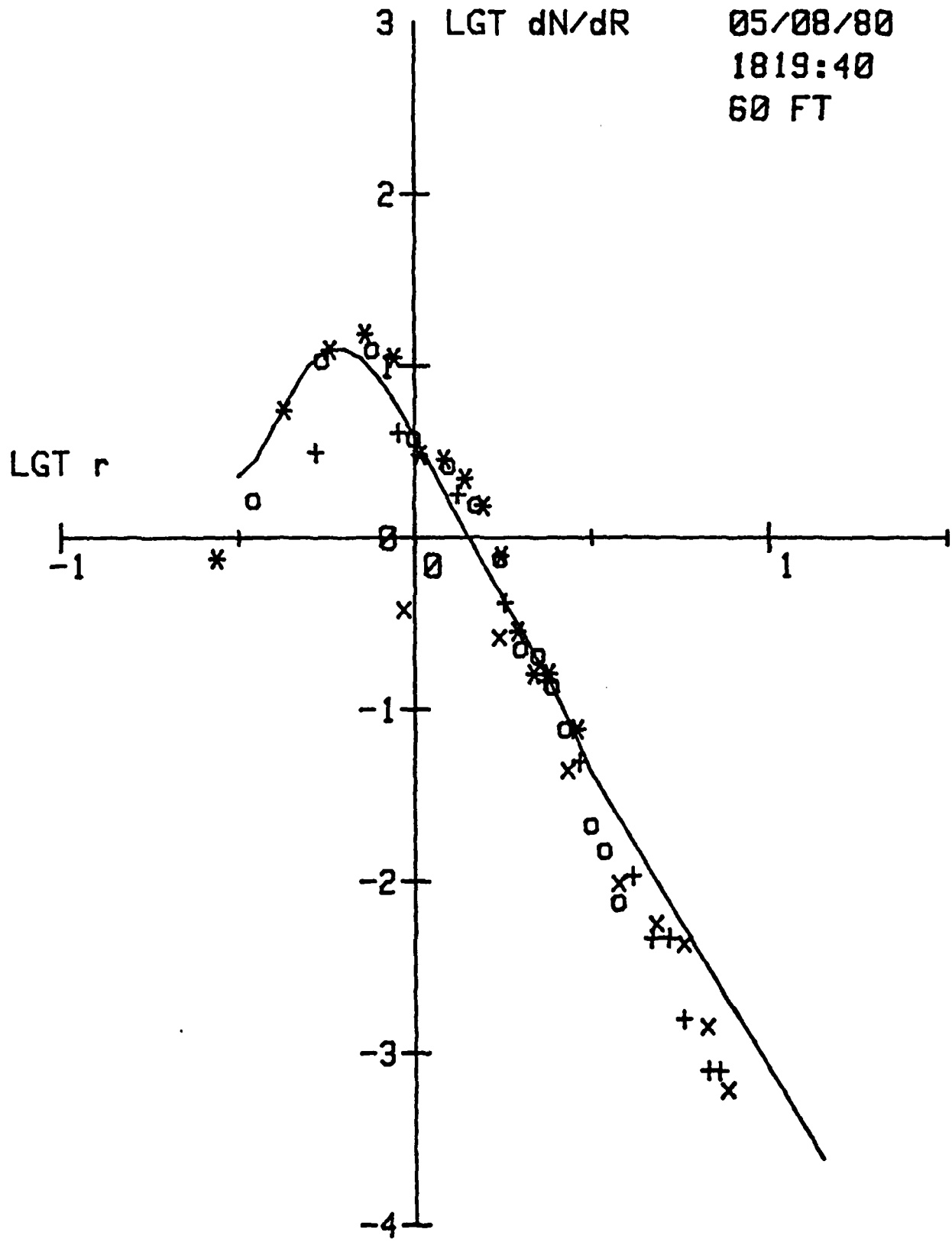
05/08/80 OPTICAL PROFILE# 22

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
22	180408	10	1022.4	12.50	13.71	10.14	7.67	3.14E-02	6.62E-04	2.20E-01	8.04E-02
22	180800	30	1021.5	12.58	14.18	9.88	7.54	2.16E-02	5.55E-04	1.50E-02	7.36E-02
22	181345	60	1021.1	12.43	13.68	9.87	7.54	1.20E-02	3.43E-04	1.11E-02	7.23E-02
22	181940	60	1021.2	12.39	12.93	9.98	7.59	2.77E-02	6.30E-04	2.51E-02	6.91E-02


LGT dN/dR
05/08/80
1804:8
10 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/08/80
1808:0
30 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/08/80
1813:46
60 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/08/80
1819:40
60 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File 26 TO 29 05/08/80 1804:8 TO 1807:2 ALTITUDE= 10 FT

.28	7.61E-01	.35	1.90E+00	.53	3.73E+00	.94	4.90E-01
.43	6.01E+00	.55	1.28E+01	.90	4.79E+00	1.74	3.24E-01
.58	1.36E+01	.76	1.45E+01	1.33	2.03E+00	2.73	5.50E-02
.73	1.73E+01	1.00	4.32E+00	1.80	5.04E-01	3.79	1.31E-02
.88	1.23E+01	1.25	2.99E+00	2.33	2.11E-01	4.84	7.61E-03
1.04	3.56E+00	1.50	1.75E+00	2.93	7.56E-02	5.83	1.64E-03
1.21	3.05E+00	1.75	8.48E-01	3.55	2.73E-02	6.76	1.69E-03
1.39	2.51E+00	2.00	2.52E-01	4.13	1.84E-02	7.69	0.00E+01
1.56	1.71E+00	2.24	3.16E-01	4.68	1.28E-02	8.63	0.00E+00
1.75	9.16E-01	2.45	1.93E-01	5.23	8.51E-03	9.56	0.00E+00
1.95	3.52E-01	2.66	8.90E-02	5.75	7.80E-03	10.49	0.00E+00
2.16	2.04E-01	2.90	2.37E-02	6.25	1.56E-03	11.44	0.00E+00
2.39	1.71E-01	3.16	2.97E-02	6.75	0.00E+00	12.36	0.00E+00
2.63	1.25E-01	3.45	2.72E-02	7.25	3.12E-03	13.28	0.00E+01
2.88	7.41E-02	3.78	8.47E-03	7.75	0.00E+00	14.23	0.00E+00

-.50 1.10
1.50 -4.59

GAMMA ZERO= 2.61
BETA = .85
N ZERO= 4.38E+01

Polynomial of order 7
-2.0789000E+00
2.8747300E+00
1.3512400E+00
-1.2642000E+00
2.8858200E+00
-4.3571800E+00
-2.5717600E+00
6.6096400E-01

Wavlen	Extin(Km^-1)
.488	7.32E-02
.530	7.18E-02
.633	6.78E-02
.940	5.69E-02
1.030	4.94E-02
1.060	4.78E-02
1.600	3.49E-02
3.750	2.17E-02
10.590	7.54E-03

File 30 TO 33 05/08/80 1808:0 TO 1811:2 ALTITUDE= 30 FT

.28	9.13E-01	.35	1.75E+00	.53	3.52E+00	.94	4.51E-01
.43	5.52E+00	.55	1.23E+01	.90	4.31E+00	1.74	3.03E-01
.58	1.33E+01	.76	1.37E+01	1.33	1.78E+00	2.73	5.58E-02
.73	1.70E+01	1.00	3.74E+00	1.80	4.31E-01	3.79	1.45E-02
.88	1.21E+01	1.25	2.84E+00	2.33	1.75E-01	4.84	7.96E-03
1.04	3.18E+00	1.50	1.62E+00	2.93	4.56E-02	5.83	4.68E-03
1.21	2.76E+00	1.75	7.32E-01	3.55	1.48E-02	6.76	1.60E-03
1.39	2.27E+00	2.00	2.40E-01	4.13	1.21E-02	7.69	8.02E-04
1.56	1.61E+00	2.24	2.42E-01	4.68	4.04E-03	8.63	0.00E+00
1.75	8.68E-01	2.45	1.24E-01	5.23	5.39E-03	9.56	8.02E-04
1.95	2.97E-01	2.66	1.00E-01	5.75	5.93E-03	10.49	0.00E+00
2.16	1.60E-01	2.90	4.80E-02	6.25	1.48E-03	11.44	0.00E+00
2.39	1.79E-01	3.16	1.54E-02	6.75	2.97E-03	12.36	0.00E+00
2.63	1.38E-01	3.45	9.41E-03	7.25	0.00E+00	13.28	0.00E+00
2.88	8.76E-02	3.78	8.07E-03	7.75	0.00E+00	14.23	0.00E+00

-.50 1.11
1.50 -4.79

GAMMA ZERO= 2.18
BETA = 1.10
N ZERO= 4.22E+01

Polynomial of order 7
-2.0690500E+00
5.5707000E+00
-4.4411000E+00
7.2508200E-01
4.7486800E+00
-5.1708000E+00
-2.7799600E+00
6.5049900E-01

Wavlen	Extin(Km^-1)
.488	6.32E-02
.530	6.16E-02
.633	5.72E-02
.840	4.67E-02
1.030	3.96E-02
1.060	3.82E-02
1.600	2.67E-02
3.750	1.55E-02
10.590	5.19E-02

