

IUE Final Archive Calibration: LWP Low-dispersion Sensitivity Degradation Analysis of Large-Aperture Point Source and Trailed Data

Matthew P. Garhart
Computer Sciences Corporation
10000-A Aerospace Road
Lanham-Seabrook, Maryland 20706
Electronic-mail: garhart@iuegtc.gsfc.nasa.gov

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ABSTRACT Low-dispersion sensitivity degradation correction ratios for the LWP camera have been derived for large-aperture point source images obtained using the International Ultraviolet Explorer (*IUE*). A separate set of ratios has also been generated for use with trailed data. The images (738 point source and 235 trailed) have been reprocessed with the Final Archive (NEWSIPS) software, providing a homogeneous database. Correction ratios have been created in 5Å wavelength bins and are fit using a linear interpolation scheme in time, which will allow the user to safely extrapolate beyond the 1993 end point. The intent of this analysis is to furnish a degradation correction, which, when applied to the net flux along with the inverse sensitivity curve during the final archive process, will produce an absolutely calibrated and degradation corrected spectrum.

1. Introduction

The International Ultraviolet Explorer (*IUE*), in operation since early 1978, has far outlived its expected lifetime of 5 years and continues to be a useful tool for the scientific community. The sensitivity of the SEC Vidicon camera is known to degrade with time, hence the need for a method to correct for this loss. Guest Observer programs that execute long-term monitoring of astronomical objects would benefit the most from such a correction scheme. One of the fundamental requirements of the *IUE* Final Archive is that the dataset be fully intercomparable. The sensitivity degradation correction is essential in satisfying this requirement and allowing full utilization of the remarkably long timeline of *IUE* observations. The broad-band sensitivity analysis (Garhart 1992a) that monitors the degradation effects on the optical coatings of the camera caused by exposure to radiation is of insufficient resolution to provide a proper correction algorithm. The analysis described herein was motivated as a result of this concern.

2. Analysis

2.1 Database

The degradation of the LWP camera with time has been analyzed for low-dispersion, large-aperture point source and trailed images. The database employed in the analysis contains the same images as used for quick-look sensitivity monitoring (Garhart 1992a) and consists of 738 point source and 235 trailed observations distributed amongst the five sensitivity monitoring standard stars as indicated in Table 1. The star BD+33° 2642 is not included in the trailed analysis, as the exposure time is too long to perform an accurate trail. In addition, several trailed exposure levels (*i.e.*, 60%, 100%, and 120%) for the standard HD 60753 were utilized, as indicated in Table 2. The net fluxes for each image were carefully examined for defects such as data dropouts, cosmic ray hits, *etc.* and any corrupted spectra were discarded. All of the data were uniformly reprocessed using the prototype final archive (NEWSIPS) processing software (Nichols-Bohlin 1990) and the updated line library and wavelength calibration (Bushouse 1991).

Table 1: Number of Spectra Used for Each Standard Star

Object	Pt. Source	Trailed
BD+28° 4211	180	21
HD 93521	92	20
HD 60753	181	157
BD+33° 2642	100	0
BD+75° 325	185	37
Total	738	235

Table 2: Trailed Exposure Levels Used for HD 60753

Expo. Level	No. Spectra
60%	25
100%	111
120%	21

2.2 Method

The analysis was done on the extracted net spectra, before application of the absolute calibration (*i.e.*, in flux numbers), and the data sets for each standard star were treated separately. The spectra were corrected for camera head amplifier temperature (THDA)

induced sensitivity variations (Garhart 1991) using a correction coefficient of $-0.21\%/^{\circ}\text{C}$ and sections of the spectra affected by camera reseaux were interpolated across using adjacent good data points. Each individual spectrum was then normalized by dividing by an average of several spectra taken in a six month time period centered on 1984.5. The plots in Figures 1 and 2 illustrate the correction and normalization procedure. The normalized data were then binned at 5\AA intervals using the standard IUE Data Analysis Center (IUEDAC) procedure BINS (Figures 3(a)–3(c) for point sources and Figures 6(a)–6(c) for trails) and a set of degradation ratios was produced by performing a final binning of the data at six month intervals. The ratios derived from each standard star were compared and found to be in good agreement, so the last step of the process was repeated using all the data and a combined set of degradation ratios was derived. The number of spectra in each six month interval are listed in Table 3.

Table 3: Number of Spectra Used in Each Date Bin

Date	Pt. Source	Trailed	Date	Pt. Source	Trailed
1980.5	10	0	1987.5	28	7
1981.0	0	1	1988.0	25	7
1981.5	6	1	1988.5	41	9
1982.0	14	0	1989.0	47	7
1982.5	24	8	1989.5	27	4
1983.0	24	12	1990.0	44	12
1983.5	22	6	1990.5	42	11
1984.0	41	23	1991.0	36	12
1984.5	27	14	1991.5	30	8
1985.0	25	9	1992.0	28	19
1985.5	28	14	1992.5	27	13
1986.0	33	2	1993.0	33	11
1986.5	28	12	1993.5	20	3
1987.0	28	10			

3. Summary

3.1 Linear Fit to Ratios

The LWP low-dispersion sensitivity degradation for the post-1984.5 epoch can be adequately represented by a linear relationship similar to the one used by Teays and Garhart (1990) for the LWP and Garhart (1992b) for the SWP. This method differs from the one implemented by Bohlin and Grillmair (1988), as they utilized a linear fit between each individual degradation ratio. The linear fits to the ratios were applied using the IUEDAC routine LINFIT, which is based on an algorithm developed by Bevington (1969). The 1980.5

to 1984.5 epoch degradation ratios, which exhibit a behavior unlike the post-1984.5 epoch, were fit using a linear interpolation between each discrete point. The 1985.0 degradation ratio, which corresponds to the mean time of the absolute calibration, was calculated for each wavelength bin using the post-1984.5 linear fit and a zero-point correction was applied to the y-intercepts in order to force the aforementioned ratio to be one. This ensures that no degradation correction will be applied to data near the 1985.0 fiducial date.

3.2 Degradation Trends

The individual point source and trailed degradation ratios, plotted as a function of date along with their linear fits, are illustrated in Figures 4(a)–4(h) and Figures 7(a)–7(h) respectively. The degradation ratios as a function of wavelength, fit with a seventh-order polynomial, are shown in Figures 5(a)–5(h) for point sources and Figures 8(a)–8(h) for trails. Unlike the SWP degradation, the rate of LWP degradation is fairly consistent from short to long wavelengths (excluding the very extreme wavelength regions). Maximum degradation from mid-1984 to present is approximately 21% ($-2.32\%/yr.$), with an average degradation of around 12% ($-1.32\%/yr.$).

The slopes for the 1984.5 to 1993.5 time period were averaged together over broad-band wavelength ranges similar to the ones used in the standard quick-look sensitivity monitoring analysis (Garhart 1992a). The degradation rates, as computed by this method, closely approximate the quick-look rates. The y-intercepts and slopes for the linear fits to the ratios are listed in Table 4 for point sources and Table 5 for trailed data. At first, it may seem strange that the slopes seem to vary in a non-uniform manner from one bin to the next. However, this is reasonable when one looks at the fine-scale structure of the camera faceplate. The pixel-to-pixel variations are not smooth in nature, instead they are quite granular. The dramatic variations in sensitivity changes across adjacent wavelength bins have also been reported by Bohlin and Grillmair (1988). This effect is highlighted by the scatter of the data about the polynomial fit visible in the plots of the degradation ratios versus wavelength (Figures 5(a)–5(h) and Figures 8(a)–8(h)).

3.3 Application of Degradation Correction

The ratios are applied to the net flux during the final archive process in the same fashion as the inverse sensitivity curve (*i.e.* using a nearest neighbor in wavelength) to provide absolutely calibrated and degradation corrected flux data. The flux correction is performed in the following manner:

1. The appropriate columns containing the slopes and y-intercepts which correspond to the epoch of the observation in question are identified.

2. A correction ratio for each wavelength is calculated in the following manner:

$$R_{\lambda} = \text{Intercept}_{\lambda} + \text{Slope}_{\lambda} \times \text{Date}$$

where *Date* is the observation date in decimal years (*e.g.*, 1984.7).

3. The correction ratio is applied as follows:

$$\text{Flux Corrected}_{\lambda} = \text{Flux}_{\lambda} / R_{\lambda}$$

where λ is the closest 5Å bin.

3.4 Degradation Correction Results

The plots shown in Figures 9–12 demonstrate the results of the flux correction process for point source data. A self-consistency test is illustrated in Figures 9 and 10, since these images were used in the analysis to derive the degradation ratios, while Figure 11 is an independent check. The correction of trailed data is seen in Figures 12 and 13. Unfortunately, only the self-consistency check was done as no usable, independent trailed data could be found. The average error for each plot is determined by summing the percent differences at each wavelength and calculating the mean. For the uncorrected differences, the wavelength range of 2000–3200Å is used in order to eliminate the ringing effect at the extreme edges.

4. Discussion

The analysis was also done using 10Å, 15Å, 20Å, and 25Å wavelength bins for comparison purposes. No improvement is seen between using 5Å versus the other bins. The calibration group feels that using 5Å bins would be advantageous over the other bin sizes, as interpolation across wavelength would be unnecessary. In fact, according to Bohlin and Grillmair (1988) the use of a nearest neighbor scheme is preferable, since the sensitivity changes with wavelength are not smooth. They performed a test, which compared the mean deviations produced from using a linear interpolation correction versus nearest neighbor and found the latter method provided significantly lower average errors. In house tests performed with NEWSIPS data using a seventh order polynomial fitted across wavelength showed no significant improvement in the average error. Tests were also performed in which a polynomial was fitted to the ratios in time (versus the linear fit used in this analysis) and again no decrease in the average error is seen.

Figures 14–16 show a comparison of trailed data corrected using trailed fits versus using point source fits. With the exception of Figure 13, the point source correction appears to do a better job over the trailed correction. This may be due to the fewer numbers of trailed sensitivity monitoring data available for analysis. The calibration group recommends adopting the point source corrections for use with trailed data.

References

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Table 4a: Linear Fits to Point Source Degradation Ratios

λ (Å)	Intercept 1984.5 to present	Slope	Intercept 1980.5 to 1981.5	Slope	Intercept 1981.5 to 1982.0	Slope	Intercept 1982.0 to 1982.5	Slope
1850	83.586	-0.4160E-01	-1367.316	0.6910E+00	4950.040	-0.2497E+01	-2548.288	0.1286E+01
1855	207.712	-0.1041E+00	-5994.852	0.3025E+01	-1472.752	0.7427E+00	-6929.894	0.3496E+01
1860	107.489	-0.5365E-01	433.518	-0.2187E+00	-1793.019	0.9050E+00	-757.087	0.3823E+00
1865	49.721	-0.2454E-01	-659.879	0.3335E+00	2178.906	-0.1099E+01	-842.624	0.4254E+00
1870	45.895	-0.2262E-01	16.247	-0.7757E-02	-163.527	0.8297E-01	171.168	-0.8590E-01
1875	9.449	-0.4256E-02	290.917	-0.1465E+00	135.841	-0.6828E-01	-958.837	0.4840E+00
1880	69.400	-0.3446E-01	604.442	-0.3048E+00	-2023.492	0.1021E+01	-189.748	0.9623E-01
1885	31.047	-0.1514E-01	601.723	-0.3032E+00	803.525	-0.4050E+00	-751.150	0.3793E+00
1890	24.678	-0.1193E-01	-145.402	0.7372E-01	192.850	-0.9699E-01	-543.417	0.2745E+00
1895	24.031	-0.1160E-01	72.588	-0.3611E-01	305.643	-0.1537E+00	-159.527	0.9097E-01
1900	41.909	-0.2061E-01	205.178	-0.1030E+00	586.888	-0.2956E+00	-96.977	0.4939E-01
1905	32.114	-0.1567E-01	483.784	-0.2439E+00	-456.197	0.2306E+00	7.463	-0.3331E-02
1910	24.798	-0.1199E-01	486.328	-0.2450E+00	-182.800	0.9273E-01	102.701	-0.5132E-01
1915	28.497	-0.1385E-01	-568.445	0.2874E+00	329.222	-0.1657E+00	-68.397	0.3494E-01
1920	-2.236	0.1630E-02	-421.335	0.2133E+00	1127.092	-0.5682E+00	87.381	-0.4360E-01
1925	33.912	-0.1658E-01	-24.277	0.1281E-01	425.802	-0.2143E+00	-307.836	0.1558E+00
1930	20.464	-0.9805E-02	533.942	-0.2692E+00	-960.800	0.4852E+00	-245.924	0.1245E+00
1935	29.296	-0.1425E-01	-278.492	0.1410E+00	208.354	-0.1047E+00	-176.071	0.8928E-01
1940	18.863	-0.8999E-02	236.909	-0.1192E+00	-168.381	0.8537E-01	-286.170	0.1448E+00
1945	19.270	-0.9204E-02	-97.110	0.4953E-01	142.871	-0.7158E-01	128.842	-0.6450E-01
1950	34.944	-0.1710E-01	436.946	-0.2202E+00	-643.725	0.3252E+00	-97.037	0.4940E-01
1955	28.763	-0.1399E-01	-245.602	0.1245E+00	439.375	-0.2212E+00	-182.616	0.9262E-01
1960	28.426	-0.1382E-01	-255.120	0.1293E+00	325.582	-0.1638E+00	-186.236	0.9443E-01
1965	18.538	-0.8835E-02	-61.756	0.3168E-01	261.618	-0.1315E+00	-346.045	0.1751E+00
1970	41.731	-0.2052E-01	195.462	-0.9820E-01	-334.082	0.1690E+00	3.771	-0.1416E-02
1975	2.637	-0.8248E-03	184.527	-0.9266E-01	-251.790	0.1275E+00	57.431	-0.2848E-01
1980	11.566	-0.5333E-02	-66.662	0.3513E-01	341.572	-0.1719E+00	-402.981	0.2037E+00
1985	19.751	-0.9446E-02	135.935	-0.6815E-01	-451.615	0.2284E+00	246.379	-0.1238E+00
1990	25.575	-0.1238E-01	-114.701	0.5841E-01	320.375	-0.1612E+00	-128.828	0.6548E-01
1995	18.053	-0.8591E-02	-60.219	0.3093E-01	400.403	-0.2015E+00	-53.084	0.2727E-01
2000	21.183	-0.1017E-01	141.700	-0.7104E-01	293.964	-0.1479E+00	-193.283	0.9796E-01
2005	13.647	-0.6371E-02	-75.213	0.3848E-01	529.948	-0.2669E+00	-216.167	0.1095E+00
2010	31.915	-0.1557E-01	-81.906	0.4181E-01	-150.190	0.7627E-01	81.924	-0.4084E-01
2015	-2.965	0.1997E-02	-209.208	0.1061E+00	604.649	-0.3047E+00	-58.269	0.2981E-01
2020	28.148	-0.1368E-01	143.656	-0.7204E-01	163.488	-0.8205E-01	-260.131	0.1317E+00
2025	19.204	-0.9171E-02	214.186	-0.1076E+00	-58.766	0.3012E-01	-167.285	0.8487E-01
2030	23.494	-0.1133E-01	0.444	0.3113E-03	339.633	-0.1709E+00	-102.494	0.5220E-01
2035	20.125	-0.9635E-02	204.197	-0.1026E+00	-259.134	0.1312E+00	15.734	-0.7458E-02
2040	29.784	-0.1449E-01	118.406	-0.5925E-01	364.310	-0.1834E+00	-284.134	0.1438E+00
2045	40.947	-0.2012E-01	193.636	-0.9728E-01	-605.715	0.3061E+00	303.604	-0.1527E+00
2050	24.978	-0.1208E-01	-86.578	0.4421E-01	-40.525	0.2097E-01	75.715	-0.3768E-01
2055	28.978	-0.1409E-01	14.334	-0.6903E-02	190.935	-0.9593E-01	-195.906	0.9925E-01
2060	26.295	-0.1274E-01	322.920	-0.1626E+00	-630.061	0.3184E+00	5.444	-0.2277E-02
2065	28.782	-0.1400E-01	289.644	-0.1457E+00	287.371	-0.1445E+00	-185.328	0.9399E-01
2070	22.915	-0.1104E-01	-53.346	0.2752E-01	831.048	-0.4188E+00	-203.131	0.1030E+00
2075	26.077	-0.1263E-01	61.635	-0.3068E-01	137.472	-0.6895E-01	-215.879	0.1093E+00
2080	23.368	-0.1127E-01	52.654	-0.2615E-01	-337.376	0.1707E+00	-101.079	0.5146E-01
2085	33.637	-0.1644E-01	239.410	-0.1203E+00	241.667	-0.1215E+00	-216.807	0.1098E+00
2090	21.910	-0.1053E-01	-27.885	0.1455E-01	144.526	-0.7247E-01	-95.528	0.4865E-01
2095	27.715	-0.1346E-01	-0.795	0.9666E-03	225.649	-0.1133E+00	145.906	-0.7308E-01
2100	30.912	-0.1507E-01	-22.287	0.1175E-01	331.295	-0.1667E+00	41.277	-0.2036E-01
2105	26.036	-0.1261E-01	-14.203	0.7597E-02	-142.836	0.7251E-01	-41.426	0.2135E-01
2110	34.210	-0.1673E-01	-131.804	0.6704E-01	191.268	-0.9601E-01	35.806	-0.1757E-01
2115	32.201	-0.1572E-01	18.899	-0.9031E-02	-119.240	0.6068E-01	53.444	-0.2644E-01
2120	26.118	-0.1265E-01	197.061	-0.9899E-01	-220.355	0.1117E+00	-73.597	0.3762E-01
2125	13.894	-0.6496E-02	333.952	-0.1681E+00	-315.176	0.1595E+00	-56.382	0.2890E-01
2130	23.261	-0.1121E-01	243.025	-0.1222E+00	-410.270	0.2075E+00	193.593	-0.9716E-01
2135	20.491	-0.9819E-02	-41.974	0.2170E-01	44.804	-0.2209E-01	-133.310	0.6778E-01
2140	16.806	-0.7963E-02	340.580	-0.1715E+00	-508.315	0.2569E+00	113.028	-0.5657E-01
2145	20.857	-0.1000E-01	121.705	-0.6090E-01	142.427	-0.7135E-01	135.864	-0.6804E-01

Table 4a: (continued)

λ (Å)	1984.5 to present		1980.5 to 1981.5		1981.5 to 1982.0		1982.0 to 1982.5	
	Intercept	Slope	Intercept	Slope	Intercept	Slope	Intercept	Slope
2150	30.968	-0.1510E-01	15.345	-0.7271E-02	66.598	-0.3314E-01	-149.134	0.7571E-01
2155	18.012	-0.8570E-02	-74.434	0.3810E-01	-232.801	0.1180E+00	80.823	-0.4022E-01
2160	19.205	-0.9171E-02	65.454	-0.3253E-01	162.505	-0.8151E-01	-196.449	0.9960E-01
2165	21.998	-0.1058E-01	163.855	-0.8219E-01	-73.327	0.3751E-01	90.493	-0.4514E-01
2170	27.832	-0.1352E-01	354.886	-0.1787E+00	123.574	-0.6194E-01	-308.727	0.1562E+00
2175	31.833	-0.1553E-01	-161.326	0.8190E-01	113.071	-0.5658E-01	-98.577	0.5020E-01
2180	30.626	-0.1493E-01	334.418	-0.1683E+00	-142.897	0.7261E-01	7.984	-0.3514E-02
2185	24.124	-0.1165E-01	-32.082	0.1664E-01	-111.019	0.5647E-01	-39.190	0.3142E-01
2190	36.382	-0.1782E-01	-176.489	0.8970E-01	296.576	-0.1490E+00	68.690	-0.3406E-01
2195	32.356	-0.1580E-01	115.034	-0.5750E-01	261.062	-0.1312E+00	-89.546	0.4570E-01
2200	22.723	-0.1094E-01	298.367	-0.1501E+00	52.333	-0.2593E-01	-294.917	0.1493E+00
2205	25.273	-0.1223E-01	283.905	-0.1428E+00	-345.262	0.1747E+00	-61.270	0.3142E-01
2210	35.309	-0.1728E-01	82.590	-0.4119E-01	-445.366	0.2253E+00	174.440	-0.8746E-01
2215	25.347	-0.1227E-01	-30.274	0.1581E-01	-45.691	0.2359E-01	160.840	-0.8061E-01
2220	20.558	-0.9853E-02	92.944	-0.4642E-01	28.937	-0.1412E-01	-268.402	0.1359E+00
2225	36.165	-0.1772E-01	159.986	-0.8029E-01	-8.707	0.4844E-02	-113.876	0.5791E-01
2230	17.035	-0.8078E-02	71.479	-0.3557E-01	-84.784	0.4329E-01	-138.861	0.7057E-01
2235	37.266	-0.1827E-01	54.922	-0.2719E-01	122.320	-0.6121E-01	-69.029	0.3534E-01
2240	32.262	-0.1575E-01	179.710	-0.9019E-01	28.381	-0.1382E-01	-54.459	0.2798E-01
2245	36.301	-0.1778E-01	268.846	-0.1352E+00	47.042	-0.2329E-01	-281.104	0.1423E+00
2250	21.114	-0.1013E-01	73.586	-0.3669E-01	-504.088	0.2548E+00	68.337	-0.3397E-01
2255	32.445	-0.1584E-01	-4.237	0.2632E-02	-160.003	0.8124E-01	69.124	-0.3436E-01
2260	39.060	-0.1917E-01	48.967	-0.2419E-01	91.576	-0.4570E-01	82.890	-0.4131E-01
2265	36.070	-0.1767E-01	318.401	-0.1603E+00	-186.932	0.9477E-01	-111.634	0.5678E-01
2270	35.855	-0.1756E-01	258.334	-0.1299E+00	27.253	-0.1328E-01	-23.821	0.1249E-01
2275	27.980	-0.1359E-01	0.457	0.2369E-03	-162.493	0.8247E-01	213.089	-0.1070E+00
2280	43.917	-0.2162E-01	124.151	-0.6211E-01	336.546	-0.1693E+00	-92.994	0.4742E-01
2285	37.259	-0.1827E-01	243.123	-0.1222E+00	-22.262	0.1171E-01	-183.918	0.9327E-01
2290	33.012	-0.1613E-01	144.045	-0.7216E-01	33.992	-0.1662E-01	127.283	-0.6369E-01
2295	26.858	-0.1303E-01	-14.082	0.7556E-02	-225.738	0.1144E+00	258.460	-0.1299E+00
2300	35.804	-0.1753E-01	237.265	-0.1192E+00	431.973	-0.2174E+00	-14.804	0.7976E-02
2305	35.728	-0.1750E-01	335.136	-0.1687E+00	-594.269	0.3004E+00	195.654	-0.9817E-01
2310	26.869	-0.1303E-01	52.286	-0.2589E-01	-36.840	0.1909E-01	57.078	-0.2829E-01
2315	36.911	-0.1809E-01	139.467	-0.6991E-01	-105.686	0.5381E-01	-148.242	0.7528E-01
2320	40.463	-0.1988E-01	170.681	-0.8565E-01	-170.385	0.8648E-01	-24.227	0.1273E-01
2325	28.569	-0.1389E-01	73.493	-0.3662E-01	-125.605	0.6386E-01	-46.781	0.2409E-01
2330	39.223	-0.1926E-01	105.842	-0.5288E-01	-26.603	0.1396E-01	186.739	-0.9368E-01
2335	32.386	-0.1581E-01	-151.719	0.7710E-01	677.084	-0.3412E+00	-85.344	0.4350E-01
2340	38.060	-0.1867E-01	187.663	-0.9417E-01	9.792	-0.4402E-02	164.230	-0.8232E-01
2345	45.393	-0.2236E-01	165.439	-0.8301E-01	31.047	-0.1519E-01	-21.249	0.1120E-01
2350	44.436	-0.2188E-01	23.420	-0.1128E-01	178.929	-0.8976E-01	-80.193	0.4098E-01
2355	31.898	-0.1557E-01	19.027	-0.9073E-02	40.256	-0.1979E-01	8.463	-0.3746E-02
2360	40.727	-0.2001E-01	81.376	-0.4056E-01	-8.109	0.4598E-02	-123.004	0.6257E-01
2365	45.487	-0.2241E-01	34.430	-0.1686E-01	197.511	-0.9916E-01	-149.161	0.7575E-01
2370	36.705	-0.1799E-01	204.277	-0.1026E+00	311.210	-0.1566E+00	-96.153	0.4896E-01
2375	34.310	-0.1678E-01	206.177	-0.1036E+00	-154.984	0.7869E-01	136.888	-0.6858E-01
2380	34.896	-0.1708E-01	67.591	-0.3362E-01	-98.161	0.5003E-01	-62.280	0.3193E-01
2385	36.642	-0.1796E-01	135.684	-0.6796E-01	169.199	-0.8488E-01	-195.300	0.9903E-01
2390	35.073	-0.1717E-01	116.309	-0.5820E-01	-26.853	0.1405E-01	39.400	-0.1938E-01
2395	39.770	-0.1953E-01	103.426	-0.5170E-01	-120.692	0.6140E-01	-63.743	0.3267E-01
2400	38.347	-0.1881E-01	111.585	-0.5578E-01	322.014	-0.1620E+00	-2.286	0.1648E-02
2405	42.666	-0.2099E-01	86.707	-0.4327E-01	-40.456	0.2091E-01	-45.916	0.2366E-01
2410	34.563	-0.1691E-01	81.821	-0.4079E-01	-89.173	0.4551E-01	109.893	-0.5493E-01
2415	32.810	-0.1603E-01	180.281	-0.9052E-01	-432.284	0.2186E+00	65.019	-0.3229E-01
2420	39.336	-0.1931E-01	34.671	-0.1666E-01	212.064	-0.1065E+00	-41.138	0.2127E-01
2425	30.962	-0.1509E-01	-124.570	0.6341E-01	323.951	-0.1629E+00	-55.193	0.2835E-01
2430	38.910	-0.1910E-01	-35.171	0.1826E-01	257.702	-0.1295E+00	-124.178	0.6313E-01
2435	45.703	-0.2252E-01	97.155	-0.4851E-01	-159.554	0.8104E-01	173.598	-0.8705E-01
2440	37.686	-0.1848E-01	101.914	-0.5093E-01	89.189	-0.4451E-01	-68.903	0.3526E-01
2445	38.540	-0.1891E-01	45.259	-0.2234E-01	139.070	-0.6968E-01	-42.015	0.2168E-01