File 36 TO 39 05/08/80 1813:46 TO 1817:22 ALTITUDE= 60 FT

.28	8.58E-01	.35	1.83E+00	.53	3.36E+00	.94	4.29E-01
.43	5.61E+00	.55	1.19E+01	.90	4.10E+00	1.74	2.82E-01
.58	1.25E+01	.76	1.33E+01	1.33	1.80E+00	2.73	4.35E-02
.73	1.63E+01	1.00	3.96E+00	1.80	3.86E-01	3.79	1.55E-02
.88	1.19E+01	1.25	2.66E+00	2.33	1.65E-01	4.84	4.82E-03
1.04	3.18E+00	1.50	1.60E+00	2.93	4.29E-02	5.83	3.90E-03
1.21	2.78E+00	1.75	8.28E-01	3.55	2.17E-02	6.76	6.68E-04
1.39	2.39E+00	2.00	2.33E-01	4.13	1.40E-02	7.69	0.00E+00
1.56	1.47E+00	2.24	2.43E-01	4.68	6.47E-03	8.63	0.00E+00
1.75	8.33E-01	2.45	1.63E-01	5.23	1.08E-03	9.56	0.00E+00
1.95	3.32E-01	2.66	9.75E-02	5.75	4.74E-03	10.49	0.00E+00
2.16	1.29E-01	2.90	3.08E-02	6.25	1.19E-03	11.44	0.00E+00
2.39	1.61E-01	3.16	1.51E-02	6.75	1.19E-03	12.36	0.00E+00
2.63	8.54E-02	3.45	2.37E-02	7.25	1.19E-03	13.28	0.00E+00
2.88	8.78E-02	3.78	1.86E-02	7.75	0.00E+00	14.23	0.00E+00

-.50 1.10
1.50 -4.95

GAMMA ZERO= 2.75
BETA = .77
N ZERO= 3.70E+01

Polynomial of order 7
4.1259800E+01
-1.1279600E+02
6.2126200E+01
3.4055400E+01
-2.9937200E+01
-5.3264400E+00
-3.0260100E-01
5.3793700E-01

Wavlen	Extin(Km^-1)
.488	5.26E-02
.530	5.19E-02
.633	4.86E-02
.840	3.73E-02
1.030	2.83E-02
1.060	2.70E-02
1.600	1.34E-02
3.750	4.26E-03
10.590	1.49E-03

File 42 TO 53 05/08/80 1819:40 TO 1830:52 ALTITUDE= 60 FT

.28	7.49E-01	.35	1.72E+00	.53	3.12E+00	.94	3.99E-01
.43	5.48E+00	.55	1.12E+01	.90	4.07E+00	1.74	2.76E-01
.58	1.23E+01	.76	1.29E+01	1.33	1.78E+00	2.73	4.63E-02
.73	1.53E+01	1.00	3.93E+00	1.80	4.16E-01	3.79	1.02E-02
.88	1.12E+01	1.25	2.73E+00	2.33	1.47E-01	4.84	5.90E-03
1.04	3.01E+00	1.50	1.62E+00	2.93	4.95E-02	5.83	4.52E-03
1.21	2.84E+00	1.75	7.89E-01	3.55	2.31E-02	6.76	1.48E-03
1.39	2.20E+00	2.00	2.34E-01	4.13	1.06E-02	7.69	6.33E-04
1.56	1.53E+00	2.24	2.14E-01	4.68	4.61E-03	8.63	0.00E+00
1.75	7.80E-01	2.45	1.41E-01	5.23	4.61E-03	9.56	0.00E+00
1.95	2.83E-01	2.66	7.98E-02	5.75	1.56E-03	10.49	0.00E+00
2.16	1.60E-01	2.90	3.67E-02	6.25	0.00E+00	11.44	0.00E+00
2.39	1.61E-01	3.16	2.20E-02	6.75	7.80E-04	12.36	0.00E+00
2.63	8.62E-02	3.45	1.56E-02	7.25	7.80E-04	13.28	0.00E+00
2.88	7.59E-02	3.78	7.80E-03	7.75	0.00E+00	14.23	0.00E+00

-.50 1.07
1.50 -5.00

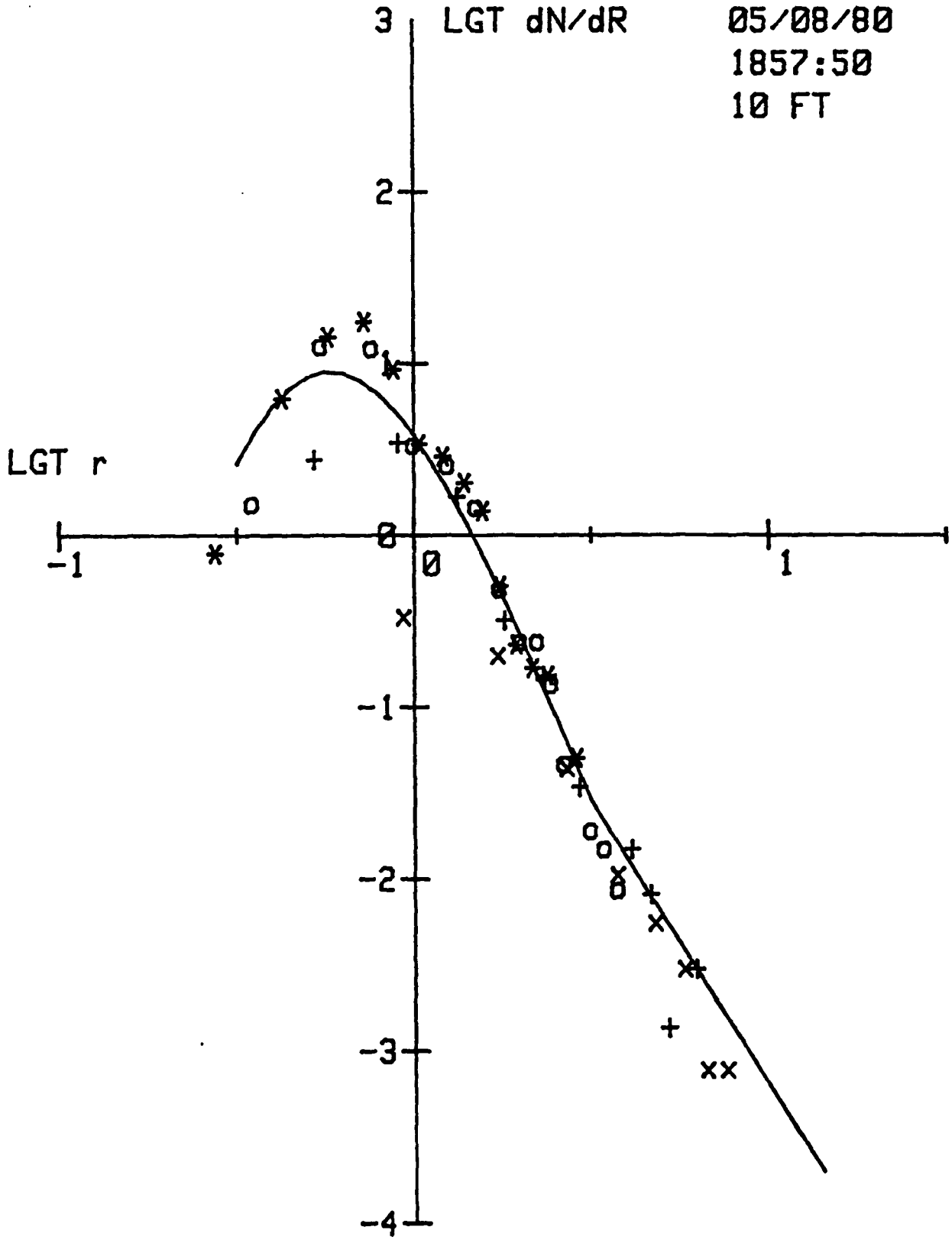
GAMMA ZERO= 2.63
BETA = .81
N ZERO= 3.65E+01

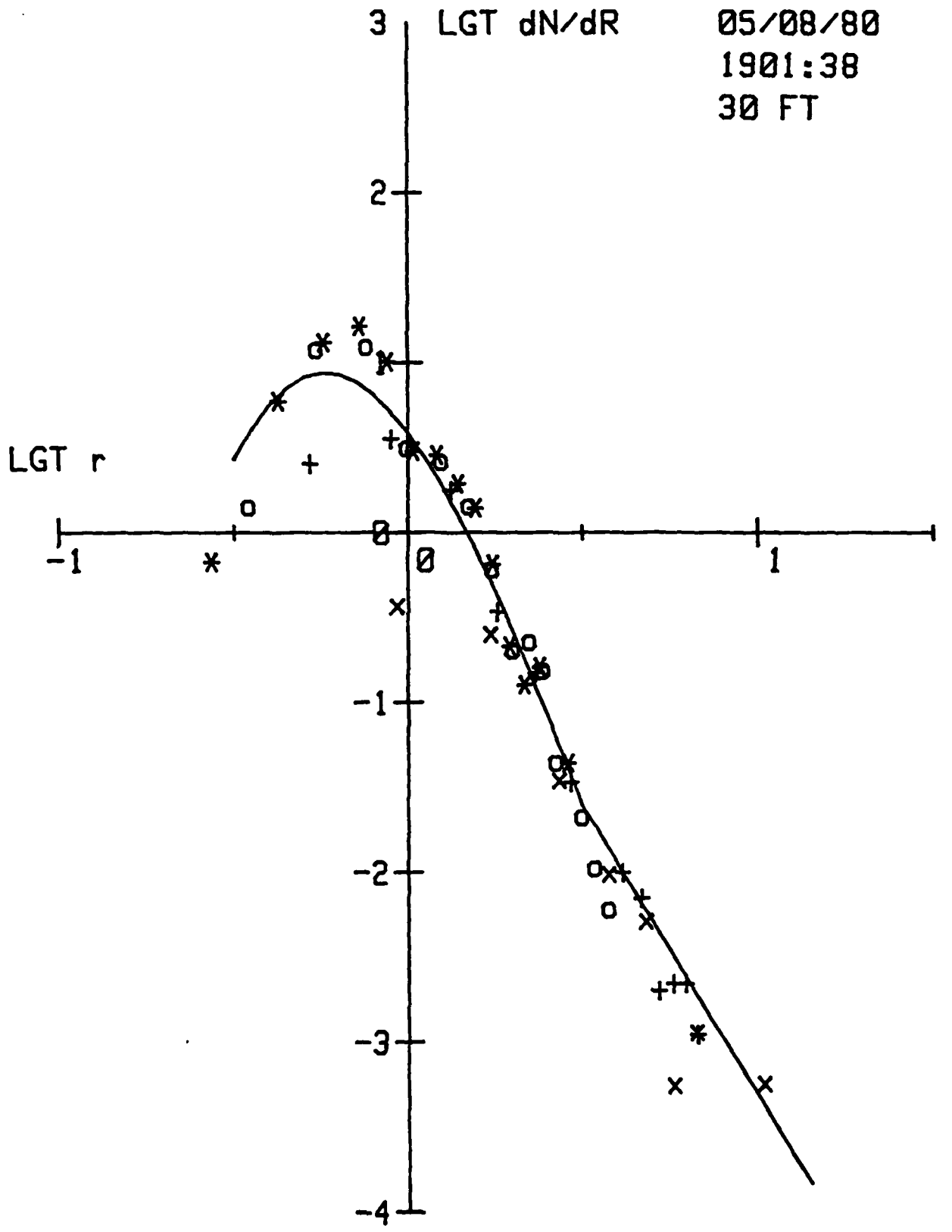
Polynomial of order 7
-2.9716300E+01
6.4026900E+01
-2.3597700E+01
-2.4180800E+01
1.5956400E+01
-2.3285000E+00
-3.7851600E+00
5.8861600E-01