Table 4a: (continued)

λ (Å)	1984.5 to present		1980.5 to 1981.5		1981.5 to 1982.0		1982.0 to 1982.5	
	Intercept	Slope	Intercept	Slope	Intercept	Slope	Intercept	Slope
2450	36.193	-0.1773E-01	-9.187	0.5116E-02	-53.493	0.2749E-01	108.726	-0.5436E-01
2455	31.819	-0.1553E-01	36.282	-0.1781E-01	-52.790	0.2715E-01	169.675	-0.8510E-01
2460	34.136	-0.1669E-01	143.400	-0.7184E-01	53.002	-0.2622E-01	40.693	-0.2001E-01
2465	40.338	-0.1982E-01	-55.028	0.2827E-01	382.321	-0.1924E+00	-62.824	0.3215E-01
2470	39.124	-0.1921E-01	49.150	-0.2433E-01	-148.566	0.7545E-01	70.104	-0.3488E-01
2475	33.758	-0.1650E-01	-38.622	0.2001E-01	153.950	-0.7717E-01	-97.329	0.4961E-01
2480	38.006	-0.1864E-01	237.218	-0.1192E+00	-163.901	0.8319E-01	110.921	-0.5547E-01
2485	36.537	-0.1790E-01	159.399	-0.7998E-01	-82.955	0.4233E-01	61.988	-0.3080E-01
2490	36.116	-0.1769E-01	207.199	-0.1041E+00	-46.708	0.2406E-01	-45.822	0.2361E-01
2495	33.002	-0.1612E-01	102.326	-0.5115E-01	47.537	-0.2350E-01	10.184	-0.4653E-02
2500	31.581	-0.1541E-01	130.112	-0.6519E-01	-224.250	0.1136E+00	190.108	-0.9542E-01
2505	36.275	-0.1777E-01	83.612	-0.4162E-01	284.615	-0.1431E+00	9.997	-0.4507E-02
2510	23.732	-0.1145E-01	159.541	-0.7999E-01	249.173	-0.1252E+00	-185.140	0.9300E-01
2515	44.195	-0.2176E-01	-77.690	0.3966E-01	-100.650	0.5127E-01	44.281	-0.2185E-01
2520	35.822	-0.1754E-01	-25.399	0.1334E-01	62.669	-0.3110E-01	0.913	0.5531E-04
2525	36.173	-0.1772E-01	1.642	-0.3009E-03	213.340	-0.1071E+00	-77.669	0.3969E-01
2530	41.086	-0.2019E-01	32.512	-0.1592E-01	-62.461	0.3201E-01	-67.665	0.3463E-01
2535	40.859	-0.2008E-01	-25.612	0.1344E-01	-60.750	0.3117E-01	89.331	-0.4455E-01
2540	36.628	-0.1795E-01	-33.705	0.1754E-01	39.718	-0.1952E-01	-40.563	0.2099E-01
2545	37.584	-0.1843E-01	70.198	-0.3493E-01	-105.301	0.5364E-01	-5.606	0.3339E-02
2550	41.079	-0.2019E-01	-10.731	0.5906E-02	-22.634	0.1191E-01	42.457	-0.2093E-01
2555	33.642	-0.1644E-01	-84.334	0.4309E-01	-44.966	0.2322E-01	85.714	-0.4271E-01
2560	39.604	-0.1945E-01	-16.441	0.8786E-02	144.828	-0.7260E-01	-89.324	0.4554E-01
2565	33.910	-0.1658E-01	-18.548	0.9861E-02	39.772	-0.1957E-01	-7.483	0.4271E-02
2570	33.107	-0.1618E-01	56.773	-0.2815E-01	138.761	-0.6952E-01	7.462	-0.3279E-02
2575	37.922	-0.1860E-01	-78.116	0.3995E-01	33.599	-0.1643E-01	51.295	-0.2535E-01
2580	42.565	-0.2094E-01	9.720	-0.4380E-02	-34.936	0.1816E-01	87.299	-0.4352E-01
2585	36.973	-0.1812E-01	120.715	-0.6044E-01	-333.755	0.1689E+00	176.260	-0.8941E-01
2590	38.773	-0.1903E-01	119.942	-0.6004E-01	129.818	-0.6502E-01	-158.612	0.8050E-01
2595	38.613	-0.1895E-01	-120.093	0.6113E-01	243.908	-0.1226E+00	-26.850	0.1404E-01
2600	36.468	-0.1787E-01	-116.128	0.5913E-01	110.333	-0.5516E-01	2.252	-0.6299E-03
2605	31.264	-0.1525E-01	-100.816	0.5131E-01	228.630	-0.1149E+00	32.221	-0.1575E-01
2610	36.177	-0.1772E-01	-29.626	0.1543E-01	114.127	-0.5711E-01	-46.684	0.2402E-01
2615	29.695	-0.1446E-01	16.837	-0.8011E-02	-161.324	0.8190E-01	67.988	-0.3380E-01
2620	30.857	-0.1504E-01	-38.606	0.2000E-01	165.243	-0.8287E-01	1.321	-0.1658E-03
2625	32.312	-0.1577E-01	230.766	-0.1160E+00	-155.445	0.7895E-01	113.384	-0.5668E-01
2630	27.435	-0.1332E-01	51.740	-0.2561E-01	0.645	0.1780E-03	-50.610	0.2604E-01
2635	32.000	-0.1562E-01	63.443	-0.3156E-01	-218.981	0.1110E+00	-11.481	0.6283E-02
2640	30.563	-0.1489E-01	11.194	-0.5145E-02	-130.227	0.6623E-01	78.773	-0.3922E-01
2645	27.447	-0.1332E-01	-16.631	0.8918E-02	-37.163	0.1928E-01	-11.539	0.6351E-02
2650	34.378	-0.1682E-01	-73.739	0.3772E-01	142.743	-0.7153E-01	-80.082	0.4089E-01
2655	37.706	-0.1849E-01	-26.101	0.1368E-01	94.917	-0.4740E-01	-99.213	0.5055E-01
2660	31.095	-0.1516E-01	72.977	-0.3632E-01	-134.370	0.6832E-01	149.175	-0.7474E-01
2665	36.872	-0.1807E-01	71.355	-0.3552E-01	-163.358	0.8294E-01	125.111	-0.6261E-01
2670	33.599	-0.1642E-01	-16.651	0.8893E-02	-30.838	0.1605E-01	-20.300	0.1074E-01
2675	28.981	-0.1410E-01	76.356	-0.3802E-01	4.166	-0.1590E-02	47.742	-0.2358E-01
2680	32.687	-0.1596E-01	-62.815	0.3220E-01	-138.427	0.7036E-01	116.680	-0.5835E-01
2685	24.677	-0.1193E-01	16.233	-0.7688E-02	-216.677	0.1099E+00	102.998	-0.5143E-01
2690	28.546	-0.1388E-01	123.306	-0.6172E-01	-88.861	0.4535E-01	-39.890	0.2064E-01
2695	30.964	-0.1510E-01	28.883	-0.1405E-01	76.848	-0.3825E-01	24.271	-0.1173E-01
2700	31.923	-0.1558E-01	-5.484	0.3288E-02	-154.026	0.7825E-01	142.715	-0.7147E-01
2705	29.739	-0.1448E-01	-65.735	0.3370E-01	-87.773	0.4482E-01	18.224	-0.8657E-02
2710	32.674	-0.1596E-01	71.778	-0.3573E-01	-141.015	0.7166E-01	8.637	-0.3850E-02
2715	26.783	-0.1299E-01	108.887	-0.5445E-01	5.918	-0.2481E-02	-105.911	0.5394E-01
2720	35.032	-0.1714E-01	54.502	-0.2701E-01	-113.600	0.5782E-01	-47.984	0.2472E-01
2725	26.002	-0.1260E-01	54.413	-0.2693E-01	-38.530	0.1998E-01	-69.344	0.3552E-01
2730	26.363	-0.1278E-01	-10.664	0.5910E-02	71.455	-0.3553E-01	-8.080	0.4596E-02
2735	28.953	-0.1408E-01	54.984	-0.2725E-01	32.426	-0.1586E-01	-54.397	0.2794E-01
2740	26.670	-0.1293E-01	46.979	-0.2319E-01	85.470	-0.4262E-01	-26.669	0.1396E-01
2745	27.210	-0.1320E-01	4.289	-0.1671E-02	-193.750	0.9827E-01	132.187	-0.6618E-01

Table 4a: (continued)

λ (Å)	Intercept		Slope		Intercept		Slope		Intercept		Slope	
	1984.5 to present		1980.5 to 1981.5		1981.5 to 1982.0		1982.0 to 1982.5					
2750	30.132	-0.1468E-01	26.372	-0.1278E-01	-161.377	0.8197E-01	258.098	-0.1297E+00				
2755	27.044	-0.1312E-01	-24.873	0.1304E-01	-156.234	0.7934E-01	20.695	-0.9932E-02				
2760	28.095	-0.1365E-01	53.107	-0.2627E-01	35.456	-0.1736E-01	-8.362	0.4747E-02				
2765	29.697	-0.1446E-01	1.036	0.5271E-05	21.765	-0.1046E-01	12.461	-0.5762E-02				
2770	29.537	-0.1438E-01	83.090	-0.4144E-01	-257.467	0.1304E+00	83.639	-0.4168E-01				
2775	28.703	-0.1396E-01	20.073	-0.9619E-02	-15.837	0.8504E-02	5.527	-0.2275E-02				
2780	28.792	-0.1400E-01	15.508	-0.7317E-02	44.012	-0.2170E-01	-61.399	0.3148E-01				
2785	27.368	-0.1328E-01	18.205	-0.8674E-02	78.502	-0.3910E-01	12.303	-0.5704E-02				
2790	20.876	-0.1001E-01	77.168	-0.3048E-01	-190.082	0.9642E-01	12.783	-0.5930E-02				
2795	25.739	-0.1246E-01	-15.615	0.8400E-02	7.921	-0.3477E-02	28.602	-0.1391E-01				
2800	24.099	-0.1164E-01	51.035	-0.2524E-01	126.522	-0.6333E-01	-83.915	0.4284E-01				
2805	33.460	-0.1635E-01	45.277	-0.2236E-01	35.614	-0.1748E-01	-56.883	0.2919E-01				
2810	30.514	-0.1487E-01	61.382	-0.3048E-01	4.412	-0.1729E-02	-25.217	0.1322E-02				
2815	29.731	-0.1447E-01	-61.086	0.3134E-01	-9.087	0.5102E-02	37.051	-0.1818E-01				
2820	29.749	-0.1446E-01	44.646	-0.2204E-01	-139.682	0.7048E-01	52.478	-0.2596E-01				
2825	24.346	-0.1176E-01	-47.339	0.2439E-01	-43.542	0.2248E-01	-3.569	0.2311E-02				
2830	26.595	-0.1289E-01	-6.042	0.3553E-02	7.843	-0.3454E-02	22.165	-0.1068E-01				
2835	25.312	-0.1225E-01	101.361	-0.5065E-01	-123.229	0.6269E-01	56.693	-0.2808E-01				
2840	28.375	-0.1379E-01	-32.473	0.1691E-01	-23.203	0.1224E-01	93.013	-0.4640E-01				
2845	25.227	-0.1220E-01	-36.832	0.1911E-01	-39.983	0.2070E-01	37.403	-0.1835E-01				
2850	22.980	-0.1107E-01	25.335	-0.1228E-01	-116.588	0.5935E-01	60.972	-0.3024E-01				
2855	23.362	-0.1127E-01	62.733	-0.3115E-01	134.318	-0.6728E-01	-145.867	0.7409E-01				
2860	26.111	-0.1265E-01	4.267	-0.1646E-02	174.328	-0.8747E-01	-95.625	0.4873E-01				
2865	24.332	-0.1175E-01	17.288	-0.8216E-02	61.732	-0.3065E-01	-0.342	0.6731E-03				
2870	25.367	-0.1228E-01	179.041	-0.8986E-01	-119.382	0.8075E-01	-27.494	0.1438E-01				
2875	29.589	-0.1440E-01	16.185	-0.7655E-02	-41.295	0.2135E-01	0.612	0.2098E-03				
2880	28.536	-0.1387E-01	-19.267	0.1022E-01	8.693	-0.3886E-02	-45.686	0.2355E-01				
2885	25.374	-0.1228E-01	28.509	-0.1369E-01	-11.233	0.6168E-02	-111.211	0.5661E-01				
2890	26.905	-0.1305E-01	22.232	-0.1073E-01	-136.081	0.6917E-01	39.033	-0.1918E-01				
2895	21.363	-0.1026E-01	9.145	-0.4109E-02	36.230	-0.1778E-01	-9.764	0.5428E-02				
2900	22.423	-0.1079E-01	62.026	-0.3081E-01	-113.531	0.5779E-01	23.288	-0.1124E-02				
2905	25.148	-0.1217E-01	99.839	-0.4989E-01	61.288	-0.3043E-01	-155.473	0.7893E-01				
2910	20.520	-0.9834E-02	86.885	-0.4337E-01	-219.425	0.1112E+00	-50.916	0.2619E-01				
2915	21.924	-0.1054E-01	90.646	-0.4524E-01	-113.864	0.5797E-01	38.789	-0.1905E-01				
2920	24.729	-0.1195E-01	-10.570	0.5840E-02	41.058	-0.2022E-01	-38.828	0.2009E-01				
2925	22.442	-0.1080E-01	-135.235	0.6878E-01	142.584	-0.7143E-01	38.954	-0.1915E-01				
2930	25.812	-0.1250E-01	-74.041	0.3788E-01	46.110	-0.2276E-01	-41.232	0.2131E-01				
2935	25.010	-0.1210E-01	7.586	-0.3326E-02	-196.372	0.9960E-01	90.898	-0.4533E-01				
2940	22.654	-0.1091E-01	48.964	-0.2423E-01	-282.403	0.1430E+00	11.062	-0.5061E-02				
2945	22.930	-0.1105E-01	33.937	-0.1664E-01	-206.761	0.1048E+00	45.732	-0.2256E-01				
2950	22.335	-0.1075E-01	82.157	-0.4095E-01	122.248	-0.6118E-01	-71.769	0.3671E-01				
2955	23.117	-0.1114E-01	74.148	-0.3691E-01	59.382	-0.2946E-01	-9.946	0.5520E-02				
2960	25.652	-0.1242E-01	-1.900	0.1458E-02	-165.715	0.8413E-01	92.635	-0.4622E-01				
2965	24.694	-0.1194E-01	59.527	-0.2955E-01	-132.059	0.6714E-01	-15.289	0.8224E-02				
2970	19.875	-0.9509E-02	142.470	-0.7141E-01	-200.038	0.1014E+00	-75.211	0.3846E-01				
2975	19.537	-0.9338E-02	77.100	-0.3641E-01	6.345	-0.2697E-02	-51.614	0.2655E-01				
2980	23.253	-0.1121E-01	1.053	-0.1129E-05	125.156	-0.6263E-01	31.122	-0.1519E-01				
2985	23.771	-0.1147E-01	-18.726	0.9968E-02	-109.833	0.5595E-01	37.150	-0.1821E-01				
2990	26.291	-0.1274E-01	-12.443	0.6781E-02	-94.409	0.4815E-01	-127.598	0.6489E-01				
2995	24.754	-0.1197E-01	-20.640	0.1093E-01	-22.555	0.1189E-01	-14.910	0.8036E-02				
3000	21.762	-0.1046E-01	114.971	-0.5752E-01	-7.462	0.4264E-02	-51.359	0.2641E-01				
3005	21.552	-0.1035E-01	51.800	-0.2563E-01	-73.974	0.3784E-01	-52.441	0.2698E-01				
3010	25.182	-0.1218E-01	-42.531	0.2196E-01	-139.522	0.7091E-01	6.721	-0.2880E-02				
3015	25.792	-0.1249E-01	-9.446	0.5276E-02	84.479	-0.4213E-01	19.422	-0.9301E-02				
3020	24.533	-0.1186E-01	-214.202	0.1086E+00	266.319	-0.1339E+00	-48.799	0.2511E-01				
3025	25.948	-0.1257E-01	-103.732	0.5287E-01	266.630	-0.1340E+00	-252.533	0.1279E+00				
3030	23.934	-0.1155E-01	-66.096	0.3387E-01	161.649	-0.8106E-01	-209.605	0.1082E+00				
3035	22.386	-0.1077E-01	-4.811	0.2919E-02	-184.293	0.9350E-01	13.863	-0.6480E-02				
3040	21.223	-0.1019E-01	-29.120	0.1519E-01	-83.791	0.4278E-01	-28.245	0.1476E-01				
3045	19.929	-0.9536E-02	6.324	-0.2875E-02	59.885	-0.2971E-01	-104.088	0.5303E-01				

Table 4a: (continued)

λ (Å)	Intercept		Slope		Intercept		Slope	
	1984.5 to present		1980.5 to 1981.5		1981.5 to 1982.0		1982.0 to 1982.5	
3050	20.315	-0.9731E-02	-84.577	0.4328E-01	515.363	-0.2595E+00	95.368	-0.4758E-01
3055	31.412	-0.1532E-01	-79.874	0.4082E-01	448.789	-0.2259E+00	134.115	-0.6711E-01
3060	28.131	-0.1367E-01	16.864	-0.7858E-02	186.923	-0.9378E-01	-29.488	0.1541E-01
3065	26.053	-0.1262E-01	83.685	-0.4173E-01	-24.246	0.1274E-01	-150.661	0.7652E-01
3070	16.857	-0.7988E-02	-165.942	0.8429E-01	212.776	-0.1068E+00	-64.252	0.3293E-01
3075	23.249	-0.1121E-01	-35.364	0.1837E-01	-32.558	0.1696E-01	-16.785	0.8998E-02
3080	19.405	-0.9272E-02	-22.266	0.1177E-01	-74.319	0.3804E-01	107.374	-0.5363E-01
3085	20.182	-0.9664E-02	11.856	-0.5473E-02	-15.518	0.8342E-02	-105.465	0.5372E-01
3090	19.889	-0.9516E-02	68.911	-0.3425E-01	46.746	-0.2307E-01	-79.865	0.4081E-01
3095	28.927	-0.1407E-01	-55.919	0.2876E-01	176.564	-0.8857E-01	-45.437	0.2344E-01
3100	30.205	-0.1471E-01	-57.472	0.2953E-01	178.173	-0.8939E-01	-77.362	0.3953E-01
3105	25.116	-0.1215E-01	44.854	-0.2212E-01	142.993	-0.7164E-01	-19.158	0.1017E-01
3110	24.327	-0.1175E-01	132.215	-0.6623E-01	-68.828	0.3523E-01	-158.011	0.8923E-01
3115	22.240	-0.1070E-01	-69.754	0.3573E-01	147.450	-0.7388E-01	-47.144	0.2430E-01
3120	19.587	-0.9364E-02	-153.846	0.7823E-01	485.361	-0.2444E+00	89.922	-0.4484E-01
3125	20.617	-0.9882E-02	-80.363	0.4111E-01	12.818	-0.5916E-02	177.240	-0.8887E-01
3130	21.273	-0.1021E-01	119.447	-0.5976E-01	-68.089	0.3488E-01	8.116	-0.3566E-02
3135	21.009	-0.1008E-01	72.185	-0.3590E-01	-43.155	0.2231E-01	16.516	-0.7795E-02
3140	24.122	-0.1165E-01	-82.408	0.4212E-01	203.555	-0.1022E+00	-40.157	0.2077E-01
3145	22.794	-0.1098E-01	-205.372	0.1042E+00	40.301	-0.1979E-01	78.060	-0.3884E-01
3150	16.818	-0.7969E-02	-321.248	0.1627E+00	469.482	-0.2363E+00	17.354	-0.8227E-02
3155	10.101	-0.4585E-02	-59.426	0.3055E-01	302.869	-0.1523E+00	-162.258	0.8238E-01
3160	10.300	-0.4685E-02	63.709	-0.3160E-01	149.987	-0.7514E-01	-206.028	0.1045E+00
3165	20.767	-0.9958E-02	-11.557	0.6369E-02	-151.575	0.7703E-01	271.444	-0.1364E+00
3170	23.472	-0.1132E-01	30.799	-0.1499E-01	-76.085	0.3896E-01	320.050	-0.1609E+00
3175	12.819	-0.5954E-02	221.531	-0.1113E+00	-538.279	0.2722E+00	294.440	-0.1480E+00
3180	10.392	-0.4732E-02	184.081	-0.9236E-01	54.268	-0.2685E-01	-49.665	0.2559E-01
3185	9.160	-0.4111E-02	25.346	-0.1222E-01	139.105	-0.6963E-01	195.789	-0.9823E-01
3190	13.867	-0.6482E-02	6.934	-0.2960E-02	-100.023	0.5102E-01	190.982	-0.9581E-01
3195	7.582	-0.3316E-02	48.841	-0.2408E-01	339.581	-0.1708E+00	-202.836	0.1029E+00
3200	9.678	-0.4372E-02	128.480	-0.6427E-01	389.616	-0.1961E+00	-185.005	0.9386E-01
3205	30.020	-0.1462E-01	-78.974	0.4041E-01	309.547	-0.1557E+00	-178.152	0.9040E-01
3210	21.853	-0.1051E-01	-7.298	0.4218E-02	-56.789	0.2919E-01	125.892	-0.6298E-01
3215	30.930	-0.1508E-01	-570.064	0.2883E+00	684.083	-0.3447E+00	-188.269	0.9549E-01
3220	12.100	-0.5592E-02	-398.790	0.2019E+00	764.355	-0.3851E+00	-197.583	0.1002E+00
3225	11.213	-0.5145E-02	-458.779	0.2322E+00	663.763	-0.3343E+00	-166.712	0.8467E-01
3230	2.514	-0.7627E-03	-150.431	0.7647E-01	5.344	-0.2146E-02	-290.782	0.1473E+00
3235	10.376	-0.4724E-02	-252.326	0.1279E+00	-43.206	0.2238E-01	-113.709	0.5795E-01
3240	8.344	-0.2692E-02	-273.424	0.1386E+00	501.100	-0.2523E+00	-89.707	0.4581E-01
3245	7.289	-0.3168E-02	-166.707	0.8471E-01	288.226	-0.1449E+00	77.307	-0.3846E-01
3250	-1.562	0.1291E-02	144.093	-0.7220E-01	-370.344	0.1874E+00	-191.560	0.9721E-01
3255	4.462	-0.1744E-02	174.124	-0.8733E-01	-452.614	0.2290E+00	308.105	-0.1549E+00
3260	0.329	0.3379E-03	328.694	-0.1653E+00	-592.617	0.2996E+00	568.478	-0.2862E+00
3265	2.224	-0.6168E-03	591.665	-0.2982E+00	-1982.436	0.1001E+01	387.679	-0.1949E+00
3270	9.119	-0.4090E-02	303.307	-0.1525E+00	-1153.009	0.5824E+00	190.565	-0.9545E-01
3275	29.148	-0.1418E-01	406.849	-0.2048E+00	59.527	-0.2949E-01	-331.105	0.1676E+00
3280	18.782	-0.8958E-02	205.816	-0.1032E+00	-69.764	0.3584E-01	282.741	-0.1420E+00
3285	15.789	-0.7450E-02	-557.665	0.2821E+00	312.561	-0.1570E+00	420.869	-0.2117E+00
3290	23.490	-0.1133E-01	-194.284	0.9861E-01	-995.374	0.5029E+00	49.973	-0.2452E-01
3295	12.717	-0.5903E-02	-664.597	0.3360E+00	568.739	-0.2864E+00	-562.204	0.2842E+00
3300	8.191	-0.3623E-02	-579.001	0.2929E+00	1083.534	-0.5461E+00	-740.463	0.3742E+00
3305	-1.222	0.1119E-02	-294.296	0.1492E+00	-332.890	0.1685E+00	11.072	-0.4914E-02
3310	3.396	-0.1207E-02	-666.031	0.3369E+00	1090.685	-0.5497E+00	-296.031	0.1500E+00
3315	22.200	-0.1068E-01	-900.079	0.4549E+00	526.372	-0.2650E+00	-159.817	0.8122E-01
3320	38.699	-0.1899E-01	-339.869	0.1721E+00	-274.515	0.1391E+00	113.022	-0.5639E-01
3325	31.773	-0.1550E-01	-440.574	0.2230E+00	401.808	-0.2021E+00	64.368	-0.3185E-01
3330	40.447	-0.1987E-01	-137.282	0.6977E-01	-1128.715	0.5701E+00	-17.116	0.9271E-02
3335	-15.862	0.8394E-02	-760.310	0.3843E+00	-1077.950	0.5446E+00	526.808	-0.2651E+00
3340	15.752	-0.7432E-02	-606.533	0.3069E+00	867.588	-0.4371E+00	-428.922	0.2171E+00
3345	41.613	-0.2046E-01	-270.806	0.1373E+00	-179.056	0.9096E-01	-137.392	0.6993E-01
3350	39.549	-0.1942E-01	-23.862	0.1273E-01	-784.309	0.3965E+00	225.719	-0.1131E+00