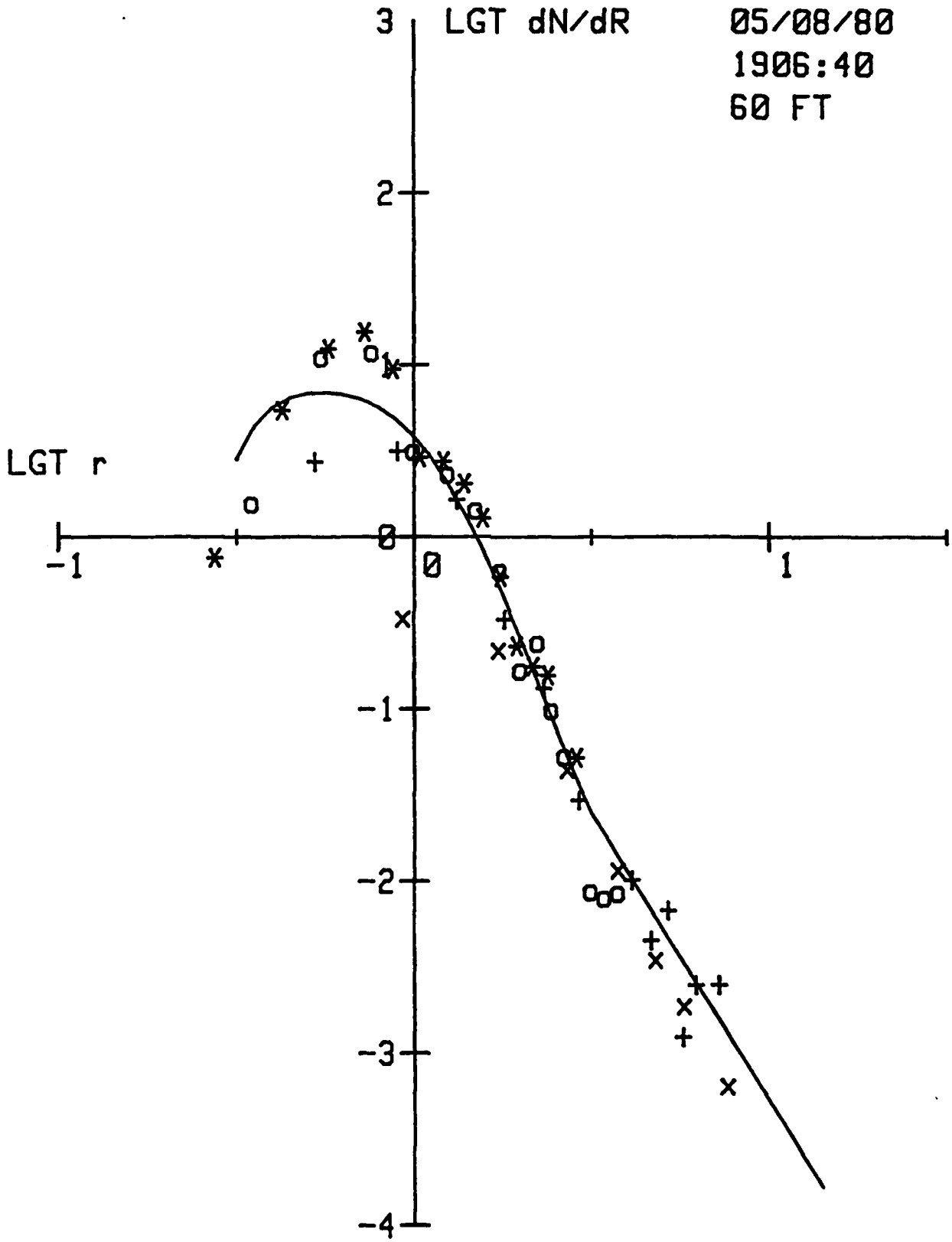
Wavlen	Extin(Km^-1)
.488	6.04E-02
.530	5.86E-02
.633	5.43E-02
.840	4.53E-02
1.030	3.95E-02
1.060	3.83E-02
1.600	2.81E-02
3.750	1.64E-02
10.590	5.16E-03

05/08/80 OPTICAL PROFILE# 23

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
23	185750	10	1022.4	12.65	14.03	10.03	7.61	4.05E-02	8.03E-04	9.81E-01	6.54E-02
23	190132	30	1021.5	12.57	13.85	9.84	7.52	1.79E-02	4.21E-04	1.42E-01	6.46E-02
23	190640	60	1020.4	12.36	13.74	9.74	7.48	1.21E-02	2.47E-04	9.68E-02	6.30E-02


LGT dN/dR
05/08/80
1857:50
10 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/08/80
1901:38
30 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/08/80
1906:40
60 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File 80 TO 83 05/08/80 1857:50 TO 1900:46 ALTITUDE= 10 FT

.28	7.81E-01	.35	1.58E+00	.53	2.75E+00	.94	3.50E-01
.43	6.23E+00	.55	1.31E+01	.90	3.45E+00	1.74	2.08E-01
.58	1.42E+01	.76	1.28E+01	1.33	1.67E+00	2.73	4.59E-02
.73	1.75E+01	1.00	3.48E+00	1.80	3.19E-01	3.79	1.10E-02
.88	9.20E+00	1.25	2.65E+00	2.33	1.44E-01	4.84	5.79E-03
1.04	3.39E+00	1.50	1.51E+00	2.93	3.42E-02	5.83	3.12E-03
1.21	2.86E+00	1.75	5.06E-01	3.55	2.10E-02	6.76	8.02E-04
1.39	2.01E+00	2.00	2.50E-01	4.13	1.48E-02	7.69	8.02E-04
1.56	1.38E+00	2.24	2.50E-01	4.68	8.09E-03	8.63	0.00E+00
1.75	5.04E-01	2.45	1.40E-01	5.23	1.35E-03	9.56	0.00E+00
1.95	2.30E-01	2.66	4.86E-02	5.75	0.00E+00	10.49	0.00E+00
2.16	1.68E-01	2.90	2.50E-02	6.25	2.97E-03	11.44	0.00E+00
2.39	1.52E-01	3.16	1.99E-02	6.75	0.00E+00	12.36	0.00E+00
2.63	8.60E-02	3.45	1.56E-02	7.25	0.00E+00	13.28	0.00E+00
2.88	5.04E-02	3.78	8.92E-03	7.75	0.00E+00	14.23	0.00E+00

-.50 1.14
1.50 -4.87

GAMMA ZERO= 2.60
BETA = .80
N ZERO= 3.29E+01

Polynomial of order 7
-2.3118700E+00
4.8267100E+00
-1.9645300E+00
-1.5818600E+00
4.3122200E+00
-4.4865900E+00
-2.8791000E+00
5.8195200E-01

Wavlen	Extin(Km^-1)
.488	5.42E-02
.530	5.27E-02
.633	4.88E-02
.840	3.96E-02
1.030	3.34E-02
1.060	3.23E-02
1.600	2.23E-02
3.750	1.27E-02
10.590	4.24E-03

File 85 TO 89 05/08/80 1901:38 TO 1905:38 ALTITUDE= 30 FT

.28	6.70E-01	.35	1.47E+00	.53	2.53E+00	.94	3.86E-01
.43	5.91E+00	.55	1.24E+01	.90	3.55E+00	1.74	2.64E-01
.58	1.30E+01	.76	1.29E+01	1.33	1.77E+00	2.73	3.66E-02
.73	1.63E+01	1.00	3.27E+00	1.80	3.40E-01	3.79	1.02E-02
.88	1.01E+01	1.25	2.72E+00	2.33	1.49E-01	4.84	5.36E-03
1.04	2.99E+00	1.50	1.49E+00	2.93	3.38E-02	5.83	5.78E-04
1.21	2.83E+00	1.75	6.30E-01	3.55	2.11E-02	6.76	1.19E-03
1.39	1.93E+00	2.00	2.11E-01	4.13	9.99E-03	7.69	0.00E+00
1.56	1.39E+00	2.24	2.37E-01	4.68	6.99E-03	8.63	0.00E+00
1.75	6.48E-01	2.45	1.59E-01	5.23	2.00E-03	9.56	0.00E+00
1.95	2.14E-01	2.66	4.64E-02	5.75	2.20E-03	10.49	5.94E-04
2.16	1.27E-01	2.90	1.98E-02	6.25	2.20E-03	11.44	0.00E+00
2.39	1.61E-01	3.16	2.20E-02	6.75	1.10E-03	12.36	0.00E+00
2.63	9.45E-02	3.45	1.10E-02	7.25	0.00E+00	13.28	0.00E+00
2.88	4.39E-02	3.78	6.28E-03	7.75	0.00E+00	14.23	0.00E+00

-.50 1.10
1.50 -5.01

GAMMA ZERO= 2.27
BETA = .96
N ZERO= 3.48E+01

Polynomial of order 7
-3.3199800E+00
5.9810600E+00
-6.2050600E-01
-2.2052000E+00
3.3082700E+00
-4.5135900E+00
-2.7723100E+00
5.8506700E-01

Wavlen	Extin(Km^-1)
.488	5.23E-02
.530	5.09E-02
.633	4.69E-02
.840	3.75E-02
1.030	3.10E-02
1.060	2.98E-02
1.600	1.95E-02
3.750	1.01E-02
10.590	3.27E-03

File 85 TO 89 05/08/80 1901:38 TO 1905:38 ALTITUDE= 30 FT

.28	6.70E-01	.35	1.47E+00	.53	2.53E+00	.94	3.86E-01
.43	5.91E+00	.55	1.24E+01	.90	3.55E+00	1.74	2.64E-01
.58	1.30E+01	.76	1.29E+01	1.33	1.77E+00	2.73	3.66E-02
.73	1.63E+01	1.00	3.27E+00	1.80	3.40E-01	3.79	1.02E-02
.88	1.01E+01	1.25	2.72E+00	2.33	1.49E-01	4.84	5.36E-03
1.04	2.99E+00	1.50	1.49E+00	2.93	3.38E-02	5.83	5.78E-04
1.21	2.83E+00	1.75	6.30E-01	3.55	2.11E-02	6.76	1.19E-03
1.39	1.93E+00	2.00	2.11E-01	4.13	9.99E-03	7.69	0.00E+00
1.56	1.39E+00	2.24	2.37E-01	4.68	6.99E-03	8.63	0.00E+00
1.75	6.48E-01	2.45	1.59E-01	5.23	2.00E-03	9.56	0.00E+00
1.95	2.14E-01	2.66	4.64E-02	5.75	2.20E-03	10.49	5.94E-04
2.16	1.27E-01	2.90	1.98E-02	6.25	2.20E-03	11.44	0.00E+00
2.39	1.61E-01	3.16	2.20E-02	6.75	1.10E-03	12.36	0.00E+00
2.63	9.45E-02	3.45	1.10E-02	7.25	0.00E+00	13.28	0.00E+00
2.88	4.39E-02	3.78	6.28E-03	7.75	0.00E+00	14.23	0.00E+00

-.50 1.10
1.50 -5.01

GAMMA ZERO= 2.27
BETA = .96
N ZERO= 3.48E+01

Polynomial of order 7
-3.3199800E+00
5.9810600E+00
-6.2050600E-01
-2.2052000E+00
3.3082700E+00
-4.5135900E+00
-2.7723100E+00
5.8506700E-01

Wavlen	Extin(Km^-1)
.488	5.23E-02
.530	5.09E-02
.633	4.69E-02
.840	3.75E-02
1.030	3.10E-02
1.060	2.98E-02
1.600	1.95E-02
3.750	1.01E-02
10.590	3.27E-03

File 90 TO 93 05/08/80 1906:40 TO 1910:10 ALTITUDE= 60 FT

.28	7.54E-01	.35	1.62E+00	.53	2.73E+00	.94	3.51E-01
.43	5.43E+00	.55	1.14E+01	.90	3.14E+00	1.74	2.29E-01
.58	1.24E+01	.76	1.22E+01	1.33	1.64E+00	2.73	4.65E-02
.73	1.55E+01	1.00	3.25E+00	1.80	3.31E-01	3.79	1.21E-02
.88	9.41E+00	1.25	2.40E+00	2.33	1.31E-01	4.84	3.62E-03
1.04	2.87E+00	1.50	1.49E+00	2.93	2.95E-02	5.83	1.95E-03
1.21	2.74E+00	1.75	6.57E-01	3.55	2.27E-02	6.76	0.00E+00
1.39	2.03E+00	2.00	1.73E-01	4.13	1.01E-02	7.69	6.68E-04
1.56	1.28E+00	2.24	2.50E-01	4.68	4.49E-03	8.63	0.00E+00
1.75	5.84E-01	2.45	1.02E-01	5.23	6.74E-03	9.56	0.00E+00
1.95	2.32E-01	2.66	5.49E-02	5.75	1.24E-03	10.49	0.00E+00
2.16	1.76E-01	2.90	3.21E-02	6.25	2.47E-03	11.44	0.00E+00
2.39	1.57E-01	3.16	8.99E-03	6.75	0.00E+00	12.36	0.00E+00
2.63	8.40E-02	3.45	8.24E-03	7.25	2.47E-03	13.28	0.00E+00
2.88	5.19E-02	3.78	8.83E-03	7.75	0.00E+00	14.23	0.00E+00

-.50 1.08
1.50 -4.92

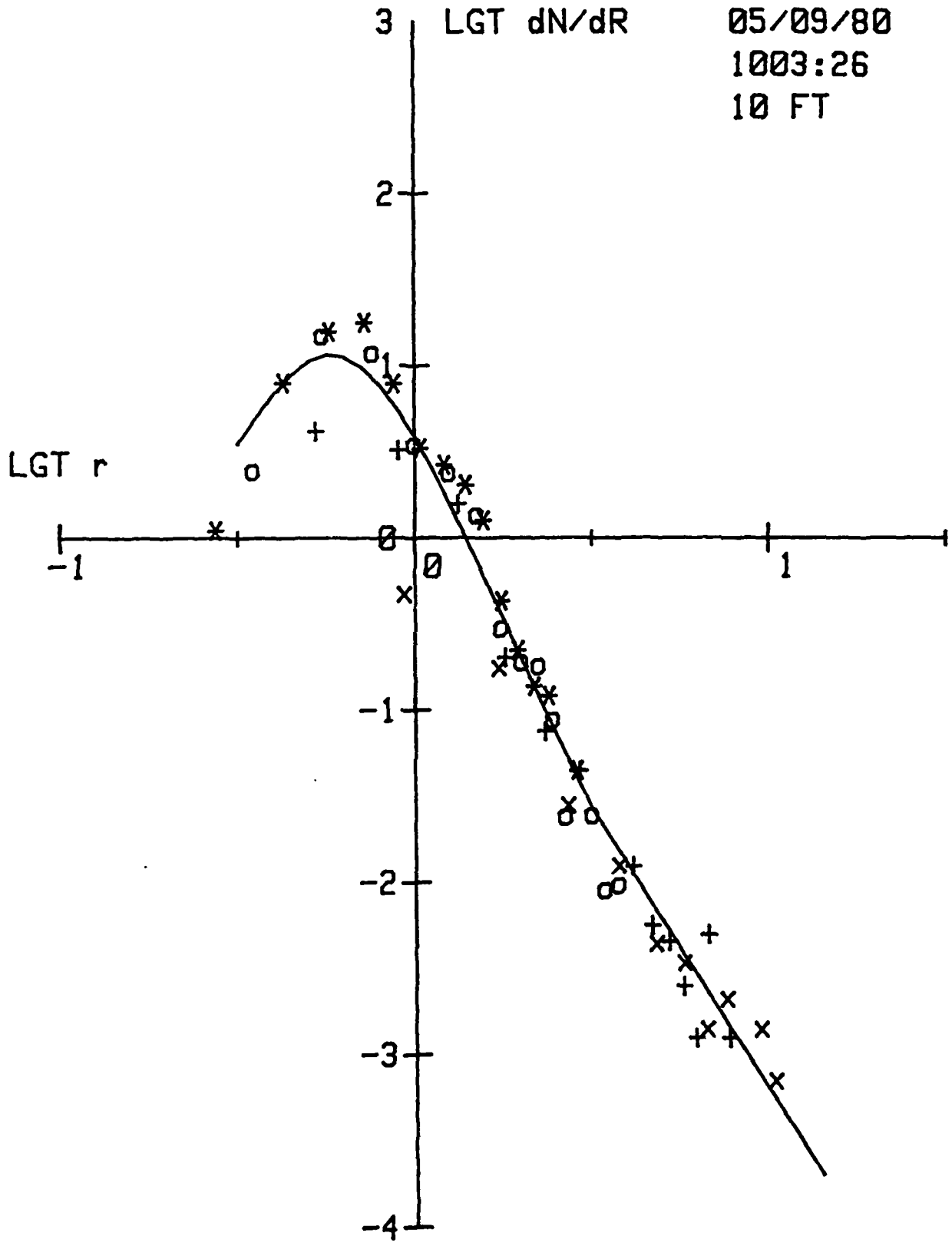
GAMMA ZERO= 2.56
BETA = .83
N ZERO= 3.20E+01