Table 4b: Linear Fits to Point Source Degradation Ratios

λ (Å)	1982.5 to 1983.0		1983.0 to 1983.5		1983.5 to 1984.0		1984.0 to 1984.5	
	Intercept	Slope	Intercept	Slope	Intercept	Slope	Intercept	Slope
1850	1124.052	-0.5663E+00	-1818.897	0.9178E+00	2425.385	-0.1222E+01	-639.370	0.3227E+00
1855	3982.369	-0.2008E+01	-6683.731	0.3371E+01	-134.329	0.6858E-01	2675.886	-0.1348E+01
1860	684.766	-0.3450E+00	-1199.576	0.6053E+00	-514.928	0.2601E+00	512.386	-0.2577E+00
1865	-421.208	0.2128E+00	225.842	-0.1135E+00	-182.942	0.9260E-01	-923.837	0.4660E+00
1870	96.982	-0.4848E-01	337.456	-0.1697E+00	-274.351	0.1387E+00	-696.712	0.3516E+00
1875	-551.031	0.2783E+00	67.136	-0.3341E-01	109.935	-0.5498E-01	-605.377	0.3056E+00
1880	-780.208	0.3941E+00	1400.502	-0.7056E+00	335.224	-0.1686E+00	-905.890	0.4570E+00
1885	239.026	-0.1201E+00	-126.686	0.6432E-01	-332.291	0.1680E+00	-158.029	0.8014E-01
1890	129.840	-0.8511E-01	-102.645	0.5213E-01	51.233	-0.2545E-01	-1071.442	0.5404E+00
1895	184.378	-0.9250E-01	342.705	-0.1723E+00	273.758	-0.1376E+00	-804.933	0.4061E+00
1900	107.195	-0.5360E-01	-178.015	0.9023E-01	-127.619	0.6482E-01	-68.613	0.3508E-01
1905	-37.189	0.1919E-01	24.402	-0.1187E-01	-205.942	0.1043E+00	-370.490	0.1872E+00
1910	-242.081	0.1226E+00	561.611	-0.2827E+00	-88.212	0.4492E-01	-379.475	0.1917E+00
1915	-8.965	0.4964E-02	-254.111	0.1286E+00	76.234	-0.3796E-01	-327.734	0.1657E+00
1920	-78.784	0.4022E-01	-28.149	0.1468E-01	209.689	-0.1052E+00	-308.869	0.1561E+00
1925	421.048	-0.2118E+00	106.897	-0.5332E-01	-402.850	0.2036E+00	122.694	-0.6132E-01
1930	-278.488	0.1409E+00	248.896	-0.1251E+00	29.112	-0.1425E-01	-644.710	0.3254E+00
1935	-231.367	0.1172E+00	475.860	-0.2395E+00	-129.392	0.6568E-01	-396.015	0.2001E+00
1940	-23.721	0.1242E-01	169.203	-0.8487E-01	-3.438	0.2169E-02	-549.136	0.2772E+00
1945	29.273	-0.1427E-01	71.710	-0.3568E-01	-132.328	0.6719E-01	-87.715	0.4471E-01
1950	-186.104	0.9432E-01	334.316	-0.1681E+00	-216.389	0.1095E+00	-396.599	0.2004E+00
1955	-75.225	0.3845E-01	86.996	-0.4335E-01	6.849	-0.2945E-02	-4.286	0.2667E-02
1960	283.520	-0.1425E+00	-486.067	0.2456E+00	-143.788	0.7301E-01	212.106	-0.1064E+00
1965	-207.931	0.1054E+00	400.870	-0.2016E+00	-76.718	0.3916E-01	-111.139	0.5651E-01
1970	-265.428	0.1344E+00	139.892	-0.7003E-01	135.631	-0.6786E-01	-192.977	0.9775E-01
1975	348.300	-0.1752E+00	-281.547	0.1424E+00	-339.312	0.1715E+00	152.350	-0.7627E-01
1980	-47.848	0.2461E-01	-177.992	0.9024E-01	-57.060	0.2927E-01	38.957	-0.1913E-01
1985	-155.377	0.7885E-01	328.831	-0.1653E+00	-289.589	0.1465E+00	-92.653	0.4719E-01
1990	360.736	-0.1815E+00	-134.483	0.6827E-01	-297.579	0.1505E+00	-22.893	0.1204E-01
1995	-151.741	0.7704E-01	178.245	-0.8937E-01	-65.596	0.3357E-01	-24.278	0.1274E-01
2000	15.872	-0.7545E-02	34.676	-0.1703E-01	-368.108	0.1860E+00	-38.320	0.1982E-01
2005	18.308	-0.8748E-02	-125.188	0.6361E-01	176.037	-0.8825E-01	-217.649	0.1102E+00
2010	78.329	-0.3902E-01	-189.849	0.9622E-01	66.186	-0.3287E-01	-112.228	0.5706E-01
2015	-104.748	0.5326E-01	-21.015	0.1103E-01	-27.030	0.1406E-01	-492.179	0.2485E+00
2020	-58.562	0.3001E-01	35.578	-0.1748E-01	-149.906	0.7805E-01	-92.475	0.4711E-01
2025	99.351	-0.4962E-01	-206.269	0.1045E+00	182.470	-0.9149E-01	-176.705	0.8955E-01
2030	-64.168	0.3287E-01	64.161	-0.3184E-01	28.145	-0.1368E-01	-40.304	0.2082E-01
2035	-104.628	0.5325E-01	26.977	-0.1311E-01	72.115	-0.3587E-01	-213.396	0.1080E+00
2040	271.608	-0.1365E+00	-391.296	0.1978E+00	111.041	-0.5547E-01	-109.865	0.5587E-01
2045	-113.224	0.5760E-01	187.634	-0.9412E-01	88.032	-0.4391E-01	-355.407	0.1796E+00
2050	236.106	-0.1186E+00	-118.383	0.6018E-01	219.010	-0.1099E+00	-304.964	0.1542E+00
2055	335.414	-0.1688E+00	-587.720	0.2968E+00	-119.839	0.6088E-01	-225.836	0.1143E+00
2060	-438.690	0.2217E+00	342.309	-0.1721E+00	-47.233	0.2429E-01	-158.589	0.8042E-01
2065	104.919	-0.5241E-01	177.353	-0.8894E-01	-121.658	0.6181E-01	-138.230	0.7016E-01
2070	29.516	-0.1437E-01	-5.395	0.3238E-02	137.553	-0.6883E-01	-48.315	0.2485E-01
2075	-151.704	0.7696E-01	-194.182	0.9838E-01	-31.471	0.1635E-01	-177.540	0.8997E-01
2080	-185.857	0.9423E-01	315.107	-0.1584E+00	-28.254	0.1471E-01	-327.426	0.1655E+00
2085	120.844	-0.6047E-01	-150.896	0.7657E-01	165.077	-0.8274E-01	-309.523	0.1565E+00
2090	38.791	-0.1910E-01	-119.610	0.6078E-01	-68.382	0.3495E-01	-165.797	0.8405E-01
2095	137.616	-0.6890E-01	-96.096	0.4896E-01	223.270	-0.1121E+00	-179.646	0.9103E-01
2100	88.687	-0.4428E-01	-293.685	0.1485E+00	-213.580	0.1082E+00	29.932	-0.1458E-01
2105	-126.759	0.6439E-01	8.234	-0.3683E-02	132.190	-0.6618E-01	-439.364	0.2219E+00
2110	-33.379	0.1733E-01	125.236	-0.6266E-01	79.852	-0.3978E-01	-305.077	0.1542E+00
2115	277.941	-0.1397E+00	-35.365	0.1831E-01	-190.782	0.9667E-01	4.609	-0.1815E-02
2120	57.884	-0.2870E-01	200.084	-0.1004E+00	-56.253	0.2882E-01	-309.840	0.1565E+00
2125	-105.816	0.5384E-01	77.634	-0.3868E-01	-38.171	0.1971E-01	-283.248	0.1432E+00
2130	-19.005	0.1008E-01	272.726	-0.1370E+00	-207.418	0.1050E+00	-165.531	0.8392E-01
2135	141.411	-0.7080E-01	176.733	-0.8861E-01	-55.521	0.2848E-01	-57.237	0.2935E-01
2140	211.166	-0.1061E+00	-186.839	0.9464E-01	-128.768	0.6536E-01	-390.742	0.1874E+00
2145	-27.071	0.1414E-01	-33.172	0.1722E-01	-7.114	0.4083E-02	-74.321	0.3796E-01

Table 4b: (continued)

λ (Å)	1982.5 to 1983.0		1983.0 to 1983.5		1983.5 to 1984.0		1984.0 to 1984.5	
	Intercept	Slope	Intercept	Slope	Intercept	Slope	Intercept	Slope
2150	50.761	-0.2512E-01	-26.486	0.1383E-01	168.842	-0.8464E-01	-385.985	0.1950E+00
2155	143.344	-0.7175E-01	88.953	-0.4433E-01	-26.499	0.1388E-01	141.118	-0.7060E-01
2160	432.202	-0.2175E+00	-337.797	0.1708E+00	-110.420	0.5616E-01	-2.032	0.1530E-02
2165	-37.449	0.1939E-01	110.963	-0.5545E-01	-63.640	0.3258E-01	-40.776	0.2106E-01
2170	-188.319	0.9544E-01	32.334	-0.1583E-01	-24.908	0.1303E-01	-251.570	0.1273E+00
2175	91.506	-0.4568E-01	-87.791	0.4474E-01	-213.088	0.1079E+00	-32.946	0.1711E-01
2180	128.883	-0.6450E-01	36.105	-0.1771E-01	-225.845	0.1144E+00	108.306	-0.5407E-01
2185	-31.231	0.1622E-01	-272.421	0.1378E+00	114.274	-0.5711E-01	-136.381	0.6923E-01
2190	599.767	-0.3019E+00	-330.773	0.1673E+00	177.925	-0.8915E-01	155.898	-0.7805E-01
2195	446.278	-0.2246E+00	-243.904	0.1235E+00	104.382	-0.5212E-01	-96.653	0.4921E-01
2200	361.934	-0.1821E+00	-19.236	0.1016E-01	-258.198	0.1296E+00	-68.194	0.3487E-01
2205	85.794	-0.4276E-01	160.265	-0.8031E-01	121.611	-0.6082E-01	-279.345	0.1413E+00
2210	218.050	-0.1095E+00	-119.740	0.6088E-01	70.408	-0.3498E-01	-25.071	0.1314E-01
2215	39.388	-0.1935E-01	-22.975	0.1210E-01	24.508	-0.1184E-01	32.640	-0.1594E-01
2220	366.305	-0.1843E+00	-366.029	0.1851E+00	264.510	-0.1328E+00	-198.990	0.1008E+00
2225	-181.959	0.9225E-01	151.323	-0.7582E-01	-411.111	0.2077E+00	105.147	-0.5248E-01
2230	256.955	-0.1291E+00	-5.758	0.3400E-02	84.619	-0.4216E-01	-153.122	0.7766E-01
2235	172.927	-0.8671E-01	-106.346	0.5412E-01	2.073	-0.5379E-03	-11.305	0.6205E-02
2240	184.348	-0.9248E-01	-39.113	0.2021E-01	29.107	-0.1418E-01	-166.950	0.8463E-01
2245	-65.005	0.3327E-01	-9.439	0.5253E-02	95.672	-0.4774E-01	-204.150	0.1034E+00
2250	157.247	-0.7881E-01	20.406	-0.9808E-02	-172.812	0.8761E-01	-31.193	0.1622E-01
2255	76.846	-0.3826E-01	166.482	-0.8346E-01	-64.222	0.3285E-01	-199.895	0.1012E+00
2260	70.955	-0.3529E-01	-63.501	0.3251E-01	175.164	-0.8782E-01	-280.909	0.1421E+00
2265	-237.625	0.1203E+00	24.392	-0.1180E-01	88.095	-0.4392E-01	-191.641	0.9708E-01
2270	-140.450	0.7132E-01	199.885	-0.1003E+00	-193.244	0.9789E-01	-149.909	0.7605E-01
2275	58.363	-0.2898E-01	10.773	-0.4979E-02	-138.380	0.7022E-01	-295.493	0.1494E+00
2280	-0.434	0.7327E-03	209.225	-0.1050E+00	-70.459	0.3601E-01	-104.305	0.5307E-01
2285	125.492	-0.6280E-01	53.241	-0.2637E-01	-48.539	0.2495E-01	-223.732	0.1132E+00
2290	175.867	-0.9820E-01	-68.851	0.3521E-01	-217.031	0.1099E+00	132.900	-0.8646E-01
2295	-23.941	0.1252E-01	-115.256	-0.5857E-01	-387.318	0.1957E+00	38.704	-0.1900E-01
2300	-0.093	0.5553E-03	85.611	-0.4266E-01	31.300	-0.1528E-01	-115.632	0.5878E-01
2305	20.458	-0.9803E-02	207.812	-0.1043E+00	-81.507	0.4158E-01	-86.367	0.4403E-01
2310	208.625	-0.1047E+00	143.344	-0.7182E-01	-209.608	0.1061E+00	-222.852	0.1128E+00
2315	-285.099	0.1443E+00	389.157	-0.1957E+00	103.331	-0.5160E-01	-210.558	0.1066E+00
2320	273.267	-0.1373E+00	-81.988	0.4182E-01	-21.270	0.1121E-01	-128.794	0.6541E-01
2325	75.549	-0.3761E-01	-13.919	0.7504E-02	-40.140	0.2072E-01	-120.644	0.6130E-01
2330	175.133	-0.8782E-01	-224.062	0.1135E+00	83.224	-0.4144E-01	13.801	-0.6446E-02
2335	-152.552	0.7740E-01	-144.224	0.7320E-01	-184.204	0.9336E-01	42.493	-0.2090E-01
2340	-95.392	0.4863E-01	220.066	-0.1104E+00	-94.453	0.4812E-01	38.741	-0.1901E-01
2345	-124.372	0.6322E-01	-131.962	0.6704E-01	203.894	-0.1023E+00	-168.466	0.8540E-01
2350	193.749	-0.9720E-01	-243.152	0.1231E+00	222.701	-0.1117E+00	-19.554	0.1036E-01
2355	2.911	-0.9449E-03	162.673	-0.8151E-01	46.199	-0.2279E-01	-90.165	0.4594E-01
2360	36.346	-0.1781E-01	157.134	-0.7872E-01	-64.163	0.3285E-01	-21.863	0.1154E-01
2365	72.397	-0.3601E-01	87.769	-0.4376E-01	-71.804	0.3669E-01	-86.377	0.4404E-01
2370	22.052	-0.1067E-01	-219.963	0.1114E+00	-158.829	0.8056E-01	-46.930	0.2416E-01
2375	168.739	-0.8464E-01	-35.318	0.1826E-01	-292.661	0.1480E+00	-122.429	0.6220E-01
2380	-12.525	0.6830E-02	178.825	-0.8967E-01	-76.713	0.3917E-01	-63.989	0.3275E-01
2385	32.505	-0.1588E-01	45.665	-0.2252E-01	23.783	-0.1148E-01	-36.784	0.1904E-01
2390	285.136	-0.1433E+00	54.698	-0.2713E-01	-266.151	0.1346E+00	-180.229	0.9133E-01
2395	70.022	-0.3480E-01	87.983	-0.4386E-01	-65.011	0.3327E-01	-43.663	0.2251E-01
2400	39.102	-0.1923E-01	-28.270	0.1475E-01	-36.359	0.1882E-01	-84.874	0.4328E-01
2405	40.677	-0.2002E-01	53.848	-0.2666E-01	-46.718	0.2404E-01	-115.768	0.5885E-01
2410	36.315	-0.1782E-01	14.929	-0.7031E-02	45.944	-0.2267E-01	-145.777	0.7397E-01
2415	172.434	-0.8647E-01	-84.392	0.4304E-01	-24.329	0.1276E-01	-90.360	0.4604E-01
2420	231.341	-0.1162E+00	-133.545	0.6783E-01	-62.340	0.3193E-01	25.835	-0.1251E-01
2425	164.548	-0.8249E-01	3.986	-0.1523E-02	-361.326	0.1827E+00	195.835	-0.9817E-01
2430	115.412	-0.5772E-01	-137.732	0.6994E-01	23.975	-0.1159E-01	-87.369	0.4453E-01
2435	169.717	-0.8509E-01	-51.819	0.2663E-01	64.675	-0.3210E-01	-123.293	0.6264E-01
2440	-40.465	0.2091E-01	189.194	-0.9490E-01	-21.554	0.1135E-01	-185.972	0.9422E-01
2445	18.734	-0.8959E-02	77.116	-0.3840E-01	-167.257	0.8480E-01	-69.656	0.3561E-01

Table 4b: (continued)