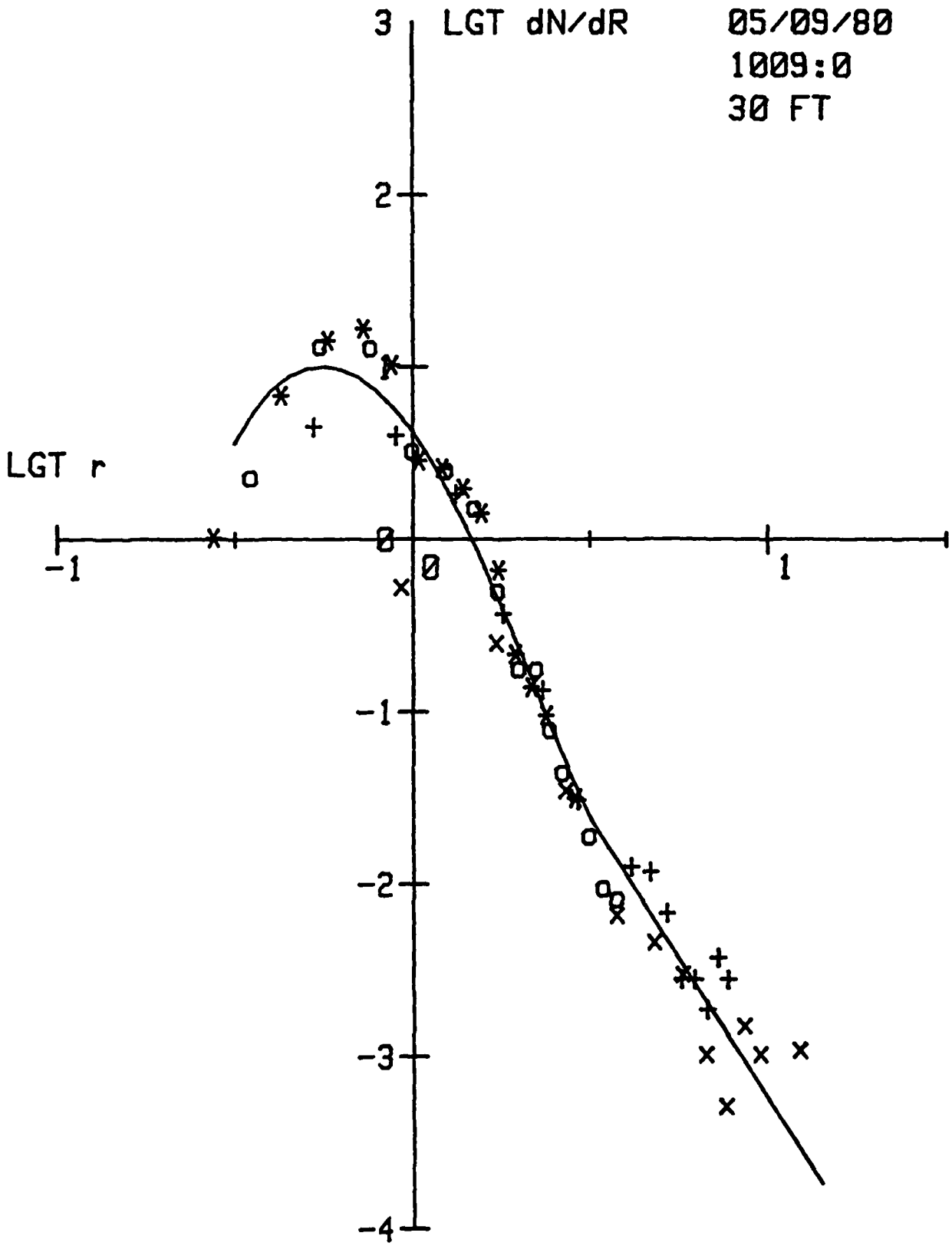
Polynomial of order 7
8.5872000E+00
-2.3354400E+01
1.0271600E+01
1.0945800E+01
-2.3173100E+00
-5.9080900E+00
-2.2530200E+00
5.8240900E-01

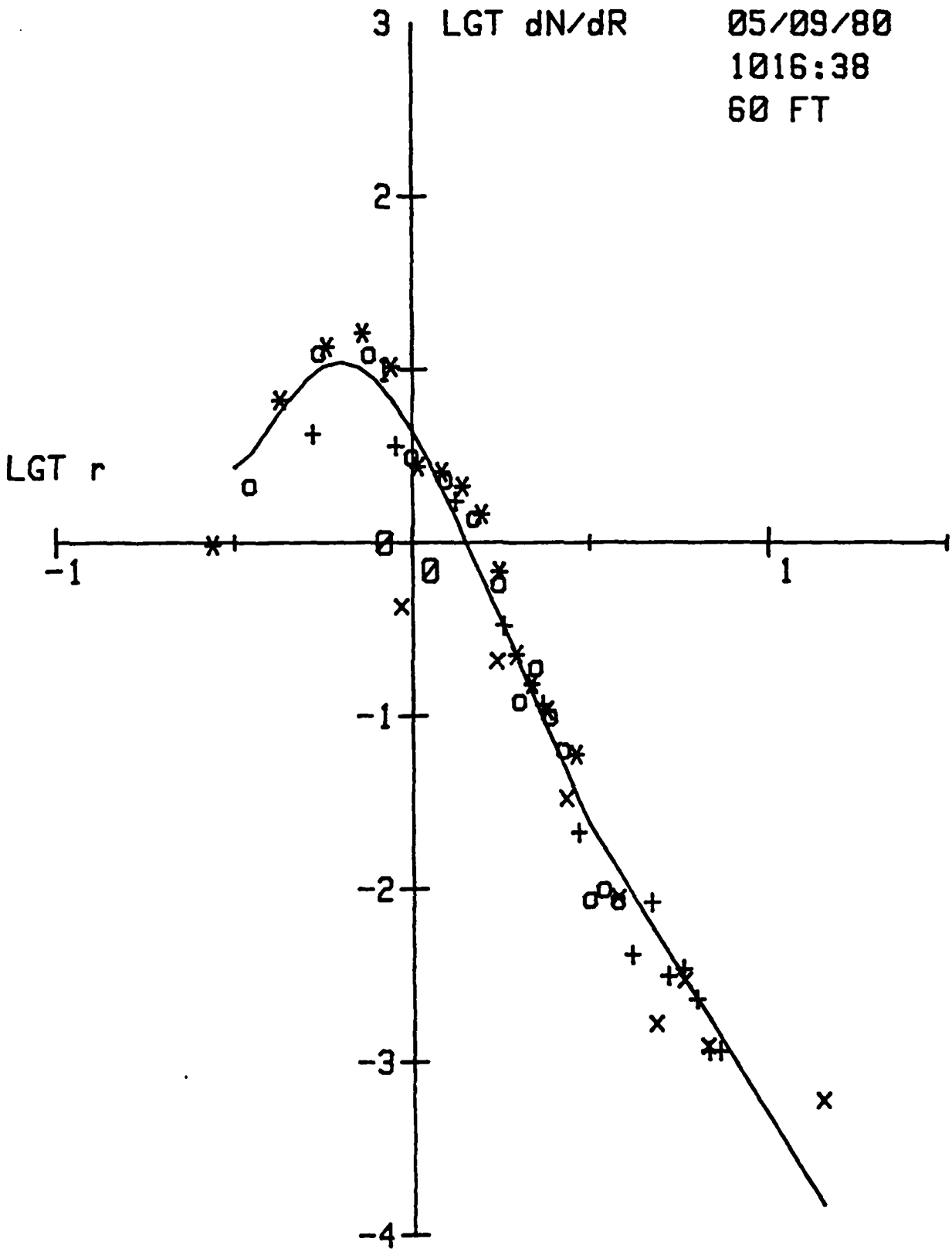
Wavlen	Extin(Km^-1)
.488	5.25E-02
.530	5.13E-02
.633	4.76E-02
.940	3.82E-02
1.030	3.17E-02
1.060	3.05E-02
1.600	2.02E-02
3.750	1.10E-02
10.590	3.67E-03

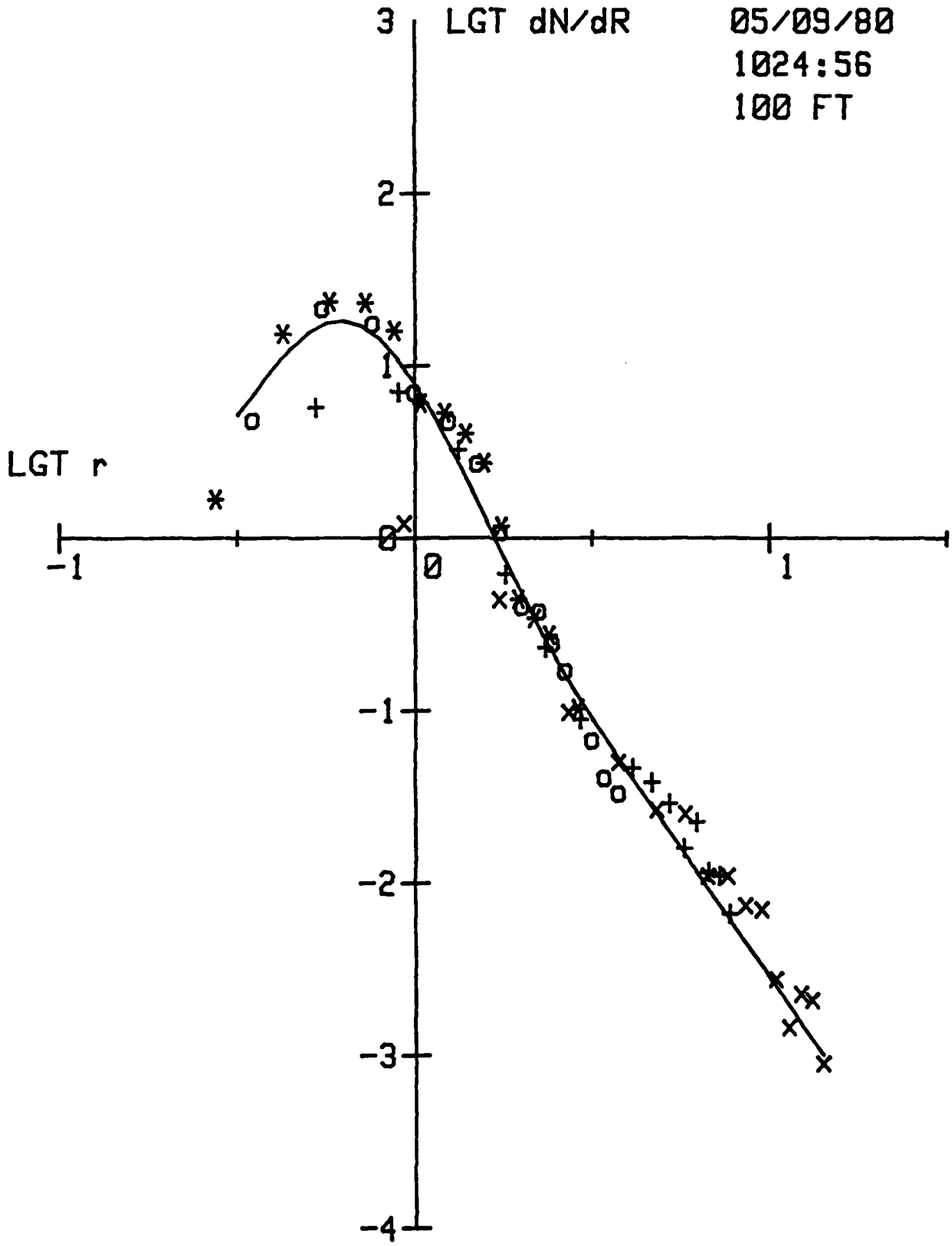
05/09/80 OPTICAL PROFILE# 24

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
24	100325	10	1021.4	13.78	15.22	11.14	8.21	4.76E-11	2.14E-03	3.19E-02	6.40E-02
24	100900	30	1020.8	13.70	14.82	11.05	8.16	4.49E-11	8.40E-04	2.45E-02	6.72E-02
24	101639	60	1019.8	13.65	14.59	10.83	8.05	4.27E-11	6.57E-04	1.76E-02	6.36E-02
24	102455	100	1018.5	12.83	13.12	11.33	8.34	4.06E-11	8.86E-04	3.15E-02	1.52E-01


LGT dN/dR
05/09/80
1003:26
10 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/09/80
1009:0
30 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/09/80
1016:38
60 FT
LGT r
3
2
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/09/80
1024:56
100 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File 28 TO 32 05/09/80 1003:26 TO 1006:52 ALTITUDE= 10 FT

.28	1.10E+00	.35	2.56E+00	.53	4.14E+00	.94	4.96E-01
.43	7.90E+00	.55	1.54E+01	.90	3.22E+00	1.74	1.84E-01
.58	1.56E+01	.76	1.22E+01	1.33	1.57E+00	2.73	2.95E-02
.73	1.78E+01	1.00	3.60E+00	1.80	2.01E-01	3.79	1.32E-02
.88	7.82E+00	1.25	2.48E+00	2.33	7.53E-02	4.84	4.60E-03
1.04	3.30E+00	1.50	1.41E+00	2.93	4.47E-02	5.83	3.55E-03
1.21	2.64E+00	1.75	3.11E-01	3.55	2.47E-02	6.76	1.46E-03
1.39	2.03E+00	2.00	1.98E-01	4.13	1.24E-02	7.69	2.19E-03
1.56	1.26E+00	2.24	1.88E-01	4.68	5.62E-03	8.63	0.00E+00
1.75	4.29E-01	2.45	9.18E-02	5.23	4.49E-03	9.56	1.46E-03
1.95	2.22E-01	2.66	2.51E-02	5.75	2.47E-03	10.49	7.29E-04
2.16	1.37E-01	2.90	2.26E-02	6.25	1.24E-03	11.44	0.00E+00
2.39	1.21E-01	3.16	2.57E-02	6.75	4.94E-03	12.36	0.00E+00
2.63	6.43E-02	3.45	9.41E-03	7.25	0.00E+00	13.28	0.00E+00
2.88	4.45E-02	3.78	1.01E-02	7.75	1.24E-03	14.23	0.00E+00

-.50 1.24
1.50 -4.81

GAMMA ZERO= 1.55
BETA = 1.90
N ZERO= 3.89E+01

Polynomial of order 7
-5.4300300E+00
1.4171600E+01
-1.0005300E+01
-2.7397100E+00
8.6579400E+00
-4.5857100E+00
-3.5723000E+00
5.8626300E-01

Wavlen	Extin(Km^-1)
.488	5.19E-02
.530	5.00E-02
.633	4.51E-02
.840	3.59E-02
1.030	3.02E-02
1.060	2.92E-02
1.600	2.07E-02
3.750	1.25E-02
10.590	4.30E-03

File 34 TO 39 05/09/80 1009:0 TO 1013:38 ALTITUDE= 30 FT

.28	1.02E+00	.35	2.38E+00	.53	4.49E+00	.94	5.55E-01
.43	6.80E+00	.55	1.37E+01	.90	3.98E+00	1.74	2.62E-01
.58	1.42E+01	.76	1.35E+01	1.33	1.03E+00	2.73	3.67E-02
.73	1.67E+01	1.00	3.37E+00	1.80	3.69E-01	3.79	6.90E-03
.88	1.02E+01	1.25	2.61E+00	2.33	1.32E-01	4.84	4.82E-03
1.04	2.85E-00	1.50	1.58E+00	2.93	3.07E-02	5.83	3.12E-03
1.21	2.58E+00	1.75	5.22E-01	3.55	1.78E-02	6.76	1.07E-03
1.39	1.96E+00	2.00	1.84E-01	4.13	1.26E-02	7.69	5.34E-04
1.56	1.41E+00	2.24	1.82E-01	4.68	1.18E-02	8.63	1.56E-03
1.75	6.60E-01	2.45	8.16E-02	5.23	6.74E-03	9.56	1.07E-03
1.95	2.15E-01	2.66	4.61E-02	5.75	2.78E-03	10.49	0.00E+00
2.16	1.38E-01	2.90	1.58E-02	6.25	2.78E-03	11.44	0.00E+00
2.39	9.47E-02	3.16	1.98E-02	6.75	1.85E-03	12.36	1.13E-03
2.63	7.41E-02	3.45	9.89E-03	7.25	3.71E-03	13.28	0.00E+00
2.88	3.15E-02	3.78	8.47E-03	7.75	2.78E-03	14.23	0.00E+00

-.50 1.23
1.50 -4.76

GAMMA ZERO= 1.40
BETA = 2.38
N ZERO= 4.65E+01

Polynomial of order 7
2.1435800E+00
-6.8047400E+00
2.5849000E+00
4.3910700E+00
2.1897700E+00
-5.2690900E+00
-2.9199300E+00
6.2090300E-01

Wavlen	Extin(Km^-1)
.488	5.46E-02
.530	5.29E-02
.633	4.81E-02
.840	3.80E-02
1.030	3.14E-02
1.060	3.02E-02
1.600	2.02E-02
3.750	1.15E-02
10.590	3.93E-03

File 42 TO 45 05/09/80 1016:38 TO 1020:18 ALTITUDE= 60 FT

.28	9.62E-01	.35	2.21E+00	.53	4.22E+00	.94	4.50E-01
.43	6.64E+00	.55	1.29E+01	.90	3.59E+00	1.74	2.19E-01
.58	1.34E+01	.76	1.27E+01	1.33	1.73E+00	2.73	3.50E-02
.73	1.62E+01	1.00	3.26E+00	1.80	3.32E-01	3.79	9.38E-03
.88	1.03E+01	1.25	2.38E+00	2.33	1.15E-01	4.84	1.74E-03
1.04	2.73E+00	1.50	1.44E+00	2.93	2.11E-02	5.83	3.12E-03
1.21	2.54E+00	1.75	5.98E-01	3.55	1.43E-02	6.76	1.28E-03
1.39	2.10E+00	2.00	1.26E-01	4.13	4.15E-03	7.69	0.00E+00
1.56	1.45E+00	2.24	1.98E-01	4.68	8.30E-03	8.63	0.00E+00
1.75	6.79E-01	2.45	1.02E-01	5.23	3.11E-03	9.56	0.00E+00
1.95	2.25E-01	2.66	6.59E-02	5.75	3.42E-03	10.49	0.00E+00
2.16	1.52E-01	2.90	2.72E-02	6.25	2.28E-03	11.44	0.00E+00
2.39	1.06E-01	3.16	8.99E-03	6.75	1.14E-03	12.36	0.00E+00
2.63	6.84E-02	3.45	1.03E-02	7.25	1.14E-03	13.28	0.00E+00
2.88	5.93E-02	3.78	8.83E-03	7.75	0.00E+00	14.23	6.24E-04

-.50 1.17
1.50 -4.95

GAMMA ZERO= 1.42
BETA = 1.98
N ZERO= 3.99E+01

Polynomial of order 7
-7.9535600E+00
2.3322200E+01
-1.8444300E+01
-2.6513900E+00
1.1065200E+01
-5.7771400E+00
-3.5621500E+00
6.4396000E-01

Wavlen	Extin(Km^-1)
.488	5.27E-02
.530	5.06E-02
.633	4.51E-02
.840	3.49E-02
1.030	2.84E-02
1.060	2.73E-02
1.600	1.80E-02
3.750	9.80E-03
10.590	3.27E-03

File 50 TO 58 05/09/80 1024:56 TO 1032:38 ALTITUDE= 100 FT

.28	1.67E+00	.35	5.04E+00	.53	5.71E+00	.94	1.28E+00
.43	1.52E+01	.55	2.24E+01	.90	7.03E+00	1.74	4.66E-01
.58	2.34E+01	.76	1.83E+01	1.33	3.23E+00	2.73	1.03E-01
.73	2.31E+01	1.00	7.30E+00	1.80	6.20E-01	3.79	5.27E-02
.88	1.59E+01	1.25	4.95E+00	2.33	2.32E-01	4.84	2.81E-02
1.04	6.03E+00	1.50	2.81E+00	2.93	8.83E-02	5.83	2.65E-02
1.21	5.29E+00	1.75	1.14E+00	3.55	5.63E-02	6.76	1.15E-02
1.39	4.01E+00	2.00	4.19E-01	4.13	4.64E-02	7.69	1.15E-02
1.56	2.71E+00	2.24	3.94E-01	4.68	3.84E-02	8.63	7.80E-03
1.75	1.17E+00	2.45	2.57E-01	5.23	2.90E-02	9.56	7.37E-03
1.95	4.43E-01	2.66	1.77E-01	5.75	1.59E-02	10.49	2.89E-03
2.16	3.43E-01	2.90	7.59E-02	6.25	2.25E-02	11.44	1.52E-03
2.39	2.74E-01	3.16	7.01E-02	6.75	1.15E-02	12.36	2.37E-03
2.63	2.00E-01	3.45	4.25E-02	7.25	1.10E-02	13.28	2.19E-03
2.88	1.02E-01	3.78	3.47E-02	7.75	6.59E-03	14.23	9.37E-04