λ (Å)	1982.5 to 1983.0		1983.0 to 1983.5		1983.5 to 1984.0		1984.0 to 1984.5	
	Intercept	Slope	Intercept	Slope	Intercept	Slope	Intercept	Slope
2450	43.868	-0.2164E-01	53.931	-0.2672E-01	-330.584	0.1671E+00	29.971	-0.1459E-01
2455	-2.928	0.1966E-02	156.217	-0.7829E-01	-332.177	0.1679E+00	28.792	-0.1400E-01
2460	72.656	-0.3614E-01	31.588	-0.1543E-01	-17.254	0.9199E-02	-46.722	0.2405E-01
2465	124.886	-0.6254E-01	-244.726	0.1239E+00	-144.243	0.7319E-01	-142.975	0.7255E-01
2470	-153.341	0.7783E-01	163.052	-0.8172E-01	-44.370	0.2285E-01	-170.538	0.8644E-01
2475	267.105	-0.1342E+00	-66.389	0.3396E-01	-187.596	0.9507E-01	44.910	-0.2212E-01
2480	-67.747	0.3465E-01	27.207	-0.1323E-01	-159.356	0.8083E-01	-8.602	0.4843E-02
2485	-60.295	0.3088E-01	32.372	-0.1585E-01	-181.989	0.9222E-01	-95.602	0.4868E-01
2490	-92.015	0.4691E-01	202.932	-0.1018E+00	-82.200	0.4193E-01	-98.970	0.5038E-01
2495	64.548	-0.3208E-01	-71.048	0.3630E-01	-144.024	0.7310E-01	-42.842	0.2210E-01
2500	-96.331	0.4907E-01	55.996	-0.2775E-01	-157.607	0.7994E-01	-59.471	0.3048E-01
2505	169.088	-0.8475E-01	-10.154	0.5634E-02	-74.100	0.3787E-01	127.420	-0.6370E-01
2510	74.990	-0.3731E-01	199.274	-0.9999E-01	-238.386	0.1207E+00	6.843	-0.2941E-02
2515	21.366	-0.1030E-01	-16.160	0.8629E-02	-175.465	0.8894E-01	-43.374	0.2237E-01
2520	176.897	-0.8871E-01	75.580	-0.3762E-01	-203.519	0.1031E+00	9.470	-0.4263E-02
2525	77.786	-0.3083E-01	103.337	-0.1516E-01	-97.906	0.4985E-01	-65.546	0.3354E-01
2530	63.391	-0.3147E-01	42.427	-0.2090E-01	-169.139	0.8576E-01	15.495	-0.7299E-02
2535	40.788	-0.2006E-01	91.087	-0.4543E-01	-84.009	0.4285E-01	-28.606	0.1492E-01
2540	141.197	-0.7070E-01	49.077	-0.2424E-01	2.422	-0.7188E-03	-51.259	0.2634E-01
2545	48.823	-0.2412E-01	36.479	-0.1789E-01	47.682	-0.2354E-01	-109.460	0.5567E-01
2550	-47.485	0.2444E-01	112.761	-0.5637E-01	-70.895	0.3622E-01	-158.712	0.8048E-01
2555	188.985	-0.9480E-01	98.085	-0.4896E-01	-141.440	0.7180E-01	-21.461	0.1132E-01
2560	-165.962	0.8420E-01	93.891	-0.4684E-01	-68.343	0.3495E-01	-72.325	0.3695E-01
2565	73.545	-0.3660E-01	43.723	-0.2156E-01	-133.786	0.6793E-01	-73.837	0.3772E-01
2570	-1.725	0.1355E-02	22.205	-0.1071E-01	-205.841	0.1043E+00	5.931	-0.2481E-02
2575	89.921	-0.4484E-01	169.611	-0.8502E-01	-154.082	0.7817E-01	-12.884	0.7001E-02
2580	90.976	-0.4537E-01	77.964	-0.3681E-01	-119.941	0.6097E-01	25.927	-0.1256E-01
2585	82.979	-0.4135E-01	76.623	-0.3815E-01	-304.037	0.1538E+00	102.908	-0.5135E-01
2590	2.033	-0.5296E-03	86.811	-0.4328E-01	-35.686	0.1848E-01	-155.507	0.7887E-01
2595	4.008	-0.1530E-02	-100.654	0.5125E-01	-28.136	0.1469E-01	-10.110	0.5603E-02
2600	124.347	-0.6222E-01	-40.559	0.2094E-01	-119.303	0.6064E-01	16.277	-0.7694E-02
2605	-30.862	0.1607E-01	-45.989	0.2369E-01	48.050	-0.2372E-01	-40.629	0.2098E-01
2610	-215.163	0.1090E+00	100.033	-0.4994E-01	-94.010	0.4788E-01	-67.511	0.3453E-01
2615	-22.050	0.1162E-01	161.387	-0.8088E-01	-186.167	0.9434E-01	-24.071	0.1264E-01
2620	-57.835	0.2967E-01	163.472	-0.8193E-01	-153.318	0.7778E-01	-7.714	0.4395E-02
2625	21.678	-0.1042E-01	96.583	-0.4820E-01	-161.484	0.8191E-01	66.192	-0.3285E-01
2630	-9.444	0.5273E-02	178.181	-0.8934E-01	-56.788	0.2912E-01	-92.800	0.4727E-01
2635	-108.521	0.5523E-01	135.269	-0.6771E-01	-137.843	0.6998E-01	-16.400	0.8772E-02
2640	47.370	-0.2338E-01	117.640	-0.5882E-01	-148.965	0.7559E-01	8.181	-0.3615E-02
2645	89.647	-0.4469E-01	142.664	-0.7142E-01	-93.169	0.4747E-01	46.202	-0.2277E-01
2650	-31.772	0.1653E-01	44.206	-0.2179E-01	-56.321	0.2889E-01	-30.507	0.1588E-01
2655	48.828	-0.2412E-01	88.447	-0.4410E-01	-181.666	0.9208E-01	12.535	-0.5808E-02
2660	55.600	-0.2754E-01	29.586	-0.1442E-01	-207.738	0.1052E+00	121.033	-0.6048E-01
2665	29.540	-0.1440E-01	-6.840	0.3946E-02	-45.231	0.2330E-01	-42.663	0.2201E-01
2670	-26.782	0.1401E-01	53.929	-0.2670E-01	-55.057	0.2825E-01	-67.558	0.3455E-01
2675	16.247	-0.7689E-02	123.073	-0.6156E-01	-157.873	0.8008E-01	9.830	-0.4446E-02
2680	50.532	-0.2499E-01	16.309	-0.7728E-02	-150.491	0.7637E-01	49.388	-0.2438E-01
2685	172.650	-0.8657E-01	76.224	-0.3794E-01	-120.551	0.6126E-01	-35.169	0.1823E-01
2690	170.418	-0.8544E-01	-15.395	0.8265E-02	40.263	-0.1980E-01	-71.569	0.3657E-01
2695	131.093	-0.6561E-01	12.003	-0.5555E-02	-58.414	0.2995E-01	-28.852	0.1505E-01
2700	100.266	-0.5005E-01	83.215	-0.4145E-01	-57.284	0.2938E-01	-12.616	0.6865E-02
2705	154.521	-0.7741E-01	152.476	-0.7638E-01	-177.838	0.9016E-01	93.628	-0.4667E-01
2710	63.384	-0.3147E-01	36.686	-0.1800E-01	35.108	-0.1721E-01	-144.187	0.7316E-01
2715	119.059	-0.5954E-01	-23.293	0.1225E-01	-67.547	0.3456E-01	62.974	-0.3123E-01
2720	185.516	-0.9306E-01	-72.476	0.3704E-01	1.849	-0.4321E-03	-67.511	0.3453E-01
2725	347.290	-0.1746E+00	51.972	-0.2571E-01	-163.733	0.8304E-01	72.168	-0.3586E-01
2730	175.705	-0.8811E-01	-18.531	0.9843E-02	-134.950	0.6854E-01	81.721	-0.4067E-01
2735	13.029	-0.6068E-02	49.164	-0.2429E-01	-25.448	0.1333E-01	-58.715	0.3009E-01
2740	12.047	-0.5569E-02	89.124	-0.4444E-01	-80.056	0.4086E-01	-12.690	0.6902E-02
2745	-38.689	0.2002E-01	113.055	-0.5651E-01	-108.833	0.5536E-01	-14.496	0.7812E-02

Table 4b: (continued)

λ (Å)	1982.5 to 1983.0		1983.0 to 1983.5		1983.5 to 1984.0		1984.0 to 1984.5	
	Intercept	Slope	Intercept	Slope	Intercept	Slope	Intercept	Slope
2750	28.101	-0.1366E-01	119.627	-0.5982E-01	-29.641	0.1544E-01	-69.421	0.3549E-01
2755	88.284	-0.4402E-01	60.271	-0.2990E-01	-146.515	0.7436E-01	-3.584	0.2313E-02
2760	195.812	-0.9824E-01	47.570	-0.2348E-01	-159.056	0.8069E-01	89.094	-0.4439E-01
2765	237.832	-0.1194E+00	-27.126	0.1417E-01	-67.464	0.3451E-01	-16.079	0.8610E-02
2770	74.903	-0.3727E-01	-45.049	0.2322E-01	11.107	-0.5092E-02	-6.489	0.3777E-02
2775	135.715	-0.6794E-01	4.003	-0.1523E-02	-73.598	0.3760E-01	-24.557	0.1288E-01
2780	70.404	-0.3500E-01	47.400	-0.2340E-01	-171.738	0.8708E-01	88.939	-0.4431E-01
2785	13.383	-0.6246E-02	88.642	-0.4420E-01	-188.957	0.9575E-01	47.024	-0.2319E-01
2790	107.418	-0.5367E-01	90.556	-0.4516E-01	-226.101	0.1145E+00	117.993	-0.5895E-01
2795	76.882	-0.3927E-01	86.487	-0.4311E-01	-145.672	0.7394E-01	47.027	-0.2319E-01
2800	124.849	-0.6246E-01	-21.648	0.1142E-01	-73.615	0.3761E-01	27.871	-0.1354E-01
2805	-13.848	0.7482E-02	0.889	0.5007E-04	0.495	0.2484E-03	-77.693	0.3966E-01
2810	-30.917	0.1610E-01	167.781	-0.8411E-01	-185.694	0.9410E-01	-6.838	0.3954E-02
2815	57.961	-0.2872E-01	158.494	-0.7942E-01	-195.803	0.9920E-01	19.565	-0.9351E-02
2820	-32.753	0.1703E-01	197.713	-0.9919E-01	-176.605	0.8952E-01	10.169	-0.4617E-02
2825	80.712	-0.4020E-01	18.988	-0.9076E-02	-75.871	0.3875E-01	2.771	-0.8897E-03
2830	39.063	-0.1920E-01	42.521	-0.2095E-01	-137.920	0.7002E-01	0.304	0.3539E-03
2835	-5.268	0.3170E-02	64.498	-0.3201E-01	-90.959	0.4636E-01	75.444	-0.3751E-01
2840	93.333	-0.4656E-01	127.581	-0.6383E-01	-148.184	0.7520E-01	-0.893	0.9576E-03
2845	117.227	-0.5861E-01	35.017	-0.1716E-01	-95.716	0.4875E-01	27.149	-0.1317E-01
2850	62.170	-0.3085E-01	-88.570	0.4517E-01	94.651	-0.4720E-01	-11.132	0.6116E-02
2855	115.854	-0.5793E-01	66.013	-0.3279E-01	-137.626	0.6987E-01	-5.212	0.3133E-02
2860	41.001	-0.2018E-01	26.450	-0.1285E-01	-86.737	0.4422E-01	-52.634	0.2703E-01
2865	-35.097	0.1820E-01	99.466	-0.4965E-01	-178.836	0.9065E-01	65.504	-0.3250E-01
2870	99.515	-0.4968E-01	111.401	-0.5567E-01	-166.242	0.8430E-01	27.930	-0.1357E-01
2875	89.396	-0.4457E-01	65.498	-0.3252E-01	-67.869	0.3472E-01	-0.573	0.7963E-03
2880	76.888	-0.3828E-01	51.220	-0.2533E-01	-118.912	0.6044E-01	-23.604	0.1240E-01
2885	159.063	-0.7972E-01	19.227	-0.9202E-02	-114.551	0.5824E-01	-6.080	0.3571E-02
2890	82.718	-0.4122E-01	25.623	-0.1242E-01	-103.750	0.5280E-01	-7.397	0.4235E-02
2895	-63.734	0.3265E-01	121.052	-0.6053E-01	-82.059	0.4187E-01	-1.244	0.1133E-02
2900	24.883	-0.1205E-01	91.648	-0.4572E-01	-102.874	0.5235E-01	-42.659	0.2200E-01
2905	8.923	-0.3990E-02	92.813	-0.4629E-01	-60.062	0.3078E-01	-11.875	0.6491E-02
2910	63.288	-0.3141E-01	76.252	-0.3795E-01	-130.447	0.6626E-01	21.046	-0.1010E-01
2915	47.499	-0.2345E-01	176.187	-0.8834E-01	-146.927	0.7456E-01	-31.419	0.1634E-01
2920	0.476	0.2654E-03	145.324	-0.7278E-01	-182.244	0.9237E-01	24.782	-0.1197E-01
2925	-34.632	0.1797E-01	103.459	-0.5167E-01	-93.565	0.4767E-01	-0.820	0.9199E-03
2930	100.115	-0.4999E-01	-75.543	0.3859E-01	31.958	-0.1561E-01	-36.232	0.1676E-01
2935	142.946	-0.7159E-01	-2.333	0.1674E-02	-94.504	0.4814E-01	20.919	-0.1003E-01
2940	146.026	-0.7314E-01	-0.474	0.7390E-03	-44.774	0.2307E-01	-7.842	0.4459E-02
2945	74.128	-0.3688E-01	68.598	-0.3409E-01	-89.717	0.4572E-01	-18.205	0.9680E-02
2950	21.960	-0.1057E-01	107.828	-0.5387E-01	-224.507	0.1137E+00	117.819	-0.5886E-01
2955	55.484	-0.2748E-01	3.056	-0.1045E-02	-65.514	0.3353E-01	-19.604	0.1039E-01
2960	125.987	-0.6304E-01	-43.387	0.2237E-01	-15.206	0.8164E-02	-59.016	0.3025E-01
2965	57.414	-0.2845E-01	60.418	-0.2996E-01	-129.166	0.6562E-01	53.336	-0.2637E-01
2970	113.755	-0.5686E-01	28.371	-0.1380E-01	-46.897	0.2415E-01	41.455	-0.2038E-01
2975	4.248	-0.1632E-02	72.933	-0.3627E-01	-61.743	0.3163E-01	19.457	-0.9298E-02
2980	42.078	-0.2071E-01	98.124	-0.4898E-01	-210.523	0.1066E+00	99.493	-0.4963E-01
2985	151.128	-0.7570E-01	100.193	-0.5002E-01	-232.660	0.1178E+00	137.379	-0.6872E-01
2990	184.751	-0.9266E-01	94.341	-0.4707E-01	-171.235	0.8682E-01	64.835	-0.3216E-01
2995	74.024	-0.3682E-01	125.983	-0.6303E-01	-275.824	0.1395E+00	138.292	-0.6918E-01
3000	46.332	-0.2287E-01	82.239	-0.4097E-01	-127.834	0.6494E-01	-10.954	0.8026E-02
3005	179.975	-0.9025E-01	-18.685	0.9927E-02	-92.353	0.4707E-01	95.480	-0.4761E-01
3010	92.474	-0.4614E-01	-57.463	0.2946E-01	2.414	-0.7117E-03	-16.168	0.8654E-02
3015	-2.436	0.1724E-02	14.550	-0.6842E-02	-106.662	0.5427E-01	2.385	-0.6948E-03
3020	-35.757	0.1853E-01	43.068	-0.2122E-01	-111.454	0.5668E-01	13.159	-0.6124E-02
3025	106.726	-0.5332E-01	28.663	-0.1395E-01	-97.586	0.4970E-01	21.322	-0.1024E-01
3030	199.645	-0.1002E+00	15.954	-0.7550E-02	-116.558	0.5926E-01	12.489	-0.5787E-02
3035	80.899	-0.4029E-01	99.171	-0.4951E-01	-217.395	0.1101E+00	84.759	-0.4220E-01
3040	116.066	-0.5804E-01	-29.384	0.1531E-01	-109.306	0.5561E-01	48.484	-0.2393E-01
3045	143.052	-0.7164E-01	-105.484	0.5370E-01	-28.026	0.1465E-01	111.158	-0.5551E-01

Table 4b: (continued)

λ (Å)	1982.5 to 1983.0		1983.0 to 1983.5		1983.5 to 1984.0		1984.0 to 1984.5	
	Intercept	Slope	Intercept	Slope	Intercept	Slope	Intercept	Slope
3050	141.274	-0.7074E-01	-8.364	0.4724E-02	-272.475	0.1379E+00	276.001	-0.1386E+00
3055	161.816	-0.8108E-01	-52.101	0.2679E-01	-156.885	0.7962E-01	284.522	-0.1429E+00
3060	210.004	-0.1054E+00	50.090	-0.2475E-01	-192.692	0.9765E-01	125.963	-0.6297E-01
3065	149.700	-0.7499E-01	80.381	-0.4003E-01	-223.448	0.1131E+00	106.975	-0.5340E-01
3070	128.926	-0.6451E-01	-9.674	0.5384E-02	-138.809	0.7049E-01	147.244	-0.7369E-01
3075	152.694	-0.7649E-01	167.568	-0.8399E-01	-178.924	0.9070E-01	52.260	-0.2583E-01
3080	187.871	-0.9424E-01	44.470	-0.2192E-01	-200.986	0.1018E+00	148.794	-0.7447E-01
3085	48.722	-0.2405E-01	205.483	-0.1031E+00	-214.958	0.1089E+00	116.059	-0.5798E-01
3090	283.591	-0.1425E+00	-25.527	0.1337E-01	-136.071	0.6910E-01	58.092	-0.2877E-01
3095	266.304	-0.1338E+00	-111.811	0.5687E-01	-204.092	0.1034E+00	147.421	-0.7378E-01
3100	100.807	-0.5034E-01	17.569	-0.8361E-02	-126.568	0.6431E-01	37.877	-0.1858E-01
3105	-69.255	0.3544E-01	124.835	-0.6244E-01	-172.598	0.8752E-01	103.143	-0.5147E-01
3110	119.487	-0.5975E-01	86.885	-0.4331E-01	-202.502	0.1026E+00	137.141	-0.6860E-01
3115	81.061	-0.4037E-01	134.450	-0.6729E-01	-236.349	0.1196E+00	113.216	-0.5654E-01
3120	79.606	-0.3963E-01	23.878	-0.1153E-01	-65.661	0.3361E-01	65.951	-0.3273E-01
3125	136.683	-0.6842E-01	127.917	-0.6400E-01	-63.208	0.3236E-01	-28.340	0.1479E-01
3130	303.118	-0.1524E+00	53.930	-0.2671E-01	-161.979	0.8215E-01	-29.049	0.1514E-01
3135	169.268	-0.8484E-01	72.594	-0.3609E-01	-233.504	0.1182E+00	225.086	-0.1129E+00
3140	42.514	-0.2093E-01	-103.597	0.5275E-01	-22.288	0.1176E-01	121.919	-0.6093E-01
3145	316.958	-0.1593E+00	-124.027	0.6304E-01	-7.044	0.4063E-02	47.738	-0.2355E-01
3150	191.093	-0.9586E-01	-28.326	0.1479E-01	-72.783	0.3720E-01	72.918	-0.3624E-01
3155	148.847	-0.7454E-01	-130.331	0.6624E-01	51.730	-0.2554E-01	189.513	-0.9499E-01
3160	247.861	-0.1245E+00	-3.549	0.2317E-02	-190.531	0.9659E-01	374.184	-0.1880E+00
3165	-44.585	0.2301E-01	511.865	-0.2576E+00	-525.539	0.2654E+00	175.593	-0.8798E-01
3170	10.233	-0.4635E-02	381.830	-0.1920E+00	-408.067	0.2062E+00	177.393	-0.9888E-01
3175	121.039	-0.6052E-01	216.686	-0.1088E+00	-352.846	0.1784E+00	243.262	-0.1221E+00
3180	23.053	-0.1109E-01	294.524	-0.1480E+00	-406.783	0.2058E+00	358.958	-0.1804E+00
3185	-147.959	0.7516E-01	148.700	-0.7444E-01	-230.361	0.1167E+00	390.522	-0.1963E+00
3190	69.676	-0.3462E-01	220.192	-0.1105E+00	-373.067	0.1886E+00	262.737	-0.1319E+00
3195	187.831	-0.9419E-01	284.570	-0.1430E+00	-298.236	0.1509E+00	200.795	-0.1007E+00
3200	-1.981	0.1540E-02	288.682	-0.1450E+00	-487.959	0.2465E+00	483.318	-0.2430E+00
3205	222.614	-0.1118E+00	-94.343	0.4809E-01	-119.448	0.6074E-01	237.108	-0.1190E+00
3210	232.063	-0.1165E+00	-52.453	0.2695E-01	-192.028	0.9732E-01	166.548	-0.8342E-01
3215	30.888	-0.1506E-01	242.891	-0.1219E+00	-273.943	0.1388E+00	100.976	-0.5037E-01
3220	231.812	-0.1184E+00	299.169	-0.1503E+00	-340.837	0.1723E+00	343.072	-0.1724E+00
3225	238.364	-0.1197E+00	321.983	-0.1618E+00	-519.950	0.2626E+00	540.339	-0.2718E+00
3230	328.197	-0.1650E+00	159.322	-0.7980E-01	-441.763	0.2232E+00	604.884	-0.3043E+00
3235	307.519	-0.1545E+00	134.067	-0.6705E-01	-343.532	0.1737E+00	621.375	-0.3126E+00
3240	221.632	-0.1112E+00	186.174	-0.9335E-01	-408.007	0.2062E+00	455.447	-0.2290E+00
3245	145.028	-0.7262E-01	435.505	-0.2191E+00	-668.024	0.3372E+00	306.406	-0.1539E+00
3250	-5.324	0.3273E-02	638.322	-0.3213E+00	-529.688	0.2676E+00	554.510	-0.2789E+00
3255	-109.366	0.5573E-01	452.816	-0.2278E+00	-287.936	0.1358E+00	367.433	-0.1846E+00
3260	-76.123	0.3893E-01	498.560	-0.2509E+00	-628.078	0.3171E+00	452.652	-0.2276E+00
3265	726.920	-0.3660E+00	231.546	-0.1162E+00	-287.203	0.1453E+00	271.102	-0.1361E+00
3270	1384.852	-0.8979E+00	-350.893	0.1774E+00	-364.752	0.1844E+00	644.979	-0.3245E+00
3275	550.339	-0.2770E+00	-363.923	0.1840E+00	-51.114	0.2633E-01	491.140	-0.2470E+00
3280	367.319	-0.1847E+00	77.153	-0.3835E-01	-279.831	0.1416E+00	577.654	-0.2906E+00
3285	827.694	-0.4169E+00	41.430	-0.2039E-01	-603.732	0.3049E+00	564.322	-0.2839E+00
3290	821.598	-0.4137E+00	156.138	-0.7816E-01	-215.598	0.1092E+00	615.559	-0.3097E+00
3295	872.470	-0.4395E+00	-254.415	0.1288E+00	15.525	-0.7272E-02	376.539	-0.1892E+00
3300	759.119	-0.3823E+00	-239.196	0.1212E+00	172.478	-0.8637E-01	475.439	-0.2391E+00
3305	720.553	-0.3628E+00	580.130	-0.2920E+00	-737.013	0.3721E+00	751.850	-0.3784E+00
3310	376.530	-0.1893E+00	469.506	-0.2362E+00	-473.846	0.2394E+00	682.914	-0.3436E+00
3315	166.263	-0.8326E-01	248.677	-0.1248E+00	-37.592	0.1950E-01	392.245	-0.1971E+00
3320	293.681	-0.1475E+00	651.144	-0.3278E+00	-346.917	0.1754E+00	256.321	-0.1287E+00
3325	862.368	-0.4344E+00	54.020	-0.2673E-01	-475.803	0.2404E+00	417.171	-0.2097E+00
3330	1114.927	-0.5617E+00	-165.586	0.8400E-01	-209.850	0.1063E+00	270.500	-0.1358E+00
3335	664.906	-0.3347E+00	425.536	-0.2140E+00	-71.146	0.3641E-01	368.813	-0.1843E+00
3340	858.944	-0.4326E+00	902.691	-0.4546E+00	-1173.910	0.5923E+00	1011.139	-0.5090E+00
3345	254.647	-0.1278E+00	1143.282	-0.5759E+00	-994.434	0.5018E+00	568.480	-0.2849E+00
3350	1394.100	-0.7024E+00	490.248	-0.2466E+00	-500.007	0.2526E+00	612.834	-0.3083E+00

Table 5a: Linear Fits to Trailed Degradation Ratios

λ (Å)	Intercept		Slope		Intercept		Slope		Intercept		Slope	
	1984.5 to present		1981.0 to 1982.0		1982.0 to 1982.5		1982.5 to 1983.0		1982.5 to 1983.0		1982.5 to 1983.0	
1850	81.436	-0.4054E-01	483.648	-0.2437E+00	-666.424	0.3365E+00	-322.660	0.1631E+00	-322.660	0.1631E+00	-322.660	0.1631E+00
1855	-1.091	0.1048E-02	1091.534	-0.5506E+00	-770.621	0.3890E+00	-890.054	0.4492E+00	-890.054	0.4492E+00	-890.054	0.4492E+00
1860	32.759	-0.1599E-01	-507.594	0.2567E+00	612.725	-0.3086E+00	-62.464	0.3199E-01	-62.464	0.3199E-01	-62.464	0.3199E-01
1865	32.976	-0.1612E-01	568.156	-0.2863E+00	-77.283	0.3940E-01	-69.987	0.3572E-01	-69.987	0.3572E-01	-69.987	0.3572E-01
1870	33.130	-0.1618E-01	-489.472	0.2475E+00	164.168	-0.8231E-01	179.127	-0.8986E-01	179.127	-0.8986E-01	179.127	-0.8986E-01
1875	21.365	-0.1026E-01	-458.090	0.2316E+00	25.665	-0.1246E-01	194.402	-0.9758E-01	194.402	-0.9758E-01	194.402	-0.9758E-01
1880	47.072	-0.2321E-01	-459.628	0.2323E+00	-269.429	0.1364E+00	-438.674	-0.4136E+00	-438.674	-0.4136E+00	-438.674	-0.4136E+00
1885	15.095	-0.7102E-02	57.488	-0.2854E-01	165.589	-0.8308E-01	-423.186	0.2139E+00	-423.186	0.2139E+00	-423.186	0.2139E+00
1890	18.233	-0.8695E-02	479.753	-0.2417E+00	15.810	-0.7604E-02	-316.618	0.1601E+00	-316.618	0.1601E+00	-316.618	0.1601E+00
1895	18.199	-0.8662E-02	215.322	-0.1083E+00	-687.522	0.3473E+00	-265.926	0.1346E+00	-265.926	0.1346E+00	-265.926	0.1346E+00
1900	45.430	-0.2239E-01	-180.588	0.9160E-01	-158.013	0.8021E-01	821.056	-0.4136E+00	821.056	-0.4136E+00	821.056	-0.4136E+00
1905	25.516	-0.1236E-01	278.082	-0.1399E+00	15.488	-0.7362E-02	80.159	-0.3998E-01	80.159	-0.3998E-01	80.159	-0.3998E-01
1910	29.929	-0.1457E-01	-479.402	0.2424E+00	164.674	-0.8255E-01	422.293	-0.2125E+00	422.293	-0.2125E+00	422.293	-0.2125E+00
1915	38.213	-0.1875E-01	127.339	-0.6375E-01	157.712	-0.7908E-01	56.280	-0.2791E-01	56.280	-0.2791E-01	56.280	-0.2791E-01
1920	26.519	-0.1285E-01	132.339	-0.6626E-01	93.725	-0.4678E-01	87.901	-0.4384E-01	87.901	-0.4384E-01	87.901	-0.4384E-01
1925	29.845	-0.1454E-01	-92.025	0.4689E-01	-367.695	0.1860E+00	444.595	-0.2238E+00	444.595	-0.2238E+00	444.595	-0.2238E+00
1930	21.872	-0.1052E-01	-77.829	0.3973E-01	-431.183	0.2180E+00	463.002	-0.2330E+00	463.002	-0.2330E+00	463.002	-0.2330E+00
1935	33.527	-0.1639E-01	7.887	-0.3507E-02	-405.053	0.2048E+00	364.222	-0.1832E+00	364.222	-0.1832E+00	364.222	-0.1832E+00
1940	27.651	-0.1343E-01	45.829	-0.2266E-01	-232.934	0.1180E+00	379.861	-0.1911E+00	379.861	-0.1911E+00	379.861	-0.1911E+00
1945	29.386	-0.1430E-01	395.328	-0.1990E+00	153.807	-0.7716E-01	-394.008	0.1992E+00	-394.008	0.1992E+00	-394.008	0.1992E+00
1950	33.171	-0.1621E-01	-34.011	0.1764E-01	-135.559	0.6888E-01	83.058	-0.4139E-01	83.058	-0.4139E-01	83.058	-0.4139E-01
1955	36.787	-0.1803E-01	20.146	-0.9681E-02	94.219	-0.4705E-01	34.294	-0.1683E-01	34.294	-0.1683E-01	34.294	-0.1683E-01
1960	33.741	-0.1650E-01	467.969	-0.2356E+00	-147.757	0.7501E-01	344.803	-0.1734E+00	344.803	-0.1734E+00	344.803	-0.1734E+00
1965	36.216	-0.1774E-01	158.329	-0.7940E-01	-21.684	0.1143E-01	59.901	-0.2973E-01	59.901	-0.2973E-01	59.901	-0.2973E-01
1970	47.635	-0.2350E-01	-74.183	0.3792E-01	-198.583	0.1007E+00	462.627	-0.2328E+00	462.627	-0.2328E+00	462.627	-0.2328E+00
1975	28.138	-0.1367E-01	304.565	-0.1532E+00	180.039	-0.9035E-01	-144.366	0.7329E-01	-144.366	0.7329E-01	-144.366	0.7329E-01
1980	43.331	-0.2134E-01	328.189	-0.1641E+00	-367.535	0.1859E+00	329.315	-0.1656E+00	329.315	-0.1656E+00	329.315	-0.1656E+00
1985	34.373	-0.1682E-01	39.834	-0.1961E-01	-108.254	0.5511E-01	519.740	-0.2617E+00	519.740	-0.2617E+00	519.740	-0.2617E+00
1990	30.009	-0.1462E-01	18.369	-0.8799E-02	263.935	-0.1327E+00	-205.233	0.1040E+00	-205.233	0.1040E+00	-205.233	0.1040E+00
1995	35.196	-0.1723E-01	165.577	-0.8308E-01	-55.621	0.2852E-01	23.704	-0.1149E-01	23.704	-0.1149E-01	23.704	-0.1149E-01
2000	30.875	-0.1495E-01	-57.680	0.2960E-01	-38.288	0.1881E-01	250.298	-0.1258E+00	250.298	-0.1258E+00	250.298	-0.1258E+00
2005	33.738	-0.1650E-01	192.642	-0.9673E-01	-256.461	0.1299E+00	13.193	-0.6160E-02	13.193	-0.6160E-02	13.193	-0.6160E-02
2010	34.138	-0.1670E-01	466.456	-0.2349E+00	121.895	-0.6102E-01	-99.995	0.5091E-01	-99.995	0.5091E-01	-99.995	0.5091E-01
2015	33.026	-0.1614E-01	358.850	-0.1806E+00	-45.212	0.2326E-01	-56.512	0.2896E-01	-56.512	0.2896E-01	-56.512	0.2896E-01
2020	38.498	-0.1889E-01	154.206	-0.7732E-01	17.810	-0.8507E-02	10.867	-0.5005E-02	10.867	-0.5005E-02	10.867	-0.5005E-02
2025	30.499	-0.1466E-01	161.417	-0.8097E-01	-60.320	0.3090E-01	80.620	-0.4019E-01	80.620	-0.4019E-01	80.620	-0.4019E-01
2030	33.757	-0.1650E-01	-26.951	0.1409E-01	36.360	-0.1785E-01	26.934	-0.1310E-01	26.934	-0.1310E-01	26.934	-0.1310E-01
2035	29.327	-0.1428E-01	-116.060	0.5907E-01	181.413	-0.9102E-01	203.619	-0.1022E+00	203.619	-0.1022E+00	203.619	-0.1022E+00
2040	33.706	-0.1648E-01	-172.905	0.8777E-01	247.974	-0.1246E+00	212.108	-0.1065E+00	212.108	-0.1065E+00	212.108	-0.1065E+00
2045	37.196	-0.1824E-01	116.123	-0.5810E-01	-277.951	0.1407E+00	198.831	-0.9976E-01	198.831	-0.9976E-01	198.831	-0.9976E-01
2050	32.489	-0.1587E-01	74.265	-0.3696E-01	142.803	-0.7154E-01	154.929	-0.7766E-01	154.929	-0.7766E-01	154.929	-0.7766E-01
2055	34.392	-0.1683E-01	261.353	-0.1314E+00	406.792	-0.2048E+00	-221.420	0.1121E+00	-221.420	0.1121E+00	-221.420	0.1121E+00
2060	36.978	-0.1813E-01	176.189	-0.8845E-01	-0.795	0.8496E-03	-260.750	0.1320E+00	-260.750	0.1320E+00	-260.750	0.1320E+00
2065	38.608	-0.1895E-01	-149.749	0.7606E-01	34.181	-0.1674E-01	171.746	-0.8613E-01	171.746	-0.8613E-01	171.746	-0.8613E-01
2070	40.123	-0.1971E-01	114.137	-0.5711E-01	-108.326	0.5513E-01	110.391	-0.5519E-01	110.391	-0.5519E-01	110.391	-0.5519E-01
2075	36.959	-0.1812E-01	255.152	-0.1283E+00	134.366	-0.6733E-01	21.655	-0.1048E-01	21.655	-0.1048E-01	21.655	-0.1048E-01
2080	32.176	-0.1571E-01	64.997	-0.3232E-01	-216.884	0.1099E+00	-53.505	0.2749E-01	-53.505	0.2749E-01	-53.505	0.2749E-01
2085	29.051	-0.1413E-01	-49.036	0.2525E-01	117.608	-0.5883E-01	-92.608	0.4720E-01	-92.608	0.4720E-01	-92.608	0.4720E-01
2090	32.109	-0.1568E-01	28.873	-0.1407E-01	197.623	-0.9921E-01	104.573	-0.5228E-01	104.573	-0.5228E-01	104.573	-0.5228E-01
2095	28.552	-0.1388E-01	163.575	-0.8202E-01	236.481	-0.1188E+00	39.211	-0.1930E-01	39.211	-0.1930E-01	39.211	-0.1930E-01
2100	28.816	-0.1401E-01	275.227	-0.1384E+00	3.576	-0.1321E-02	-84.060	0.4288E-01	-84.060	0.4288E-01	-84.060	0.4288E-01
2105	31.868	-0.1555E-01	198.225	-0.9948E-01	101.913	-0.5089E-01	230.816	-0.1159E+00	230.816	-0.1159E+00	230.816	-0.1159E+00
2110	33.332	-0.1629E-01	87.457	-0.4362E-01	139.885	-0.7007E-01	14.497	-0.6825E-02	14.497	-0.6825E-02	14.497	-0.6825E-02
2115	33.255	-0.1625E-01	375.192	-0.1888E+00	47.976	-0.2372E-01	236.504	-0.1188E+00	236.504	-0.1188E+00	236.504	-0.1188E+00
2120	30.194	-0.1471E-01	325.794	-0.1639E+00	144.014	-0.7220E-01	-313.540	0.1586E+00	-313.540	0.1586E+00	-313.540	0.1586E+00
2125	32.150	-0.1570E-01	-82.086	0.4194E-01	99.387	-0.4962E-01	192.966	-0.9683E-01	192.966	-0.9683E-01	192.966	-0.9683E-01
2130	26.332	-0.1276E-01	126.952	-0.6355E-01	13.856	-0.6491E-02	76.529	-0.3810E-01	76.529	-0.3810E-01	76.529	-0.3810E-01
2135	32.744	-0.1600E-01	116.763	-0.5841E-01	-32.061	0.1668E-01	322.161	-0.1620E+00	322.161	-0.1620E+00	322.161	-0.1620E+00
2140	29.653	-0.1444E-01	387.126	-0.1948E+00	-214.635	0.1088E+00	340.819	-0.1714E+00	340.819	-0.1714E+00	340.819	-0.1714E+00
2145	25.565	-0.1238E-01	105.091	-0.5251E-01	-3.479	0.2266E-02	361.055	-0.1816E+00	361.055	-0.1816E+00	361.055	-0.1816E+00

Table 5a: (continued)

λ (Å)	Intercept		Slope		Intercept		Slope	
	1984.5 to present		1981.0 to 1982.0		1982.0 to 1982.5		1982.5 to 1983.0	
2150	32.030	-0.1563E-01	71.807	-0.3574E-01	-144.983	0.7364E-01	300.356	-0.1510E+00
2155	29.442	-0.1433E-01	9.162	-0.4126E-02	-56.928	0.2922E-01	277.000	-0.1392E+00
2160	29.459	-0.1434E-01	254.473	-0.1279E+00	-161.648	0.8206E-01	336.325	-0.1691E+00
2165	30.402	-0.1481E-01	241.464	-0.1213E+00	-15.481	0.8307E-02	65.667	-0.3263E-01
2170	41.586	-0.2045E-01	18.842	-0.9008E-02	-28.200	0.1473E-01	312.069	-0.1569E+00
2175	31.025	-0.1513E-01	569.102	-0.2867E+00	-110.168	0.5603E-01	-122.679	0.6234E-01
2180	35.963	-0.1762E-01	2.188	-0.5869E-03	-10.865	0.5999E-02	251.175	-0.1262E+00
2185	28.832	-0.1402E-01	408.240	-0.2055E+00	-224.400	0.1137E+00	198.182	-0.9947E-01
2190	34.904	-0.1708E-01	86.368	-0.4305E-01	-247.175	0.1252E+00	470.271	-0.2367E+00
2195	32.708	-0.1597E-01	213.103	-0.1070E+00	-156.636	0.7951E-01	32.798	-0.1604E-01
2200	28.836	-0.1402E-01	29.818	-0.1454E-01	-14.888	0.8012E-02	100.056	-0.4997E-01
2205	27.383	-0.1329E-01	48.050	-0.2373E-01	86.023	-0.4390E-01	120.939	-0.6050E-01
2210	36.280	-0.1777E-01	16.690	-0.7869E-02	-222.967	0.1130E+00	557.953	-0.2809E+00
2215	26.433	-0.1281E-01	82.331	-0.4103E-01	-117.104	0.5959E-01	308.973	0.1553E+00
2220	35.682	-0.1747E-01	-223.109	0.1131E+00	-52.064	0.2676E-01	159.846	-0.8013E-01
2225	35.797	-0.1753E-01	101.546	-0.5076E-01	-207.454	0.1051E+00	256.359	-0.1288E+00
2230	32.044	-0.1564E-01	181.714	-0.9120E-01	-99.936	0.5090E-01	127.228	-0.6368E-01
2235	36.012	-0.1764E-01	136.693	-0.6846E-01	22.616	-0.1091E-01	-26.609	0.1392E-01
2240	38.936	-0.1912E-01	-175.358	0.8899E-01	33.512	-0.1640E-01	308.668	-0.1552E+00
2245	37.794	-0.1854E-01	205.800	-0.1033E+00	-23.527	0.1237E-01	145.882	-0.7308E-01
2250	32.178	-0.1571E-01	377.258	-0.1898E+00	-135.284	0.6876E-01	275.623	-0.1385E+00
2255	36.974	-0.1812E-01	188.094	-0.9442E-01	-214.466	0.1087E+00	263.781	-0.1325E+00
2260	40.128	-0.1971E-01	48.897	-0.2416E-01	-118.849	0.6048E-01	243.273	-0.1222E+00
2265	42.757	-0.2104E-01	54.890	-0.2720E-01	-19.525	0.1035E-01	75.494	-0.3758E-01
2270	40.184	-0.1974E-01	177.166	-0.8889E-01	-60.995	0.3127E-01	148.524	-0.7441E-01
2275	37.016	-0.1815E-01	268.239	-0.1349E+00	-174.707	0.8862E-01	164.364	-0.8241E-01
2280	40.142	-0.1972E-01	97.974	-0.4888E-01	126.148	-0.6310E-01	376.099	-0.1892E+00
2285	39.743	-0.1952E-01	-30.850	0.1607E-01	-31.168	0.1623E-01	29.334	-0.1429E-01
2290	38.700	-0.1900E-01	26.182	-0.1271E-01	29.372	-0.1431E-01	18.589	-0.8876E-02
2295	41.264	-0.2029E-01	68.989	-0.3433E-01	49.103	-0.2429E-01	56.722	-0.2814E-01
2300	37.283	-0.1828E-01	21.275	-0.1020E-01	-58.510	0.3005E-01	483.533	-0.2434E+00
2305	41.953	-0.2063E-01	105.891	-0.5292E-01	5.128	-0.2081E-02	-6.432	0.3750E-02
2310	43.308	-0.2132E-01	-6.165	0.3569E-02	-18.425	0.9755E-02	77.540	-0.3865E-01
2315	41.676	-0.2049E-01	115.306	-0.5769E-01	41.288	-0.2034E-01	-74.900	0.3826E-01
2320	43.240	-0.2128E-01	88.517	-0.4417E-01	-1.876	0.1441E-02	58.609	-0.2907E-01
2325	39.665	-0.1948E-01	56.999	-0.2829E-01	-95.134	0.4847E-01	196.563	-0.9867E-01
2330	41.673	-0.2049E-01	11.433	-0.5293E-02	-137.969	0.7009E-01	86.492	-0.4313E-01
2335	43.502	-0.2142E-01	30.433	-0.1485E-01	-117.947	0.6001E-01	474.937	-0.2390E+00
2340	39.630	-0.1946E-01	25.292	-0.1226E-01	-14.989	0.8064E-02	-6.957	0.4013E-02
2345	46.428	-0.2288E-01	42.520	-0.2093E-01	105.270	-0.5259E-01	55.898	-0.2769E-01
2350	39.689	-0.1949E-01	132.599	-0.6640E-01	-190.159	0.9644E-01	227.767	-0.1144E+00
2355	41.190	-0.2025E-01	-9.115	0.5108E-02	-50.453	0.2598E-01	68.734	-0.3416E-01
2360	41.494	-0.2040E-01	-128.470	0.6534E-01	-110.041	0.5604E-01	322.485	-0.1621E+00
2365	42.855	-0.2109E-01	82.418	-0.4110E-01	12.796	-0.5969E-02	62.612	-0.3110E-01
2370	38.104	-0.1869E-01	17.615	-0.8394E-02	46.926	-0.2318E-01	-0.480	0.7287E-03
2375	39.482	-0.1939E-01	52.637	-0.2606E-01	-39.289	0.2032E-01	156.029	-0.7820E-01
2380	33.375	-0.1631E-01	59.313	-0.2940E-01	168.550	-0.8452E-01	29.012	-0.1413E-01
2385	45.261	-0.2230E-01	43.840	-0.2163E-01	-212.487	0.1077E+00	245.668	-0.1234E+00
2390	48.466	-0.2391E-01	-105.884	0.5393E-01	-111.053	0.5653E-01	517.059	-0.2803E+00
2395	41.371	-0.2034E-01	-41.942	0.2165E-01	-111.282	0.5663E-01	202.175	-0.1015E+00
2400	42.655	-0.2099E-01	-113.767	0.5792E-01	144.854	-0.7257E-01	158.286	-0.7934E-01
2405	41.405	-0.2036E-01	-79.662	0.4072E-01	146.994	-0.7364E-01	269.648	-0.1355E+00
2410	35.180	-0.1722E-01	159.114	-0.7981E-01	-20.670	0.1090E-01	-68.565	0.3506E-01
2415	42.783	-0.2105E-01	-253.847	0.1286E+00	-64.912	0.3328E-01	420.555	-0.2116E+00
2420	42.011	-0.2066E-01	-70.974	0.3631E-01	-78.512	0.4012E-01	207.128	-0.1040E+00
2425	44.112	-0.2172E-01	-37.206	0.1927E-01	-151.147	0.7676E-01	280.030	-0.1407E+00
2430	40.630	-0.1996E-01	-89.920	0.4591E-01	27.429	-0.1330E-01	326.228	-0.1640E+00
2435	41.616	-0.2046E-01	-127.515	0.6483E-01	-140.469	0.7137E-01	208.783	-0.1048E+00
2440	42.428	-0.2087E-01	-9.853	0.5459E-02	-34.695	0.1799E-01	59.486	-0.2951E-01
2445	41.488	-0.2040E-01	19.907	-0.9532E-02	59.252	-0.2938E-01	118.015	-0.5902E-01

Table 5a: (continued)

λ (Å)	Intercept		Slope		Intercept		Slope	
	1984.5 to present		1981.0 to 1982.0		1982.0 to 1982.5		1982.5 to 1983.0	
2450	41.497	-0.2040E-01	-93.553	0.4770E-01	-90.949	0.4639E-01	378.457	-0.1894E+00
2455	34.329	-0.1679E-01	-68.988	0.3532E-01	-65.629	0.3362E-01	232.614	-0.1168E+00
2460	39.903	-0.1960E-01	-136.513	0.6941E-01	-13.822	0.7505E-02	372.241	-0.1872E+00
2465	40.689	-0.2010E-01	-25.437	0.1336E-01	164.591	-0.8252E-01	163.924	-0.9227E-01
2470	39.911	-0.1961E-01	-81.408	0.4157E-01	-45.812	0.2361E-01	148.342	-0.7432E-01
2475	42.389	-0.2085E-01	-64.197	0.3291E-01	-20.042	0.1063E-01	273.234	-0.1373E+00
2480	40.198	-0.1975E-01	-86.275	0.4404E-01	-57.567	0.2956E-01	157.354	-0.7885E-01
2485	41.131	-0.2022E-01	-117.117	0.5962E-01	196.795	-0.9677E-01	130.561	-0.6536E-01
2490	38.723	-0.1900E-01	-151.700	0.7706E-01	-15.921	0.8555E-02	198.037	-0.9636E-01
2495	47.671	-0.2351E-01	-127.992	0.6509E-01	-81.220	0.4149E-01	354.320	-0.1782E+00
2500	41.781	-0.2055E-01	78.123	-0.3891E-01	22.600	-0.1089E-01	314.689	-0.1582E+00
2505	35.209	-0.1723E-01	13.415	-0.6253E-02	28.145	-0.1368E-01	-52.935	0.2721E-01
2510	35.070	-0.1717E-01	42.207	-0.2079E-01	-41.484	0.2144E-01	217.664	-0.1093E+00
2515	43.487	-0.2141E-01	-145.501	0.7390E-01	-134.407	0.6831E-01	307.776	-0.1547E+00
2520	40.762	-0.2003E-01	-104.581	0.5326E-01	-201.729	0.1023E+00	157.297	-0.1089E+00
2525	40.037	-0.1967E-01	-35.946	0.1865E-01	-56.224	0.2888E-01	214.206	-0.1075E+00
2530	45.418	-0.2238E-01	-68.613	0.3522E-01	31.430	-0.1535E-01	169.040	-0.8476E-01
2535	38.740	-0.1901E-01	-80.434	0.4108E-01	-81.835	0.4179E-01	42.945	-0.2115E-01
2540	38.575	-0.1893E-01	58.686	-0.2912E-01	-167.231	0.8486E-01	177.957	-0.8926E-01
2545	38.964	-0.1913E-01	-188.170	0.9544E-01	80.072	-0.3990E-01	-30.595	0.1593E-01
2550	37.399	-0.1834E-01	-51.369	0.2641E-01	-104.403	0.5317E-01	132.211	-0.6619E-01
2555	40.577	-0.1994E-01	33.200	-0.1625E-01	-28.094	0.1468E-01	45.515	-0.2245E-01
2560	39.054	-0.1917E-01	37.983	-0.1866E-01	-57.101	0.2931E-01	110.825	-0.5539E-01
2565	39.692	-0.1949E-01	-204.254	0.1036E+00	-72.315	0.3700E-01	216.917	-0.1089E+00
2570	35.290	-0.1727E-01	-97.371	0.4964E-01	-12.479	0.6808E-02	32.322	-0.1579E-01
2575	35.831	-0.1755E-01	-20.971	0.1108E-01	-32.416	0.1685E-01	52.293	-0.2587E-01
2580	36.872	-0.1807E-01	-81.475	0.4161E-01	-172.342	0.8745E-01	272.026	-0.1367E+00
2585	32.451	-0.1585E-01	-130.128	0.6616E-01	26.937	-0.1309E-01	3.044	-0.1033E-02
2590	40.812	-0.2006E-01	-103.981	0.5296E-01	-89.521	0.4567E-01	203.897	-0.1023E+00
2595	35.276	-0.1727E-01	1.341	-0.1839E-03	-125.401	0.6376E-01	219.535	-0.1102E+00
2600	39.170	-0.1923E-01	-148.035	0.7520E-01	-197.664	0.1002E+00	383.794	-0.1931E+00
2605	39.697	-0.1950E-01	-76.374	0.3904E-01	-40.909	0.2114E-01	192.462	-0.9657E-01
2610	40.599	-0.1995E-01	-281.038	0.1423E+00	48.725	-0.2408E-01	276.182	-0.1388E+00
2615	37.242	-0.1826E-01	-236.011	0.1196E+00	67.715	-0.3364E-01	191.484	-0.9607E-01
2620	39.916	-0.1961E-01	-14.592	0.7858E-02	-44.419	0.2291E-01	90.239	-0.4502E-01
2625	37.935	-0.1861E-01	-41.151	0.2126E-01	-167.707	0.8511E-01	238.221	-0.1196E+00
2630	35.436	-0.1735E-01	-198.214	0.1005E+00	-25.098	0.1319E-01	301.041	-0.1513E+00
2635	39.795	-0.1955E-01	-123.280	0.6270E-01	-30.280	0.1578E-01	152.170	-0.7625E-01
2640	36.022	-0.1764E-01	-137.253	0.6977E-01	-20.689	0.1096E-01	257.698	-0.1295E+00
2645	35.935	-0.1760E-01	-119.352	0.6074E-01	-46.886	0.2418E-01	213.771	-0.1073E+00
2650	38.687	-0.1899E-01	-120.100	0.6110E-01	-182.480	0.9257E-01	255.950	-0.1286E+00
2655	33.956	-0.1660E-01	-64.414	0.3300E-01	-53.698	0.2759E-01	32.855	-0.1607E-01
2660	35.481	-0.1737E-01	-19.574	0.1039E-01	-4.756	0.2916E-02	155.587	-0.7796E-01
2665	37.518	-0.1840E-01	-196.740	0.9978E-01	15.030	-0.7071E-02	110.841	-0.5540E-01
2670	35.209	-0.1723E-01	-64.094	0.3286E-01	34.856	-0.1707E-01	137.657	-0.6892E-01
2675	35.592	-0.1743E-01	-44.346	0.2289E-01	-116.077	0.5908E-01	250.093	-0.1256E+00
2680	36.525	-0.1790E-01	-14.204	0.7681E-02	-54.998	0.2826E-01	214.499	-0.1077E+00
2685	34.402	-0.1683E-01	-84.790	0.4330E-01	-134.540	0.6840E-01	257.603	-0.1294E+00
2690	33.454	-0.1635E-01	-147.013	0.7468E-01	-106.052	0.5402E-01	156.751	-0.7855E-01
2695	33.723	-0.1649E-01	-110.820	0.5644E-01	-67.348	0.3451E-01	223.149	-0.1120E+00
2700	34.890	-0.1707E-01	-75.201	0.3846E-01	-109.541	0.5578E-01	168.309	-0.8437E-01
2705	34.428	-0.1684E-01	-130.003	0.6612E-01	-44.224	0.2284E-01	293.289	-0.1474E+00
2710	37.920	-0.1860E-01	-46.280	0.2388E-01	-115.279	0.5869E-01	360.540	-0.1813E+00
2715	34.340	-0.1680E-01	-74.216	0.3795E-01	-56.564	0.2905E-01	122.635	-0.6134E-01
2720	31.527	-0.1538E-01	5.118	-0.2080E-02	-120.896	0.6150E-01	76.663	-0.3815E-01
2725	29.332	-0.1427E-01	-103.396	0.5271E-01	90.290	-0.4502E-01	156.577	-0.7845E-01
2730	29.789	-0.1450E-01	-68.874	0.3529E-01	69.677	-0.3462E-01	133.867	-0.6700E-01
2735	36.175	-0.1772E-01	-318.937	0.1614E+00	-58.301	0.2995E-01	370.168	-0.1862E+00
2740	35.526	-0.1739E-01	-224.374	0.1137E+00	28.574	-0.1391E-01	90.955	-0.4537E-01
2745	33.938	-0.1659E-01	-104.928	0.5345E-01	-57.091	0.2931E-01	124.247	-0.6216E-01