-.50 1.41
1.50 -3.79

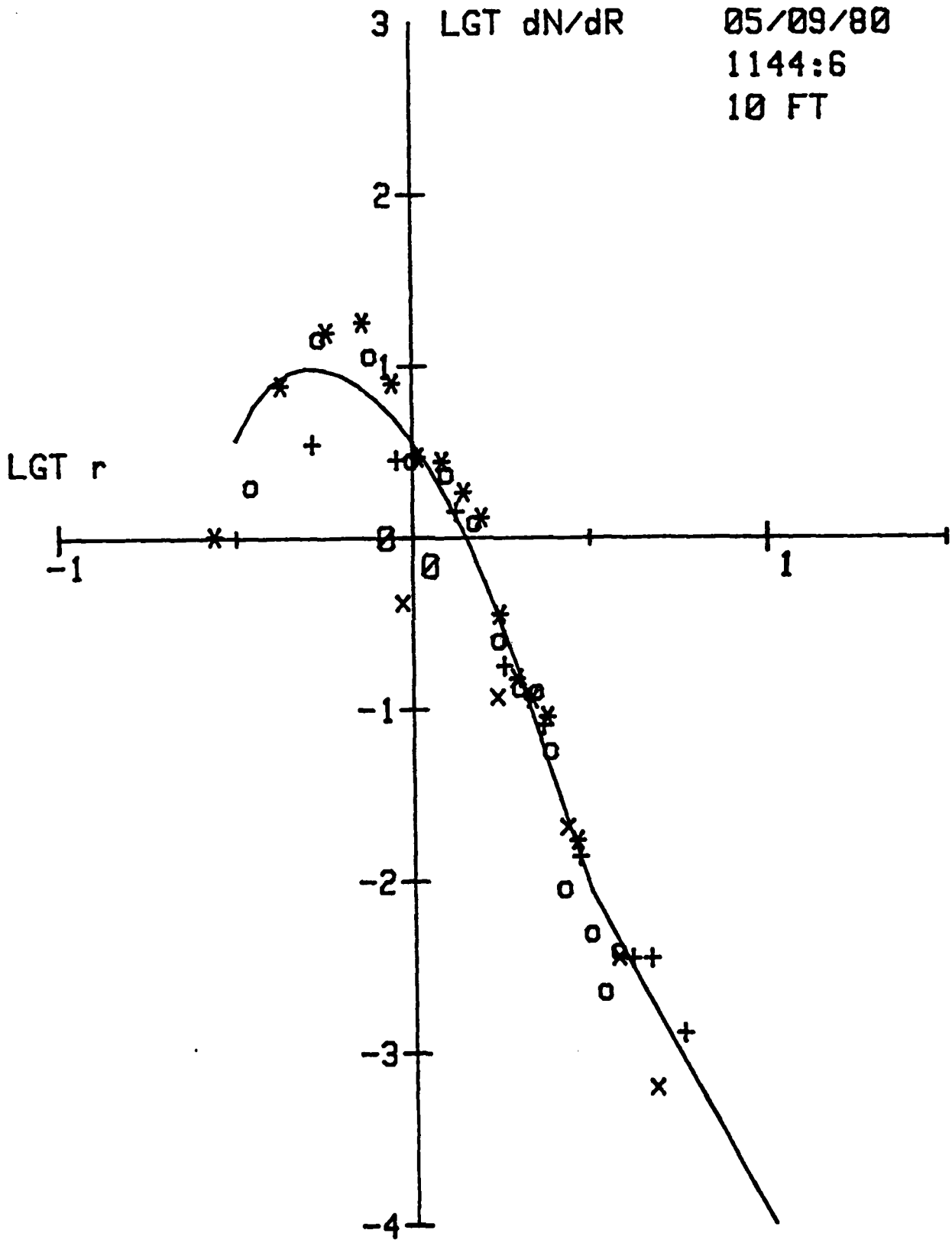
GAMMA ZERO= 1.57
BETA = 3.46
N ZERO= 1.59E+02

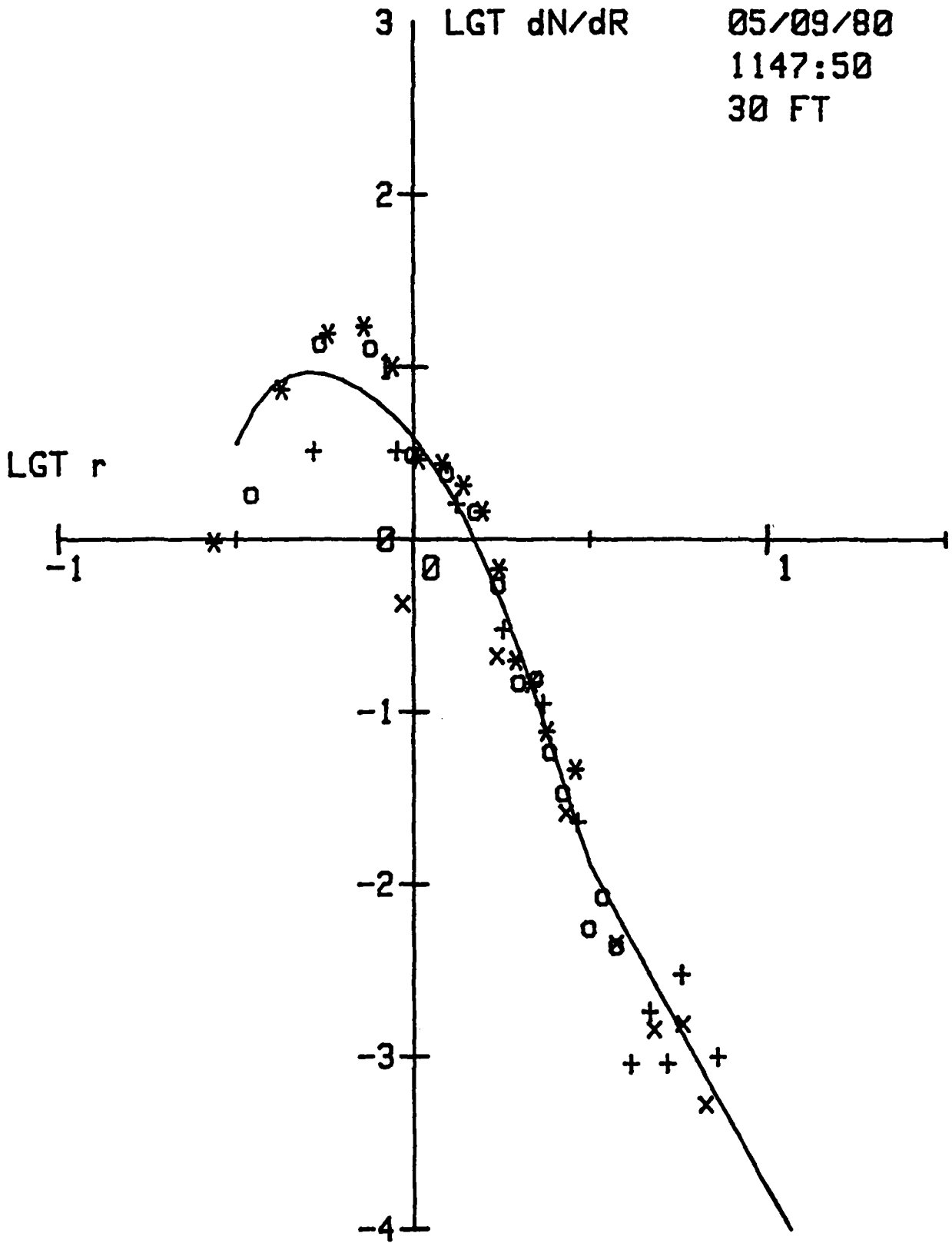
Polynomial of order 7
-7.0314600E-01
5.8151200E+00
-1.2042300E+01
3.3295000E+00
8.8470200E+00
-5.4423000E+00
-3.2134900E+00
9.9447100E-01