Table 5a: (continued)

λ (Å)	Intercept 1984.5 to present		Intercept 1981.0 to 1982.0		Intercept 1982.0 to 1982.5		Intercept 1982.5 to 1983.0	
	Intercept	Slope	Intercept	Slope	Intercept	Slope	Intercept	Slope
2750	32.743	-0.1599E-01	-10.054	0.5583E-02	-62.284	0.3194E-01	116.388	-0.5819E-01
2755	32.981	-0.1606E-01	-121.921	0.6204E-01	-16.879	0.9038E-02	159.100	-0.7973E-01
2760	34.314	-0.1678E-01	-117.914	0.6001E-01	52.159	-0.2579E-01	178.933	-0.8974E-01
2765	33.020	-0.1613E-01	-254.828	0.1290E+00	-45.983	0.2373E-01	337.181	-0.1695E+00
2770	33.470	-0.1636E-01	-129.123	0.6566E-01	-75.546	0.3863E-01	142.236	-0.7123E-01
2775	32.201	-0.1572E-01	-178.900	0.9079E-01	-41.774	0.2161E-01	298.139	-0.1499E+00
2780	35.283	-0.1727E-01	-244.714	0.1240E+00	-20.976	0.1111E-01	251.413	-0.1263E+00
2785	31.331	-0.1528E-01	-160.087	0.8130E-01	31.083	-0.1516E-01	165.317	-0.8287E-01
2790	29.207	-0.1421E-01	20.944	-0.1006E-01	-18.603	0.9895E-02	10.330	-0.4700E-02
2795	26.081	-0.1263E-01	-5.033	0.3055E-02	-22.987	0.1211E-01	74.157	-0.3689E-01
2800	33.999	-0.1663E-01	-148.470	0.7542E-01	-79.632	0.4068E-01	228.951	-0.1150E+00
2805	42.056	-0.2068E-01	-179.969	0.9132E-01	-39.330	0.2037E-01	314.679	-0.1582E+00
2810	35.195	-0.1723E-01	-73.225	0.3747E-01	-90.119	0.4599E-01	272.565	-0.1370E+00
2815	31.040	-0.1513E-01	-5.774	0.3428E-02	28.744	-0.1399E-01	58.987	-0.2924E-01
2820	29.829	-0.1452E-01	-74.824	0.3827E-01	31.681	-0.1547E-01	48.095	-0.2375E-01
2825	30.532	-0.1488E-01	-52.029	0.2676E-01	-39.426	0.2040E-01	68.713	-0.3414E-01
2830	28.930	-0.1407E-01	-121.738	0.6195E-01	-35.028	0.1820E-01	275.136	-0.1382E+00
2835	33.791	-0.1652E-01	-233.830	0.1185E+00	17.379	-0.8231E-02	299.396	-0.1505E+00
2840	33.187	-0.1621E-01	-202.902	0.1029E+00	21.063	-0.1010E-01	193.850	-0.9726E-01
2845	30.236	-0.1473E-01	-143.866	0.7311E-01	59.335	-0.2941E-01	76.152	-0.3789E-01
2850	28.930	-0.1407E-01	-185.337	0.9404E-01	72.955	-0.3628E-01	99.480	-0.4966E-01
2855	31.369	-0.1530E-01	-114.089	0.5808E-01	-44.829	0.2314E-01	200.078	-0.1004E+00
2860	33.421	-0.1633E-01	-65.200	0.3342E-01	41.553	-0.2044E-01	202.350	-0.1015E+00
2865	28.968	-0.1409E-01	-73.606	0.3765E-01	49.501	-0.2446E-01	59.649	-0.2958E-01
2870	30.628	-0.1493E-01	-133.671	0.6796E-01	-30.331	0.1582E-01	190.515	-0.9558E-01
2875	29.396	-0.1430E-01	-172.929	0.8777E-01	-8.048	0.4582E-02	184.590	-0.9259E-01
2880	31.956	-0.1559E-01	-5.711	0.3385E-02	-7.958	0.4518E-02	54.188	-0.2683E-01
2885	31.181	-0.1520E-01	-169.392	0.8598E-01	-12.118	0.6633E-02	124.435	-0.6225E-01
2890	28.197	-0.1370E-01	-143.528	0.7294E-01	-82.505	0.4215E-01	221.211	-0.1111E+00
2895	27.082	-0.1314E-01	-70.213	0.3594E-01	-77.705	0.3972E-01	139.459	-0.6982E-01
2900	28.648	-0.1393E-01	-96.129	0.4902E-01	28.356	-0.1379E-01	137.324	-0.6875E-01
2905	29.140	-0.1418E-01	-278.674	0.1411E+00	58.606	-0.2904E-01	218.478	-0.1097E+00
2910	27.739	-0.1347E-01	-102.291	0.5211E-01	-70.659	0.3615E-01	73.659	-0.3665E-01
2915	26.482	-0.1284E-01	3.028	-0.1025E-02	-32.451	0.1687E-01	49.292	-0.2436E-01
2920	29.725	-0.1447E-01	75.901	-0.3779E-01	-24.499	0.1286E-01	94.091	-0.4696E-01
2925	28.386	-0.1380E-01	-79.344	0.4055E-01	-12.258	0.6703E-02	125.124	-0.6259E-01
2930	27.939	-0.1357E-01	-4.999	0.3032E-02	-19.725	0.1046E-01	104.284	-0.5209E-01
2935	26.000	-0.1259E-01	-105.566	0.5378E-01	7.736	-0.3386E-02	65.557	-0.3255E-01
2940	25.666	-0.1243E-01	-133.012	0.6763E-01	29.042	-0.1413E-01	92.509	-0.4615E-01
2945	28.373	-0.1379E-01	-73.496	0.3758E-01	-191.585	0.9717E-01	190.166	-0.9539E-01
2950	29.460	-0.1434E-01	-22.769	0.1198E-01	-47.464	0.2444E-01	47.365	-0.2339E-01
2955	26.144	-0.1267E-01	-148.782	0.7559E-01	9.258	-0.4149E-02	104.506	-0.5219E-01
2960	24.803	-0.1199E-01	-47.700	0.2458E-01	77.113	-0.3839E-01	129.141	-0.6463E-01
2965	24.941	-0.1206E-01	-47.218	0.2433E-01	-65.151	0.3338E-01	155.068	-0.7770E-01
2970	27.624	-0.1341E-01	-150.023	0.7623E-01	63.304	-0.3141E-01	239.269	-0.1202E+00
2975	26.490	-0.1284E-01	-122.938	0.6255E-01	-66.693	0.3418E-01	285.444	-0.1434E+00
2980	23.719	-0.1144E-01	23.447	-0.1132E-01	-154.824	0.7862E-01	113.013	-0.5648E-01
2985	24.703	-0.1194E-01	-12.048	0.6587E-02	-64.016	0.3281E-01	88.855	-0.4430E-01
2990	28.398	-0.1380E-01	-103.116	0.5253E-01	69.602	-0.3462E-01	-101.298	0.5159E-01
2995	27.052	-0.1312E-01	80.997	-0.4037E-01	5.200	-0.2127E-02	18.071	-0.8619E-02
3000	22.768	-0.1097E-01	139.117	-0.6970E-01	-84.423	0.4309E-01	95.145	-0.4749E-01
3005	26.507	-0.1285E-01	-32.196	0.1675E-01	-123.092	0.6261E-01	129.704	-0.6490E-01
3010	25.764	-0.1248E-01	-32.177	0.1673E-01	-134.731	0.6848E-01	90.699	-0.4523E-01
3015	24.134	-0.1166E-01	-26.779	0.1401E-01	-131.726	0.6696E-01	100.769	-0.5031E-01
3020	24.336	-0.1176E-01	16.129	-0.7642E-02	-57.449	0.2948E-01	22.592	-0.1089E-01
3025	23.146	-0.1116E-01	-40.224	0.2081E-01	74.712	-0.3718E-01	-5.362	0.3206E-02
3030	25.812	-0.1250E-01	-77.746	0.3974E-01	108.288	-0.5413E-01	-22.197	0.1169E-01
3035	23.120	-0.1114E-01	-99.920	0.5092E-01	2.034	-0.5221E-03	13.171	-0.6140E-02
3040	22.263	-0.1071E-01	128.347	-0.6426E-01	-4.606	0.2824E-02	-107.287	0.5462E-01
3045	18.758	-0.8945E-02	-42.363	0.2189E-01	-57.227	0.2939E-01	38.888	-0.1909E-01

Table 5a: (continued)

λ (Å)	1984.5 to present		1981.0 to 1982.0		1982.0 to 1982.5		1982.5 to 1983.0	
	Intercept	Slope	Intercept	Slope	Intercept	Slope	Intercept	Slope
3050	21.918	-0.1054E-01	-89.238	0.4553E-01	-180.252	0.9145E-01	132.233	-0.6617E-01
3055	25.473	-0.1233E-01	-78.312	0.4001E-01	-94.288	0.4807E-01	17.938	-0.8537E-02
3060	24.750	-0.1196E-01	-129.327	0.6577E-01	22.534	-0.1085E-01	87.214	-0.4347E-01
3065	24.017	-0.1159E-01	84.348	-0.4205E-01	-74.680	0.3819E-01	146.712	-0.7348E-01
3070	21.160	-0.1016E-01	183.496	-0.9210E-01	-87.881	0.4482E-01	-262.545	0.1329E+00
3075	21.234	-0.1019E-01	339.198	-0.1707E+00	-136.093	0.6913E-01	-320.402	0.1621E+00
3080	20.627	-0.9886E-02	342.241	-0.1722E+00	-210.721	0.1068E+00	-20.734	0.1096E-01
3085	20.803	-0.9976E-02	89.496	-0.4465E-01	-11.741	0.6427E-02	-22.064	0.1163E-01
3090	27.059	-0.1313E-01	-30.119	0.1570E-01	-41.529	0.2146E-01	109.763	-0.5485E-01
3095	26.223	-0.1271E-01	-170.007	0.8629E-01	-117.626	0.5986E-01	376.428	-0.1893E+00
3100	24.068	-0.1162E-01	95.175	-0.4752E-01	-135.121	0.6867E-01	182.737	-0.9166E-01
3105	27.082	-0.1314E-01	227.025	-0.1141E+00	-146.316	0.7430E-01	-27.622	0.1443E-01
3110	24.205	-0.1169E-01	99.959	-0.4993E-01	-24.102	0.1267E-01	-44.583	0.2299E-01
3115	20.143	-0.9641E-02	178.157	-0.8937E-01	-20.638	0.1093E-01	76.256	-0.3794E-01
3120	20.453	-0.9799E-02	33.172	-0.1622E-01	29.964	-0.1460E-01	76.265	-0.3795E-01
3125	21.511	-0.1033E-01	-147.738	0.7508E-01	-53.329	0.2745E-01	252.908	-0.1270E+00
3130	21.303	-0.1023E-01	-90.169	0.4604E-01	-111.086	0.5659E-01	363.227	-0.1827E+00
3135	20.613	-0.9881E-02	18.413	-0.8753E-02	-43.550	0.2251E-01	373.654	-0.1879E+00
3140	19.670	-0.9405E-02	149.614	-0.7496E-01	-146.564	0.7448E-01	334.227	-0.1880E+00
3145	14.975	-0.7039E-02	62.436	-0.3097E-01	-45.636	0.2355E-01	95.611	-0.4769E-01
3150	23.633	-0.1140E-01	382.432	-0.1925E+00	-2.923	0.1989E-02	-93.888	0.4785E-01
3155	22.222	-0.1069E-01	156.320	-0.7834E-01	68.237	-0.3390E-01	142.982	-0.7160E-01
3160	20.551	-0.9845E-02	-15.301	0.8262E-02	187.239	-0.9393E-01	42.878	-0.2111E-01
3165	18.838	-0.8981E-02	21.043	-0.1004E-01	488.647	-0.2460E+00	-49.382	0.2543E-01
3170	26.068	-0.1263E-01	19.392	-0.9218E-02	293.012	-0.1473E+00	-68.531	0.3510E-01
3175	23.083	-0.1112E-01	154.189	-0.7726E-01	-88.511	0.4519E-01	150.959	-0.7560E-01
3180	19.478	-0.9307E-02	657.104	-0.3311E+00	-704.559	0.3560E+00	349.305	-0.1756E+00
3185	10.751	-0.4909E-02	798.234	-0.4023E+00	-615.783	0.3111E+00	-71.217	0.3646E-01
3190	11.097	-0.5080E-02	942.251	-0.4749E+00	-471.307	0.2383E+00	149.947	-0.7509E-01
3195	14.926	-0.7014E-02	814.085	-0.4102E+00	-256.448	0.1299E+00	417.540	-0.2101E+00
3200	12.625	-0.5856E-02	685.483	-0.3453E+00	-124.043	0.6313E-01	286.753	-0.1441E+00
3205	23.560	-0.1136E-01	185.881	-0.9326E-01	-63.350	0.3249E-01	222.124	-0.1115E+00
3210	25.773	-0.1248E-01	400.677	-0.2017E+00	-343.844	0.1740E+00	298.637	-0.1501E+00
3215	18.871	-0.8998E-02	132.739	-0.6646E-01	-182.318	0.9250E-01	144.980	-0.7259E-01
3220	9.624	-0.4340E-02	194.767	-0.9776E-01	-317.361	0.1606E+00	247.289	-0.1242E+00
3225	18.875	-0.9000E-02	-39.280	0.2042E-01	144.054	-0.7208E-01	630.222	-0.3173E+00
3230	10.122	-0.4590E-02	258.334	-0.1297E+00	109.759	-0.5477E-01	624.014	-0.3142E+00
3235	8.278	-0.3660E-02	129.243	-0.6460E-01	405.025	-0.2037E+00	283.284	-0.1423E+00
3240	8.710	-0.3874E-02	-174.555	0.8870E-01	633.212	-0.3188E+00	75.866	-0.3772E-01
3245	11.890	-0.5475E-02	366.377	-0.1843E+00	498.484	-0.2509E+00	-118.166	0.6012E-01
3250	1.123	-0.5556E-04	612.239	-0.3083E+00	78.220	-0.3787E-01	213.121	-0.1069E+00
3255	15.244	-0.7166E-02	94.513	-0.4708E-01	-384.288	0.1945E+00	887.390	-0.4470E+00
3260	16.981	-0.8045E-02	532.612	-0.2682E+00	-648.502	0.3278E+00	948.182	-0.4776E+00
3265	24.038	-0.1160E-01	217.863	-0.1094E+00	-154.972	0.7875E-01	625.473	-0.3149E+00
3270	15.861	-0.7480E-02	623.073	-0.3138E+00	-106.221	0.5411E-01	72.758	-0.3617E-01
3275	20.728	-0.9936E-02	1048.474	-0.5285E+00	-141.876	0.7211E-01	81.570	-0.4060E-01
3280	26.782	-0.1298E-01	358.041	-0.1801E+00	-601.575	0.3041E+00	1179.598	-0.5943E+00
3285	30.734	-0.1497E-01	444.426	-0.2237E+00	-545.649	0.2759E+00	807.476	-0.4067E+00
3290	20.465	-0.9794E-02	-534.709	0.2705E+00	1009.562	-0.5086E+00	243.502	-0.1222E+00
3295	20.096	-0.9610E-02	-696.014	0.3518E+00	1048.041	-0.5281E+00	-287.456	0.1455E+00
3300	13.093	-0.6086E-02	-169.777	0.8632E-01	-101.196	0.5172E-01	743.695	-0.3745E+00
3305	7.312	-0.3177E-02	-359.400	0.1820E+00	-608.065	0.3074E+00	1234.036	-0.6218E+00
3310	17.232	-0.8171E-02	-667.783	0.3376E+00	-310.946	0.1575E+00	1255.879	-0.6328E+00
3315	14.456	-0.6778E-02	121.602	-0.6080E-01	-1591.789	0.8037E+00	1622.156	-0.8175E+00
3320	2.831	-0.9154E-03	233.641	-0.1174E+00	-1144.893	0.5782E+00	1118.330	-0.5624E+00
3325	15.895	-0.7489E-02	-279.083	0.1415E+00	-357.769	0.1812E+00	1501.454	-0.7566E+00
3330	11.787	-0.5430E-02	-1005.042	0.5078E+00	1452.918	-0.7323E+00	-337.641	0.1708E+00
3335	25.908	-0.1255E-01	-189.770	0.9640E-01	1108.003	-0.5584E+00	-859.216	0.4339E+00
3340	45.191	-0.2226E-01	330.599	-0.1664E+00	1.890	-0.5244E-03	-791.019	0.3994E+00
3345	37.178	-0.1821E-01	787.065	-0.3968E+00	-951.444	0.4803E+00	-1332.885	0.6727E+00
3350	25.103	-0.1212E-01	-21.924	0.1156E-01	9.733	-0.4409E-02	-851.743	0.4301E+00

Table 5b: Linear Fits to Trailed Degradation Ratios

λ (Å)	Intercept 1983.0 to 1983.5	Slope	Intercept 1983.5 to 1984.0	Slope	Intercept 1984.0 to 1984.5	Slope
1850	941.735	-0.4745E+00	-67.350	0.3427E-01	-780.876	0.3939E+00
1855	725.813	-0.3657E+00	1013.494	-0.5107E+00	-2621.239	0.1321E+01
1860	-385.805	0.1950E+00	327.821	-0.1647E+00	-388.606	0.1964E+00
1865	82.859	-0.4136E-01	34.018	-0.1674E-01	-423.301	0.2138E+00
1870	-19.233	0.1017E-01	647.785	-0.3261E+00	-1004.609	0.5067E+00
1875	38.183	-0.1880E-01	-250.580	0.1268E+00	-147.196	0.7468E-01
1880	781.868	-0.3938E+00	1100.574	-0.5544E+00	-1564.943	0.7891E+00
1885	-300.492	0.1520E+00	215.061	-0.1079E+00	68.935	-0.3424E-01
1890	31.042	-0.1524E-01	-1129.917	0.5701E+00	919.411	-0.4629E+00
1895	166.633	-0.8353E-01	915.850	-0.4613E+00	-1206.127	0.6083E+00
1900	-320.609	0.1621E+00	-561.430	0.2835E+00	472.656	-0.2377E+00
1905	-229.512	0.1162E+00	36.359	-0.1786E-01	-15.277	0.8165E-02
1910	-439.290	0.2220E+00	251.511	-0.1263E+00	-210.366	0.1065E+00
1915	-321.318	0.1625E+00	151.309	-0.7578E-01	-149.709	0.7595E-01
1920	-115.992	0.5898E-01	750.660	-0.3780E+00	-972.935	0.4908E+00
1925	18.071	-0.8661E-02	49.007	-0.2426E-01	-180.589	0.9147E-01
1930	184.677	-0.9267E-01	639.448	-0.3220E+00	-939.100	0.4737E+00
1935	-92.813	0.4728E-01	457.461	-0.2301E+00	-420.471	0.2124E+00
1940	42.003	-0.2074E-01	145.309	-0.7282E-01	-485.922	0.2453E+00
1945	65.035	-0.3232E-01	-322.937	0.1633E+00	86.511	-0.4310E-01
1950	-106.254	0.5407E-01	300.355	-0.1509E+00	-158.140	0.8017E-01
1955	-74.781	0.3818E-01	27.938	-0.1361E-01	-63.179	0.3232E-01
1960	-255.585	0.1293E+00	-380.658	0.1924E+00	448.625	-0.2256E+00
1965	-1.368	0.1170E-02	252.169	-0.1267E+00	-406.821	0.2055E+00
1970	-10.075	0.5537E-02	-147.119	0.7463E-01	-208.177	0.1054E+00
1975	-187.803	0.9519E-01	272.103	-0.1367E+00	-120.625	0.6127E-01
1980	-97.336	0.4955E-01	-99.835	0.5081E-01	336.711	-0.1692E+00
1985	-233.388	0.1181E+00	-219.035	0.1109E+00	289.383	-0.1454E+00
1990	59.274	-0.2943E-01	-122.781	0.6235E-01	16.436	-0.7814E-02
1995	-111.019	0.5645E-01	148.502	-0.7439E-01	-275.205	0.1392E+00
2000	-129.861	0.6596E-01	142.462	-0.7134E-01	-219.690	0.1112E+00
2005	56.801	-0.2815E-01	220.447	-0.1107E+00	-204.126	0.1033E+00
2010	-137.078	0.6961E-01	-171.219	0.8682E-01	550.272	-0.2768E+00
2015	-185.300	0.9390E-01	123.671	-0.6187E-01	-175.518	0.8893E-01
2020	-36.160	0.1871E-01	-341.782	0.1728E+00	194.090	-0.9730E-01
2025	-123.333	0.6286E-01	-19.463	0.1029E-01	-41.489	0.2140E-01
2030	61.651	-0.3060E-01	58.654	-0.2909E-01	-209.588	0.1061E+00
2035	-60.923	0.3119E-01	102.804	-0.5136E-01	-107.119	0.5445E-01
2040	-287.683	0.1456E+00	113.206	-0.5656E-01	-78.337	0.3998E-01
2045	-133.348	0.6775E-01	387.565	-0.1949E+00	-184.218	0.9332E-01
2050	-332.850	0.1683E+00	139.023	-0.6958E-01	-37.324	0.1931E-01
2055	-57.408	0.2940E-01	-332.317	0.1680E+00	249.797	-0.1254E+00
2060	-108.119	0.5500E-01	290.930	-0.1462E+00	-366.285	0.1851E+00
2065	29.694	-0.1450E-01	-43.461	0.2240E-01	-26.116	0.1364E-01
2070	-33.733	0.1749E-01	28.122	-0.1370E-01	-31.512	0.1636E-01
2075	-244.103	0.1235E+00	-76.461	0.3902E-01	-80.709	0.4116E-01
2080	111.247	-0.5560E-01	95.492	-0.4765E-01	-146.241	0.7419E-01
2085	73.093	-0.3636E-01	-11.963	0.6525E-02	-29.862	0.1555E-01
2090	13.338	-0.6269E-02	-498.591	0.2518E+00	407.143	-0.2047E+00
2095	-10.580	0.5811E-02	-53.768	0.2758E-01	-12.071	0.6568E-02
2100	20.673	-0.9932E-02	-27.133	0.1417E-01	-26.405	0.1380E-01
2105	-140.761	0.7147E-01	127.985	-0.6402E-01	-130.608	0.6632E-01
2110	44.610	-0.2201E-01	223.535	-0.1122E+00	-342.214	0.1729E+00
2115	-200.361	0.1015E+00	-53.827	0.2761E-01	50.916	-0.2518E-01
2120	-108.104	0.5500E-01	237.566	-0.1193E+00	-140.136	0.7110E-01
2125	23.908	-0.1157E-01	-210.337	0.1065E+00	115.108	-0.5751E-01
2130	-182.184	0.9236E-01	67.386	-0.3346E-01	-86.576	0.4414E-01
2135	-78.150	0.3987E-01	-229.371	0.1161E+00	208.791	-0.1047E+00
2140	-210.700	0.1067E+00	263.387	-0.1323E+00	-51.008	0.2618E-01
2145	-126.233	0.6412E-01	-226.987	0.1149E+00	284.265	-0.1428E+00

Table 5b: (continued)

λ (Å)	Slope		Slope		Slope	
	Intercept 1983.0 to 1983.5	1983.0 to 1983.5	Intercept 1983.5 to 1984.0	1983.5 to 1984.0	Intercept 1984.0 to 1984.5	1984.0 to 1984.5
2150	-82.509	0.4208E-01	-43.753	0.2254E-01	-111.251	0.5656E-01
2155	35.742	-0.1756E-01	-226.742	0.1148E+00	38.676	-0.1900E-01
2160	39.035	-0.1920E-01	-171.123	0.8675E-01	217.278	-0.1090E+00
2165	-116.926	0.5945E-01	-33.578	0.1743E-01	0.609	0.2017E-03
2170	-294.693	0.1491E+00	-246.703	0.1249E+00	231.704	-0.1163E+00
2175	-17.468	0.9281E-02	-90.234	0.4597E-01	-84.319	0.4299E-01
2180	-84.553	0.4313E-01	-261.837	0.1325E+00	305.287	-0.1533E+00
2185	-101.624	0.5172E-01	-113.375	0.5764E-01	77.300	-0.3846E-01
2190	-16.348	0.8743E-02	25.979	-0.1260E-01	-34.370	0.1782E-01
2195	46.556	-0.2298E-01	28.991	-0.1412E-01	-91.855	0.4679E-01
2200	1.504	-0.2694E-03	-9.368	0.5212E-02	-112.251	0.5707E-01
2205	89.893	-0.4485E-01	-56.853	0.2914E-01	-78.525	0.4006E-01
2210	-58.177	0.2985E-01	-53.033	0.2725E-01	13.202	-0.6131E-02
2215	-286.070	0.1447E+00	138.143	-0.6912E-01	-18.347	0.9752E-02
2220	47.393	-0.2343E-01	-43.711	0.2250E-01	-198.558	0.1006E+00
2225	-114.476	0.5820E-01	-131.637	0.6685E-01	101.977	-0.5090E-01
2230	8.980	-0.4049E-02	-379.257	0.1917E+00	147.923	-0.7403E-01
2235	-83.139	0.4243E-01	185.477	-0.9300E-01	-229.519	0.1162E+00
2240	-46.987	0.2416E-01	51.103	-0.2529E-01	-125.724	0.6384E-01
2245	-12.482	0.6778E-02	-24.670	0.1292E-01	-93.724	0.4773E-01
2250	-155.098	0.7870E-01	172.858	-0.8664E-01	-106.627	0.5423E-01
2255	-231.285	0.1171E+00	-107.776	0.5484E-01	93.229	-0.4648E-01
2260	82.720	-0.4122E-01	-73.012	0.3729E-01	-166.945	0.8464E-01
2265	-0.718	0.8498E-03	-44.482	0.2291E-01	-122.881	0.6243E-01
2270	-69.866	0.3572E-01	-74.910	0.3826E-01	-5.970	0.3516E-02
2275	-162.394	0.9237E-01	-132.634	0.6736E-01	343.654	-0.1727E+00
2280	-100.373	0.5110E-01	-215.813	0.1093E+00	204.975	-0.1028E+00
2285	98.802	-0.4932E-01	27.757	-0.1351E-01	-182.096	0.9227E-01
2290	108.275	-0.5410E-01	-127.346	0.6469E-01	134.260	-0.6717E-01
2295	28.864	-0.1409E-01	-451.324	0.2280E+00	415.864	-0.2091E+00
2300	-123.416	0.6272E-01	-19.265	0.1021E-01	-18.523	0.9835E-02
2305	19.030	-0.9090E-02	166.844	-0.8361E-01	-117.141	0.5953E-01
2310	-167.211	0.8477E-01	-223.217	0.1130E+00	139.009	-0.6956E-01
2315	115.034	-0.5752E-01	-140.006	0.7106E-01	0.264	0.3619E-03
2320	-60.288	0.3089E-01	36.832	-0.1807E-01	-86.705	0.4419E-01
2325	-97.270	0.4951E-01	-211.070	0.1069E+00	2.932	-0.9809E-03
2330	-96.691	0.4924E-01	112.848	-0.5640E-01	-77.094	0.3934E-01
2335	-208.483	0.1056E+00	32.241	-0.1577E-01	-66.806	0.3415E-01
2340	93.192	-0.4649E-01	-76.785	0.3920E-01	-59.340	0.3041E-01
2345	69.230	-0.3441E-01	-48.745	0.2507E-01	-182.978	0.9272E-01
2350	-0.499	0.7439E-03	-30.205	0.1572E-01	-155.170	0.7871E-01
2355	108.591	-0.5425E-01	8.825	-0.3957E-02	-72.999	0.3729E-01
2360	23.901	-0.1156E-01	-7.782	0.4414E-02	-113.668	0.5778E-01
2365	-42.812	0.2207E-01	-106.218	0.5403E-01	-12.407	0.6750E-02
2370	-14.367	0.7732E-02	-159.703	0.8100E-01	87.492	-0.4359E-01
2375	-18.360	0.9743E-02	-5.502	0.3261E-02	6.683	-0.2881E-02
2380	69.565	-0.3458E-01	-143.266	0.7272E-01	63.879	-0.3169E-01
2385	-10.950	0.6011E-02	20.690	-0.9941E-02	-122.664	0.6231E-01
2390	-21.820	0.1146E-01	-390.813	0.1975E+00	55.569	-0.2750E-01
2395	-92.842	0.4729E-01	-29.415	0.1532E-01	-127.701	0.6486E-01
2400	13.610	-0.6384E-02	-97.919	0.4984E-01	-24.618	0.1290E-01
2405	-166.619	0.8450E-01	-11.438	0.6263E-02	-55.376	0.2841E-01
2410	-62.552	0.3203E-01	25.538	-0.1238E-01	-115.138	0.5852E-01
2415	-21.234	0.1119E-01	-143.911	0.7304E-01	-99.435	0.5062E-01
2420	4.041	-0.1550E-02	-77.358	0.3949E-01	-98.259	0.5002E-01
2425	-106.159	0.5401E-01	20.002	-0.9592E-02	-71.825	0.3669E-01
2430	6.027	-0.2545E-02	-52.569	0.2700E-01	-66.693	0.3412E-01
2435	-8.724	0.4886E-02	70.550	-0.3508E-01	-149.560	0.7586E-01
2440	47.508	-0.2347E-01	27.022	-0.1314E-01	-244.896	0.1239E+00
2445	-2.067	0.1531E-02	-24.400	0.1279E-01	-168.617	0.8548E-01

Table 5b: (continued)

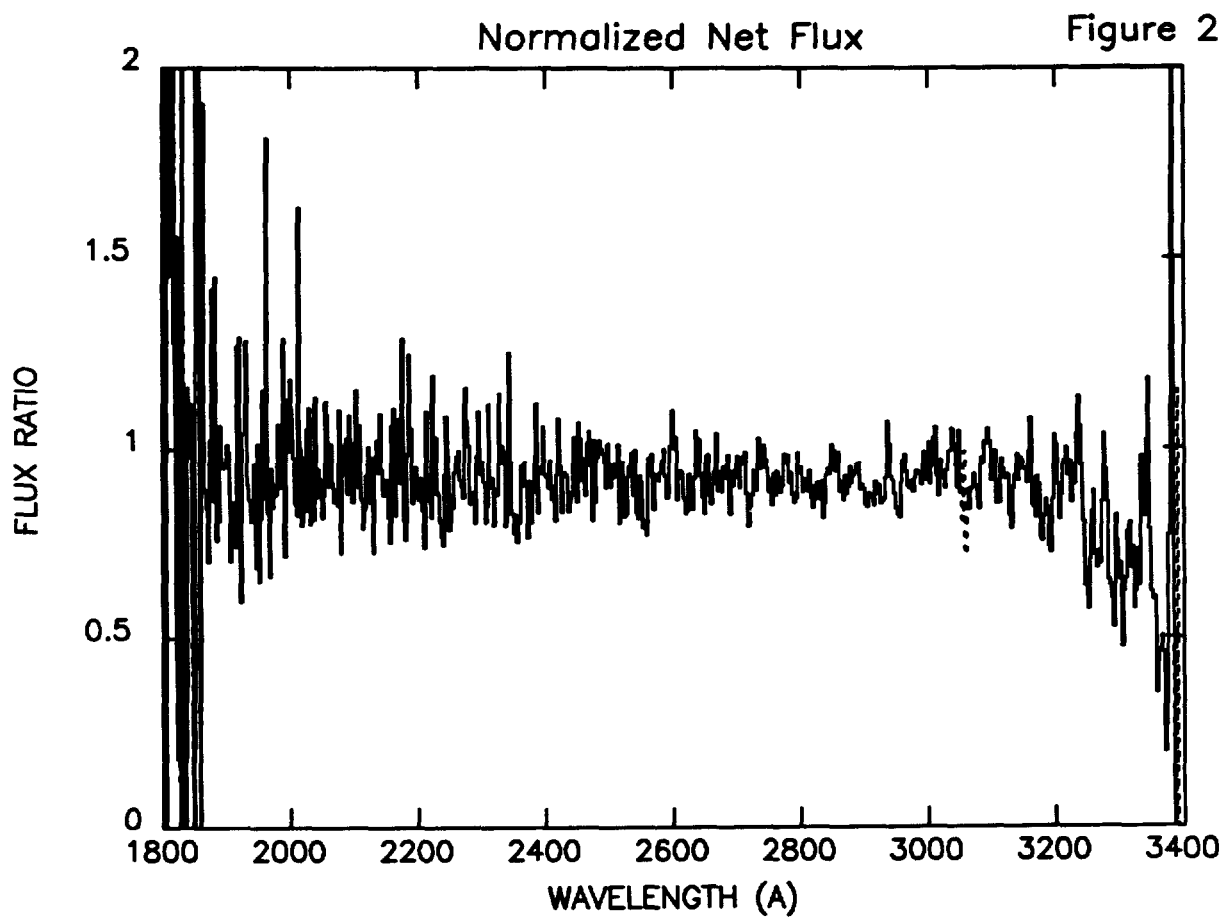
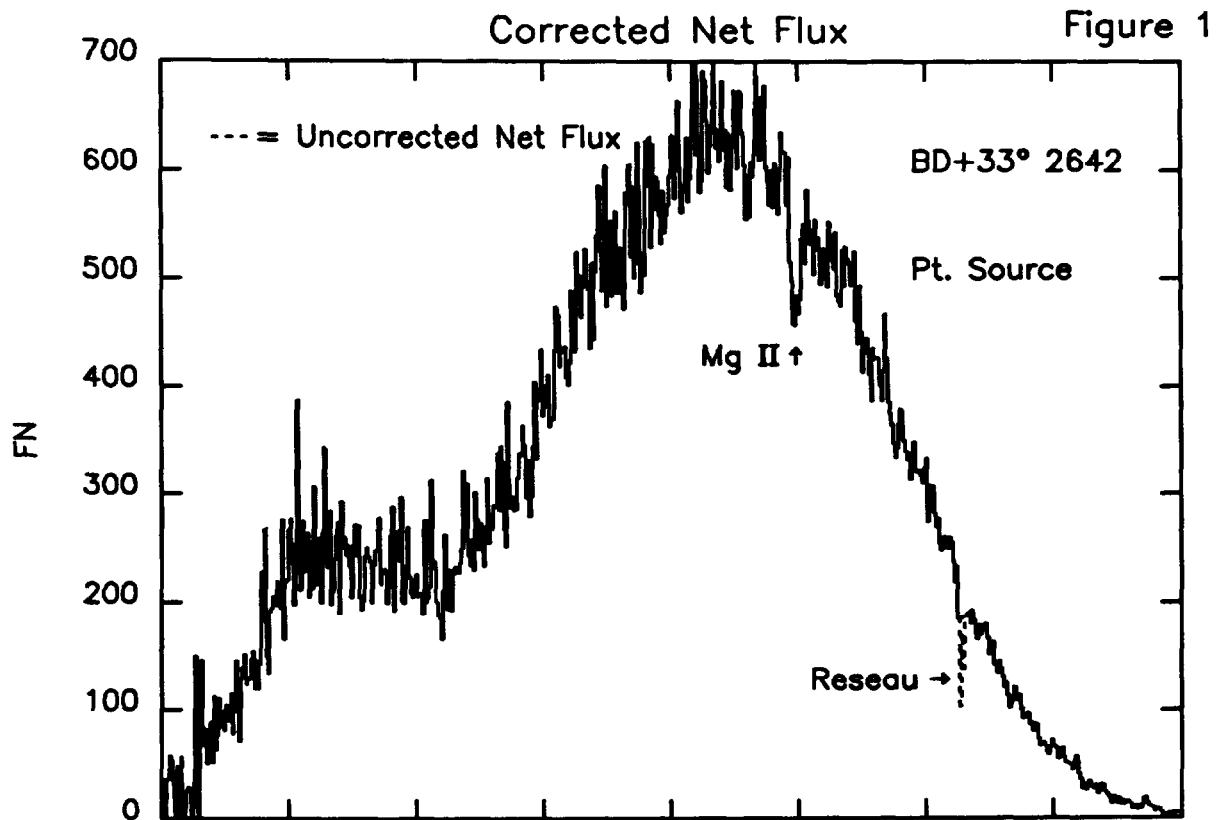
λ (Å)	Intercept	Slope	Intercept	Slope	Intercept	Slope
	1983.0 to 1983.5	1983.5 to 1984.0	1983.5 to 1984.0	1984.0 to 1984.5	1984.0 to 1984.5	1984.0 to 1984.5
2450	-173.812	0.8812E-01	-10.275	0.5668E-02	-75.640	0.3861E-01
2455	-23.805	0.1249E-01	39.489	-0.1942E-01	-47.053	0.2420E-01
2460	46.017	-0.2272E-01	-165.193	0.8376E-01	-8.606	0.4838E-02
2465	-4.375	0.2685E-02	-52.006	0.2670E-01	-104.294	0.5305E-01
2470	2.899	-0.9751E-03	-23.710	0.1244E-01	-36.017	0.1864E-01
2475	-53.589	0.2751E-01	-66.138	0.3383E-01	20.406	-0.9787E-02
2480	32.989	-0.1614E-01	-29.919	0.1558E-01	-35.118	0.1820E-01
2485	17.862	-0.8524E-02	-179.231	0.9084E-01	-42.585	0.2197E-01
2490	74.495	-0.3707E-01	-44.164	0.2276E-01	-139.962	0.7104E-01
2495	5.554	-0.2327E-02	-250.054	0.1265E+00	5.199	-0.2115E-02
2500	-92.192	0.4696E-01	-166.424	0.8438E-01	64.654	-0.3209E-01
2505	103.744	-0.5180E-01	-62.082	0.3180E-01	14.804	-0.6948E-02
2510	106.809	-0.5338E-01	-201.634	0.1021E+00	16.525	-0.7830E-02
2515	-33.890	0.1756E-01	-170.425	0.8640E-01	4.906	-0.1976E-02
2520	86.079	-0.4291E-01	-16.956	0.9039E-02	-85.618	0.4365E-01
2525	54.908	-0.2720E-01	-109.545	0.5571E-01	-4.012	0.2519E-02
2530	-12.270	0.8668E-02	-98.662	0.5022E-01	-69.204	0.3538E-01
2535	172.835	-0.8665E-01	-171.480	0.8694E-01	-7.047	0.4056E-02
2540	-6.616	0.3820E-02	-84.674	0.4317E-01	-11.637	0.6361E-02
2545	5.011	-0.2031E-02	-90.129	0.4594E-01	-22.936	0.1207E-01
2550	-3.066	0.2033E-02	-129.773	0.6591E-01	74.552	-0.3707E-01
2555	-14.728	0.7929E-02	-4.882	0.2965E-02	-51.284	0.2635E-01
2560	21.887	-0.1054E-01	-70.617	0.3609E-01	-17.724	0.9433E-02
2565	59.084	-0.2930E-01	-124.211	0.6311E-01	-10.538	0.5812E-02
2570	180.251	-0.9039E-01	-150.387	0.7630E-01	-44.602	0.2299E-01
2575	19.876	-0.9526E-02	-35.255	0.1827E-01	-62.415	0.3196E-01
2580	-16.557	0.8835E-02	-53.678	0.2755E-01	-68.894	0.3522E-01
2585	44.356	-0.2187E-01	-110.441	0.5618E-01	48.945	-0.2416E-01
2590	13.477	-0.6311E-02	-71.439	0.3650E-01	-75.814	0.3871E-01
2595	4.971	-0.2026E-02	-141.727	0.7193E-01	19.004	-0.9080E-02
2600	-55.969	0.2871E-01	-9.741	0.5405E-02	-89.851	0.4578E-01
2605	-12.939	0.7008E-02	-112.530	0.5722E-01	16.314	-0.7724E-02
2610	-18.388	0.9759E-02	-76.465	0.3904E-01	-36.733	0.1901E-01
2615	-38.841	0.2008E-01	3.925	-0.1483E-02	-101.194	0.5150E-01
2620	-33.969	0.1762E-01	-38.249	0.1978E-01	-25.129	0.1316E-01
2625	34.466	-0.1689E-01	-164.902	0.8362E-01	41.282	-0.2030E-01
2630	-15.770	0.8447E-02	-55.924	0.2869E-01	-73.262	0.3743E-01
2635	-41.576	0.2145E-01	-19.702	0.1043E-01	-68.748	0.3515E-01
2640	44.181	-0.2178E-01	-167.851	0.8511E-01	-23.240	0.1222E-01
2645	-66.314	0.3394E-01	26.031	-0.1262E-01	-90.027	0.4588E-01
2650	-5.550	0.3290E-02	-154.687	0.7848E-01	59.154	-0.2930E-01
2655	109.595	-0.5477E-01	-177.043	0.8975E-01	57.441	-0.2844E-01
2660	60.551	-0.3004E-01	-83.151	0.4241E-01	-17.854	0.9500E-02
2665	90.185	-0.4498E-01	-105.451	0.5365E-01	-106.291	0.5407E-01
2670	85.746	-0.4274E-01	-125.530	0.6377E-01	-8.739	0.4907E-02
2675	4.001	-0.1520E-02	-23.472	0.1233E-01	-45.714	0.2354E-01
2680	-6.446	0.3745E-02	-47.040	0.2421E-01	-36.537	0.1892E-01
2685	59.707	-0.2961E-01	-138.901	0.6951E-01	27.775	-0.1349E-01
2690	120.804	-0.6032E-01	-168.636	0.8551E-01	8.903	-0.3979E-02
2695	10.595	-0.4837E-02	18.961	-0.9065E-02	-16.607	0.8873E-02
2700	78.239	-0.3895E-01	-17.721	0.9432E-02	-76.343	0.3898E-01
2705	32.926	-0.1610E-01	-81.669	0.4167E-01	-76.243	0.3893E-01
2710	-32.930	0.1710E-01	28.645	-0.1394E-01	-159.359	0.8082E-01
2715	85.887	-0.4281E-01	-205.904	0.1043E+00	86.887	-0.4328E-01
2720	55.095	-0.2728E-01	-131.734	0.6692E-01	144.344	-0.7224E-01
2725	-32.544	0.1692E-01	51.119	-0.2526E-01	10.267	-0.4669E-02
2730	47.737	-0.2356E-01	-23.682	0.1245E-01	-2.771	0.1905E-02
2735	67.105	-0.3335E-01	-198.620	0.1006E+00	8.562	-0.3806E-02
2740	40.154	-0.1975E-01	-72.220	0.3690E-01	-64.437	0.3298E-01
2745	35.786	-0.1755E-01	-115.943	0.5895E-01	17.682	-0.8404E-02

Table 5b: (continued)

λ (Å)	Intercept		Intercept		Intercept	
	1983.0 to 1983.5		1983.5 to 1984.0		1984.0 to 1984.5	
	Slope	Slope	Slope	Slope	Slope	Slope
2750	-50.910	0.2618E-01	120.129	-0.6006E-01	-137.839	0.6997E-01
2755	4.868	-0.1951E-02	19.151	-0.9151E-02	-85.493	0.4359E-01
2760	-8.752	0.4906E-02	-24.950	0.1307E-01	-99.376	0.5059E-01
2765	8.446	-0.3766E-02	-100.681	0.5125E-01	-59.899	0.3070E-01
2770	85.741	-0.4274E-01	-45.460	0.2341E-01	-133.133	0.6760E-01
2775	-37.438	0.1938E-01	25.840	-0.1253E-01	-108.756	0.5532E-01
2780	31.153	-0.1521E-01	-184.550	0.9353E-01	71.011	-0.3528E-01
2785	46.308	-0.2285E-01	-210.186	0.1065E+00	80.685	-0.4015E-01
2790	123.605	-0.6182E-01	-156.353	0.7932E-01	36.264	-0.1776E-01
2795	61.162	-0.3033E-01	-69.453	0.3552E-01	-0.781	0.9031E-03
2800	-29.888	0.1556E-01	-49.177	0.2528E-01	-44.389	0.2287E-01
2805	-29.044	0.1513E-01	-49.629	0.2551E-01	-85.117	0.4340E-01
2810	-20.669	0.1092E-01	-36.926	0.1912E-01	-0.717	0.8678E-03
2815	32.049	-0.1566E-01	-63.249	0.3239E-01	0.700	0.1543E-03
2820	19.889	-0.9523E-02	-16.019	0.8580E-02	-1.075	0.1048E-02
2825	19.357	-0.9254E-02	15.091	-0.7104E-02	-13.316	0.7214E-02
2830	-25.650	0.1343E-01	-25.054	0.1313E-01	-9.876	0.5482E-02
2835	23.445	-0.1133E-01	-42.070	0.2170E-01	-61.609	0.3155E-01
2840	-39.273	0.2031E-01	-4.574	0.2811E-02	-51.554	0.2649E-01
2845	109.945	-0.5494E-01	-91.209	0.4648E-01	-19.757	0.1046E-01
2850	49.464	-0.2444E-01	-52.397	0.2692E-01	-22.330	0.1176E-01
2855	25.820	-0.1252E-01	-114.841	0.5839E-01	-0.845	0.9351E-03
2860	-69.096	0.3534E-01	-55.509	0.2849E-01	21.549	-0.1035E-01
2865	-27.745	0.1449E-01	-102.136	0.5199E-01	69.871	-0.3470E-01
2870	-0.193	0.5952E-03	-154.125	0.7820E-01	42.094	-0.2070E-01
2875	19.091	-0.9129E-02	-125.111	0.6357E-01	-32.237	0.1676E-01
2880	58.537	-0.2902E-01	-199.529	0.1011E+00	26.226	-0.1270E-01
2885	29.744	-0.1450E-01	-35.212	0.1825E-01	-50.386	0.2590E-01
2890	-15.489	0.8313E-02	33.243	-0.1626E-01	-23.602	0.1240E-01
2895	80.575	-0.4013E-01	-116.135	0.5904E-01	-49.082	0.2525E-01
2900	8.530	-0.3802E-02	-102.057	0.5195E-01	-68.913	0.3525E-01
2905	-62.066	0.3180E-01	26.758	-0.1298E-01	-82.747	0.4221E-01
2910	-2.325	0.1672E-02	-47.325	0.2436E-01	24.520	-0.1185E-01
2915	-14.738	0.7932E-02	46.974	-0.2318E-01	-86.295	0.4399E-01
2920	-72.385	0.3699E-01	13.728	-0.6421E-02	-64.874	0.3320E-01
2925	66.951	-0.3326E-01	-47.207	0.2430E-01	-67.945	0.3475E-01
2930	24.673	-0.1194E-01	-64.189	0.3286E-01	-11.113	0.6105E-02
2935	78.409	-0.3903E-01	-124.199	0.6311E-01	17.473	-0.8293E-02
2940	68.128	-0.3385E-01	-63.670	0.3260E-01	-39.714	0.2052E-01
2945	96.295	-0.4806E-01	-94.426	0.4810E-01	-9.975	0.5531E-02
2950	42.264	-0.2082E-01	-121.565	0.6178E-01	-1.599	0.1311E-02
2955	142.763	-0.7149E-01	-163.087	0.8271E-01	38.819	-0.1906E-01
2960	-3.593	0.2302E-02	-95.797	0.4879E-01	-9.019	0.5049E-02
2965	44.183	-0.2178E-01	-35.112	0.1819E-01	-150.651	0.7643E-01
2970	42.810	-0.2109E-01	-127.363	0.6470E-01	19.056	-0.9099E-02
2975	62.335	-0.3094E-01	-115.859	0.5890E-01	-89.795	0.4576E-01
2980	82.763	-0.4123E-01	-19.719	0.1044E-01	-69.022	0.3529E-01
2985	60.587	-0.3005E-01	-66.689	0.3412E-01	-46.026	0.2370E-01
2990	45.708	-0.2254E-01	-48.235	0.2482E-01	-40.047	0.2069E-01
2995	-67.115	0.3434E-01	-58.514	0.3000E-01	-13.596	0.7363E-02
3000	-30.555	0.1590E-01	-125.647	0.6384E-01	83.928	-0.4179E-01
3005	66.187	-0.3287E-01	-71.528	0.3656E-01	11.191	-0.5133E-02
3010	97.071	-0.4845E-01	-95.467	0.4862E-01	-33.249	0.1726E-01
3015	51.896	-0.2567E-01	-6.511	0.3780E-02	-46.691	0.2403E-01
3020	-52.500	0.2698E-01	20.463	-0.9809E-02	-26.317	0.1377E-01
3025	-51.670	0.2656E-01	44.217	-0.2178E-01	-69.700	0.3563E-01
3030	-8.467	0.4769E-02	28.189	-0.1371E-01	-53.687	0.2756E-01
3035	102.952	-0.5141E-01	-215.416	0.1091E+00	-6.228	0.3656E-02
3040	187.448	-0.9401E-01	-112.507	0.5721E-01	-107.402	0.5464E-01
3045	169.087	-0.8475E-01	-115.581	0.5877E-01	-35.627	0.1847E-01