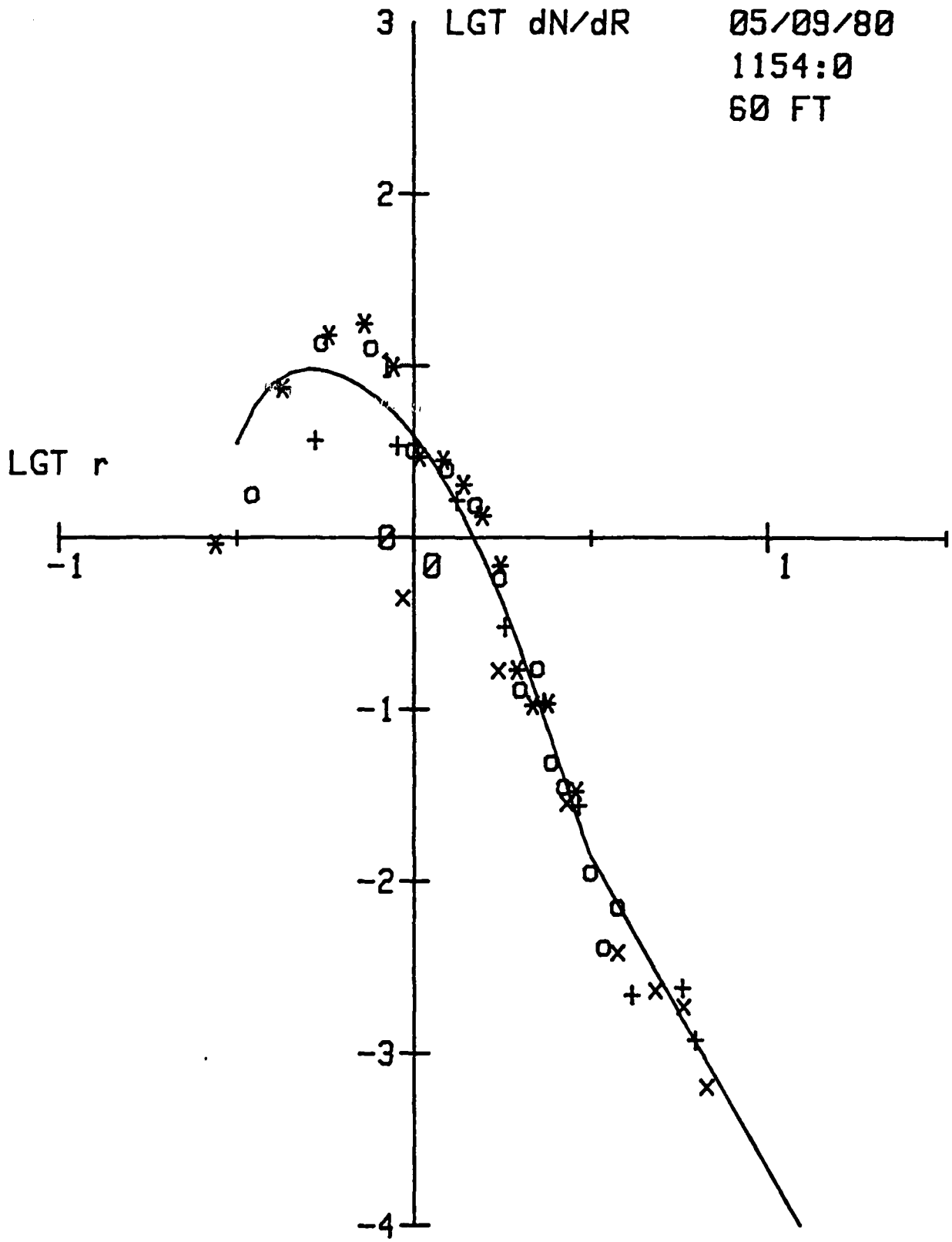
Wavlen	Extin(Km^-1)
.488	1.41E-01
.530	1.29E-01
.633	1.22E-01
.840	1.04E-01
1.030	9.43E-02
1.060	9.16E-02
1.600	7.53E-02
3.750	5.54E-02
10.590	2.12E-02

05/09/80 OPTICAL PROFILE# 25

#	TIME	ALT	PRES	T_ROS	T_SIR	T_DEW	q	EPS	CT2	CQ2	EXT
25	114405	10	1021.3	14.13	14.45	11.26	8.28	1.43E-02	5.61E-04	2.61E-02	5.88E-02
25	114750	30	1020.8	14.19	14.38	11.20	8.25	7.75E-03	5.39E-04	1.61E-02	6.39E-02
25	115400	60	1019.7	14.07	14.15	11.14	8.23	5.22E-03	3.18E-04	1.45E-02	6.28E-02


LGT dN/dR
05/09/80
1144:6
10 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/09/80
1147:50
30 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1


LGT dN/dR
05/09/80
1154:0
60 FT
LGT r
3
2
1
0
-1
-2
-3
-4
-1
0
1

File129 TO132 05/09/80 1144:6 TO 1147:24 ALTITUDE= 10 FT

.28	1.02E+00	.35	2.08E+00	.53	3.52E+00	.94	4.41E-01
.43	7.69E+00	.55	1.51E+01	.90	2.84E+00	1.74	1.25E-01
.58	1.57E+01	.76	1.19E+01	1.33	1.42E+00	2.73	2.18E-02
.73	1.81E+01	1.00	2.94E+00	1.80	1.79E-01	3.79	3.76E-03
.88	7.94E+00	1.25	2.44E+00	2.33	8.09E-02	4.84	6.58E-04
1.04	2.94E+00	1.50	1.27E+00	2.93	1.39E-02	5.83	0.00E+00
1.21	2.78E+00	1.75	2.63E-01	3.55	6.45E-03	6.76	0.00E+00
1.39	1.84E+00	2.00	1.38E-01	4.13	3.52E-03	7.69	0.00E+00
1.56	1.31E+00	2.24	1.32E-01	4.68	3.52E-03	8.63	0.00E+00
1.75	3.58E-01	2.45	6.00E-02	5.23	0.00E+00	9.56	0.00E+00
1.95	1.51E-01	2.66	9.41E-03	5.75	1.29E-03	10.49	0.00E+00
2.16	1.15E-01	2.90	1.98E-02	6.25	0.00E+00	11.44	0.00E+00
2.39	9.06E-02	3.16	5.14E-03	6.75	0.00E+00	12.36	0.00E+00
2.63	2.72E-02	3.45	2.35E-03	7.25	0.00E+00	13.28	0.00E+00
2.88	1.73E-02	3.78	4.03E-03	7.75	0.00E+00	14.23	0.00E+00

-.50 1.29
1.50 -5.69

GAMMA ZERO= 3.98
BETA = .38
N ZERO= 2.10E+01

Polynomial of order 7
-4.6795500E+00
-6.7675500E-01
1.3639000E+01
1.3121100E-01
-2.0484700E+00
-5.1993700E+00
-2.9045000E+00
5.5787700E-01

Wavlen	Extin(Km^-1)
.488	3.95E-02
.530	3.78E-02
.633	3.30E-02
.840	2.38E-02
1.030	1.77E-02
1.060	1.69E-02
1.600	8.50E-03
3.750	2.78E-03
10.590	9.01E-04

File133 T0137 05/09/80 1147:50 TO 1152:10 ALTITUDE= 30 FT

.28	9.57E-01	.35	1.90E+00	.53	3.25E+00	.94	4.46E-01
.43	7.38E+00	.55	1.42E+01	.90	3.22E+00	1.74	2.20E-01
.58	1.55E+01	.76	1.35E+01	1.33	1.60E+00	2.73	2.73E-02
.73	1.72E+01	1.00	3.24E+00	1.80	2.98E-01	3.79	4.76E-03
.88	9.91E+00	1.25	2.51E+00	2.33	1.11E-01	4.84	1.50E-03
1.04	2.91E+00	1.50	1.52E+00	2.93	2.28E-02	5.83	1.61E-03
1.21	2.73E+00	1.75	5.63E-01	3.55	9.89E-03	6.76	5.53E-04
1.39	2.06E+00	2.00	1.55E-01	4.13	8.99E-04	7.69	0.00E+00
1.56	1.45E+00	2.24	1.62E-01	4.68	1.80E-03	8.63	0.00E+00
1.75	6.67E-01	2.45	6.09E-02	5.23	8.99E-04	9.56	0.00E+00
1.95	1.99E-01	2.66	3.53E-02	5.75	2.97E-03	10.49	0.00E+00
2.16	1.47E-01	2.90	1.69E-02	6.25	0.00E+00	11.44	0.00E+00
2.39	7.65E-02	3.16	5.78E-03	6.75	0.00E+00	12.36	0.00E+00
2.63	7.08E-02	3.45	8.83E-03	7.25	9.89E-04	13.28	0.00E+00
2.88	4.59E-02	3.78	4.54E-03	7.75	0.00E+00	14.23	0.00E+00

-.50 1.23
1.50 -5.55

GAMMA ZERO= 3.09
BETA = .56
N ZERO= 2.75E+01

Polynomial of order 7
-2.8227700E+00
-3.5300000E+00
1.4935700E+01
-4.7441800E-01
-3.2996500E+00
-4.6775400E+00
-2.5096800E+00
5.8798900E-01

Wavlen	Extin(Km^-1)
.488	4.62E-02
.530	4.48E-02
.633	4.02E-02
.840	3.02E-02
1.030	2.32E-02
1.060	2.21E-02
1.600	1.18E-02
3.750	4.19E-03
10.590	1.30E-03

File139 T0143 05/09/80 1154:0 TO 1157:38 ALTITUDE= 60 FT

.28	9.13E-01	.35	1.86E+00	.53	3.67E+00	.94	4.68E-01
.43	7.39E+00	.55	1.42E+01	.90	3.40E+00	1.74	1.77E-01
.58	1.50E+01	.76	1.33E+01	1.33	1.64E+00	2.73	3.00E-02
.73	1.76E+01	1.00	3.36E+00	1.80	3.01E-01	3.79	4.02E-03
.88	9.79E+00	1.25	2.60E+00	2.33	1.10E-01	4.84	2.41E-03
1.04	2.93E+00	1.50	1.62E+00	2.93	2.74E-02	5.83	1.95E-03
1.21	2.81E+00	1.75	6.06E-01	3.55	7.91E-03	6.76	6.68E-04
1.39	2.03E+00	2.00	1.37E-01	4.13	2.16E-03	7.69	0.00E+00
1.56	1.34E+00	2.24	1.81E-01	4.68	0.00E+00	8.63	0.00E+01
1.75	6.85E-01	2.45	5.16E-02	5.23	0.00E+00	9.56	0.00E+00
1.95	1.69E-01	2.66	3.72E-02	5.75	2.37E-03	10.49	0.00E+01
2.16	1.05E-01	2.90	1.55E-02	6.25	1.19E-03	11.44	0.00E+00
2.39	1.08E-01	3.16	1.17E-02	6.75	0.00E+00	12.36	0.00E+01
2.63	6.17E-02	3.45	4.30E-03	7.25	0.00E+00	13.28	0.00E+00
2.88	3.32E-02	3.78	7.37E-03	7.75	0.00E+00	14.23	0.00E+01

-.50 1.23
1.50 -5.35

GAMMA ZERO= 3.16
BETA = .55
N ZERO= 2.74E+01

Polynomial of order 7
-4.7034800E-01
-7.7272300E+00
1.4146400E+01
1.3557500E+00
-2.7865500E+00
-4.8351300E+00
-2.5933500E+00
5.9120200E-01

Wavlen	Extin(Km^-1)
.488	4.67E-02
.530	4.52E-02
.633	4.06E-02
.840	3.05E-02
1.030	2.36E-02
1.060	2.26E-02
1.600	1.25E-02
3.750	4.90E-03
10.590	1.55E-03

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