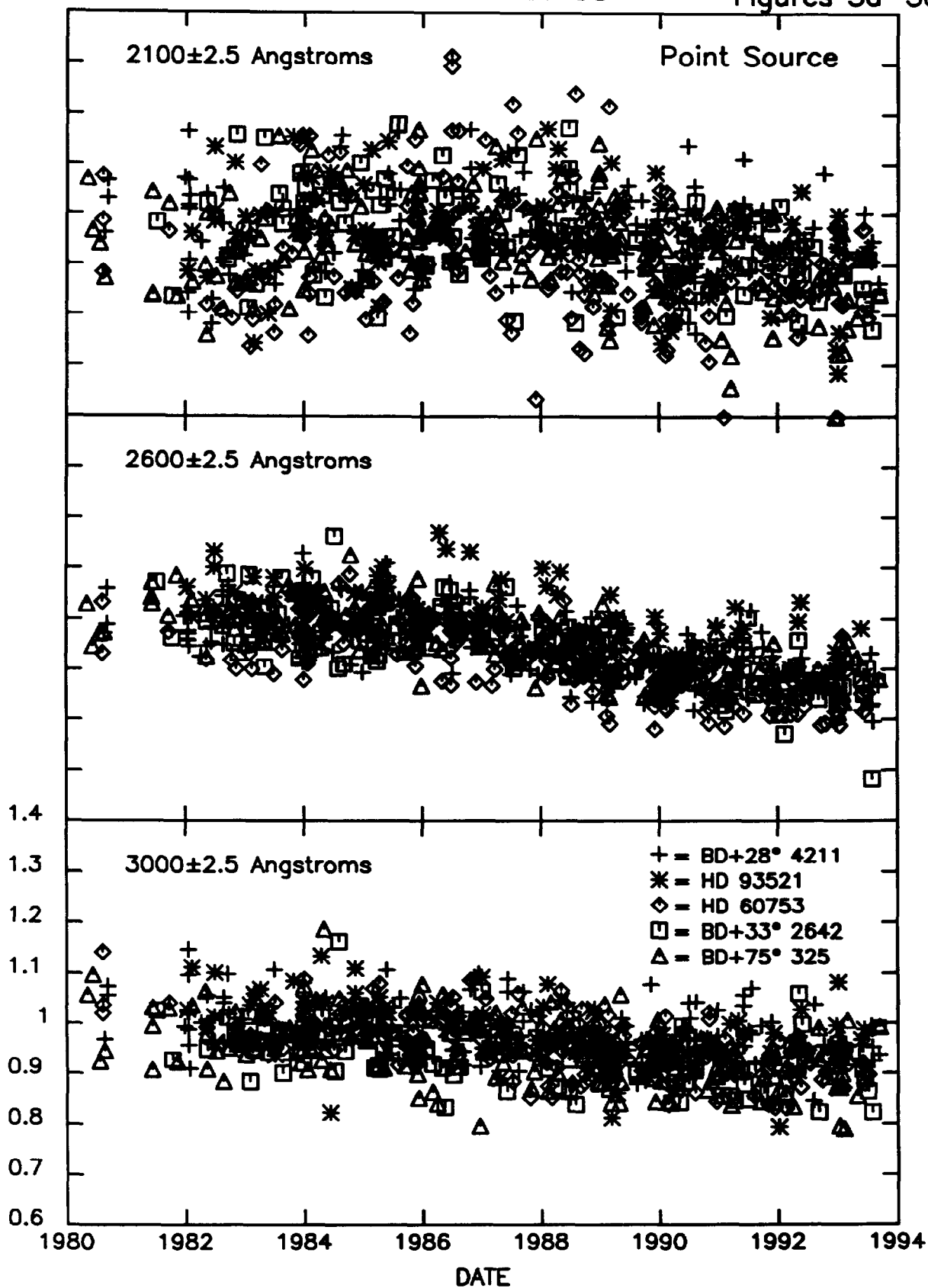
Table 5b: (continued)

λ (Å)	Intercept 1983.0 to 1983.5	Slope	Intercept 1983.5 to 1984.0	Slope	Intercept 1984.0 to 1984.5	Slope
3050	137.294	-0.6872E-01	-14.060	0.7587E-02	-142.849	0.7250E-01
3055	119.975	-0.5999E-01	-45.719	0.2354E-01	-79.866	0.4075E-01
3060	84.034	-0.4187E-01	-127.210	0.6463E-01	37.763	-0.1852E-01
3065	65.970	-0.3277E-01	-127.485	0.6477E-01	-19.344	0.1026E-01
3070	155.971	-0.7813E-01	0.233	0.3844E-03	-49.012	0.2521E-01
3075	59.702	-0.2959E-01	87.498	-0.4360E-01	-95.383	0.4858E-01
3080	-14.004	0.7568E-02	88.653	-0.4419E-01	-123.887	0.6294E-01
3085	-32.695	0.1700E-01	196.086	-0.9835E-01	-147.600	0.7488E-01
3090	66.747	-0.3316E-01	-45.858	0.2361E-01	-53.762	0.2759E-01
3095	-93.245	0.4750E-01	54.423	-0.2694E-01	-193.960	0.9825E-01
3100	-180.874	0.9170E-01	84.508	-0.4209E-01	-82.486	0.4208E-01
3105	20.898	-0.1003E-01	-32.473	0.1687E-01	-43.463	0.2241E-01
3110	92.484	-0.4612E-01	-16.084	0.8611E-02	-192.817	0.9769E-01
3115	34.622	-0.1695E-01	-14.132	0.7634E-02	-90.927	0.4634E-01
3120	63.911	-0.3172E-01	-163.810	0.8308E-01	55.941	-0.2768E-01
3125	50.231	-0.2481E-01	-217.623	0.1102E+00	161.199	-0.8071E-01
3130	34.184	-0.1673E-01	-87.630	0.4469E-01	87.489	-0.4358E-01
3135	-59.051	0.3027E-01	56.878	-0.2817E-01	-83.013	0.4234E-01
3140	52.432	-0.2594E-01	-57.147	0.2931E-01	-44.235	0.2280E-01
3145	205.475	-0.1031E+00	-292.637	0.1480E+00	111.319	-0.5558E-01
3150	126.187	-0.6313E-01	-340.592	0.1722E+00	155.544	-0.7787E-01
3155	-26.413	0.1382E-01	-247.789	0.1254E+00	162.680	-0.8146E-01
3160	83.167	-0.4143E-01	-127.494	0.6478E-01	-116.188	0.5908E-01
3165	100.792	-0.5031E-01	-135.278	0.6871E-01	-48.453	0.2495E-01
3170	250.204	-0.1256E+00	-337.463	0.1706E+00	231.048	-0.1159E+00
3175	183.952	-0.9224E-01	-517.426	0.2614E+00	347.515	-0.1746E+00
3180	157.112	-0.7871E-01	-213.680	0.1082E+00	85.492	-0.4256E-01
3185	364.608	-0.1833E+00	-164.340	0.8335E-01	-41.074	0.2122E-01
3190	182.018	-0.9126E-01	-53.776	0.2762E-01	-220.536	0.1117E+00
3195	-154.716	0.7852E-01	16.122	-0.7612E-02	-12.707	0.6918E-02
3200	-78.859	0.4029E-01	-182.822	0.9260E-01	370.744	-0.1863E+00
3205	100.661	-0.5026E-01	-423.943	0.2142E+00	108.360	-0.5407E-01
3210	-34.112	0.1769E-01	-311.527	0.1576E+00	148.985	-0.7456E-01
3215	342.486	-0.1722E+00	-478.425	0.2417E+00	11.875	-0.5448E-02
3220	236.316	-0.1187E+00	-445.826	0.2253E+00	124.512	-0.6221E-01
3225	70.541	-0.3507E-01	-392.234	0.1982E+00	94.502	-0.4709E-01
3230	-19.310	0.1025E-01	-229.881	0.1164E+00	85.763	-0.4268E-01
3235	50.122	-0.2475E-01	-392.713	0.1985E+00	209.416	-0.1050E+00
3240	217.287	-0.1090E+00	-456.495	0.2307E+00	90.969	-0.4528E-01
3245	263.288	-0.1322E+00	-464.981	0.2349E+00	172.278	-0.8627E-01
3250	540.289	-0.2719E+00	-922.205	0.4654E+00	458.705	-0.2306E+00
3255	420.700	-0.2116E+00	-848.001	0.4280E+00	263.082	-0.1320E+00
3260	-16.153	0.8671E-02	-640.035	0.3232E+00	565.601	-0.2845E+00
3265	-34.416	0.1786E-01	-718.158	0.3626E+00	343.730	-0.1727E+00
3270	88.392	-0.4405E-01	-644.434	0.3254E+00	405.289	-0.2037E+00
3275	76.649	-0.3812E-01	-405.345	0.2049E+00	467.913	-0.2353E+00
3280	332.824	-0.1673E+00	-204.087	0.1034E+00	-499.900	0.2525E+00
3285	529.331	-0.2664E+00	-462.590	0.2337E+00	-323.755	0.1637E+00
3290	590.001	-0.2969E+00	-407.665	0.2060E+00	-84.812	0.4331E-01
3295	501.179	-0.2522E+00	-622.343	0.3143E+00	268.432	-0.1347E+00
3300	-126.152	0.6420E-01	-42.713	0.2213E-01	511.889	-0.2574E+00
3305	63.868	-0.3166E-01	-205.559	0.1042E+00	383.335	-0.1926E+00
3310	-2.959	0.2018E-02	-244.800	0.1239E+00	129.204	-0.6457E-01
3315	275.120	-0.1382E+00	-325.827	0.1648E+00	402.347	-0.2022E+00
3320	438.694	-0.2207E+00	-870.127	0.4392E+00	358.507	-0.1801E+00
3325	355.995	-0.1790E+00	-510.278	0.2578E+00	-117.519	0.5980E-01
3330	814.353	-0.4101E+00	83.328	-0.4155E-01	-606.047	0.3059E+00
3335	822.808	-0.4143E+00	579.243	-0.2915E+00	-512.451	0.2587E+00
3340	346.177	-0.1740E+00	-385.582	0.1949E+00	-130.542	0.6633E-01
3345	585.122	-0.2945E+00	-1299.038	0.6554E+00	242.360	-0.1215E+00
3350	-88.898	0.4544E-01	-327.150	0.1656E+00	293.661	-0.1474E+00



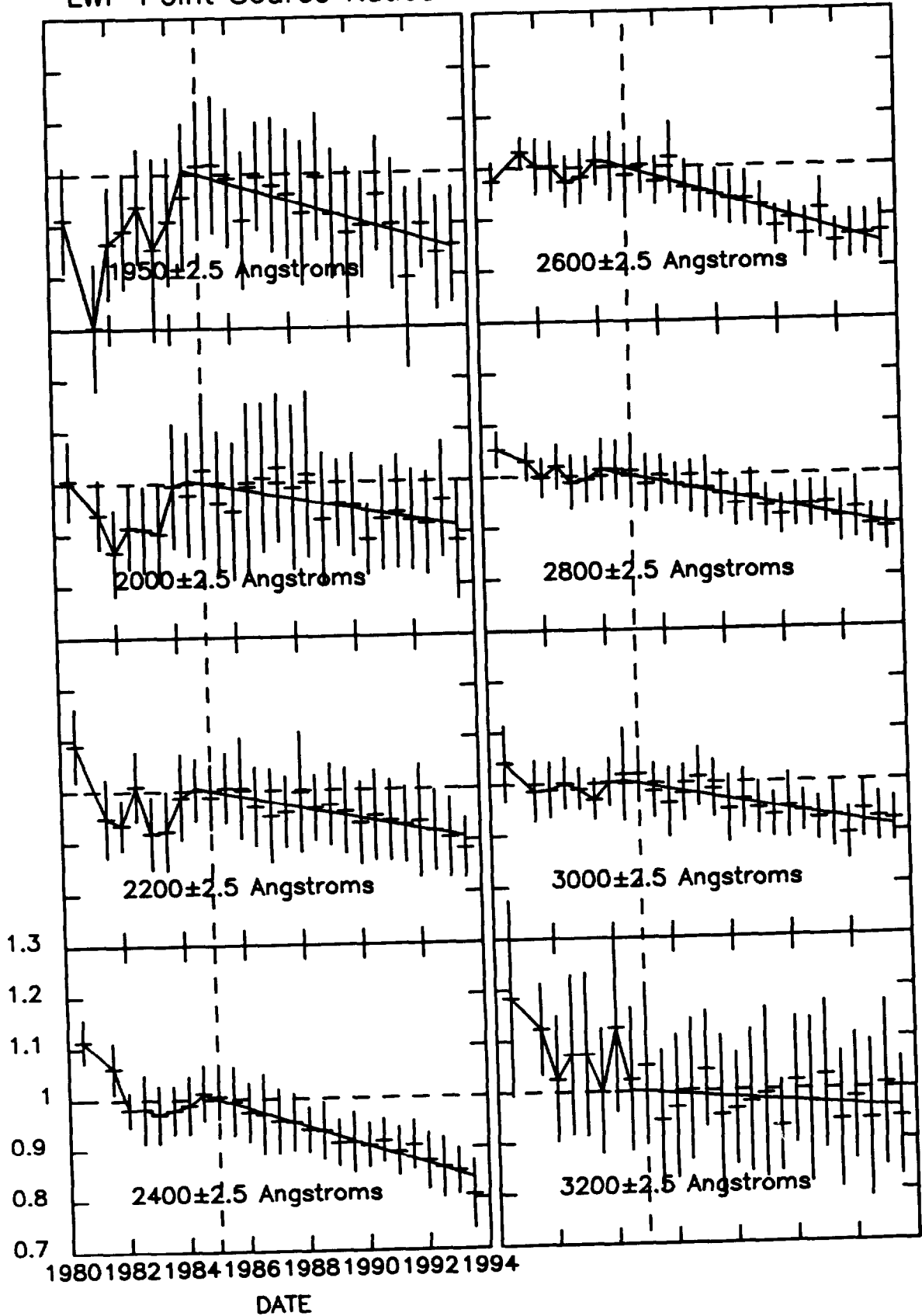
LWP FLUX RATIOS

Figures 3a-3c



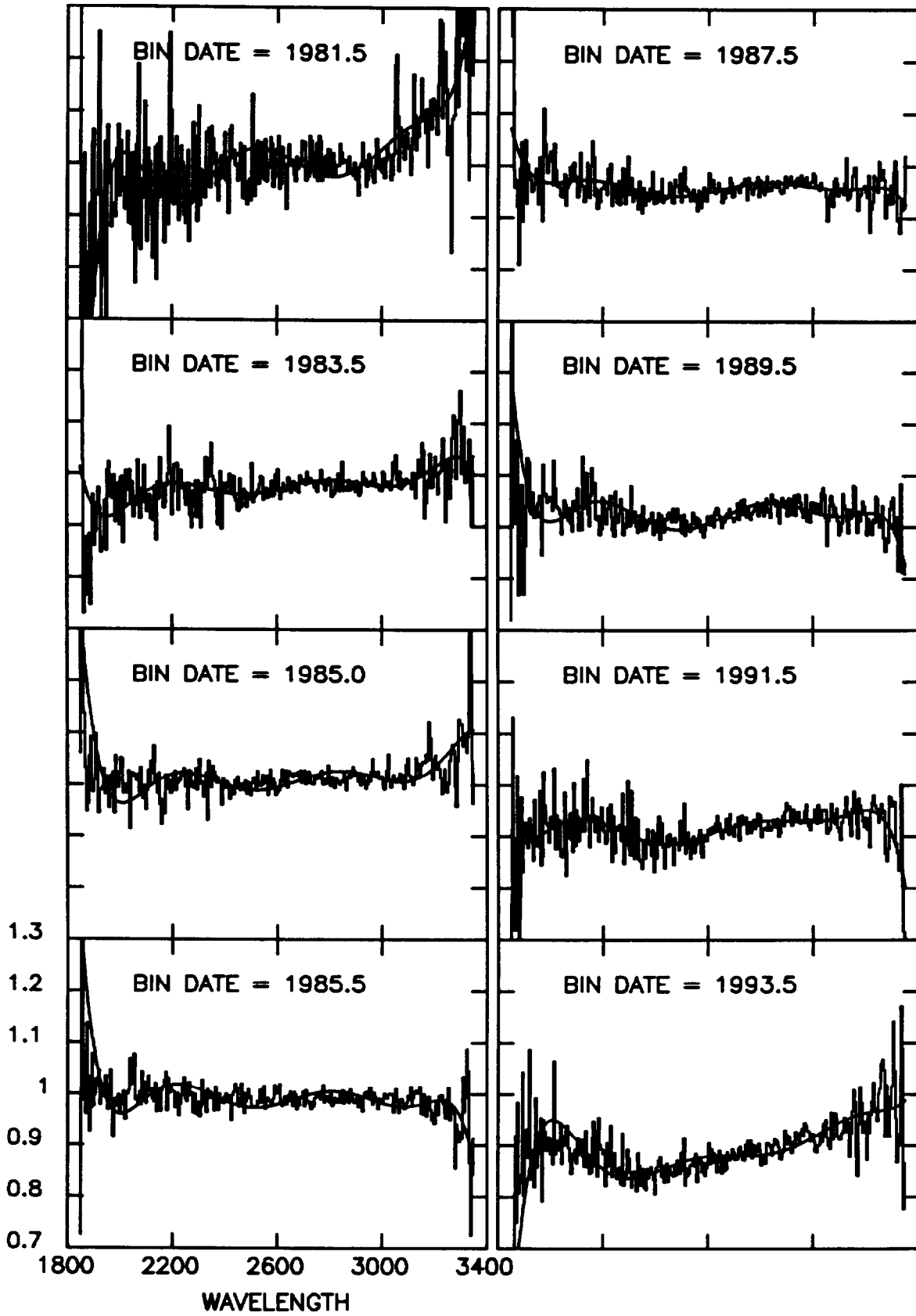
LWP Point Source Ratios

Figures 4a-4h



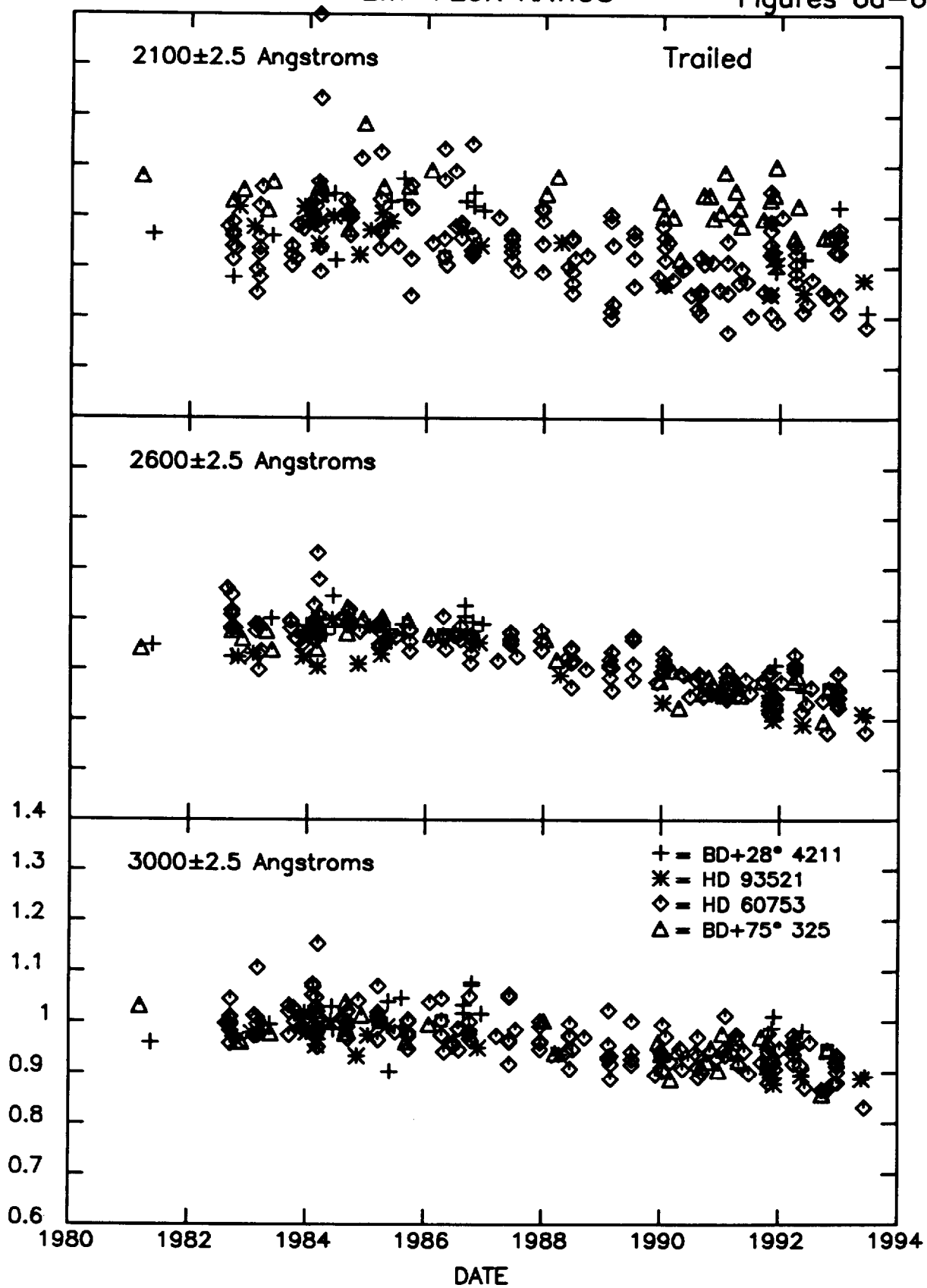
LWP Point Source Ratios

Figures 5a-5h



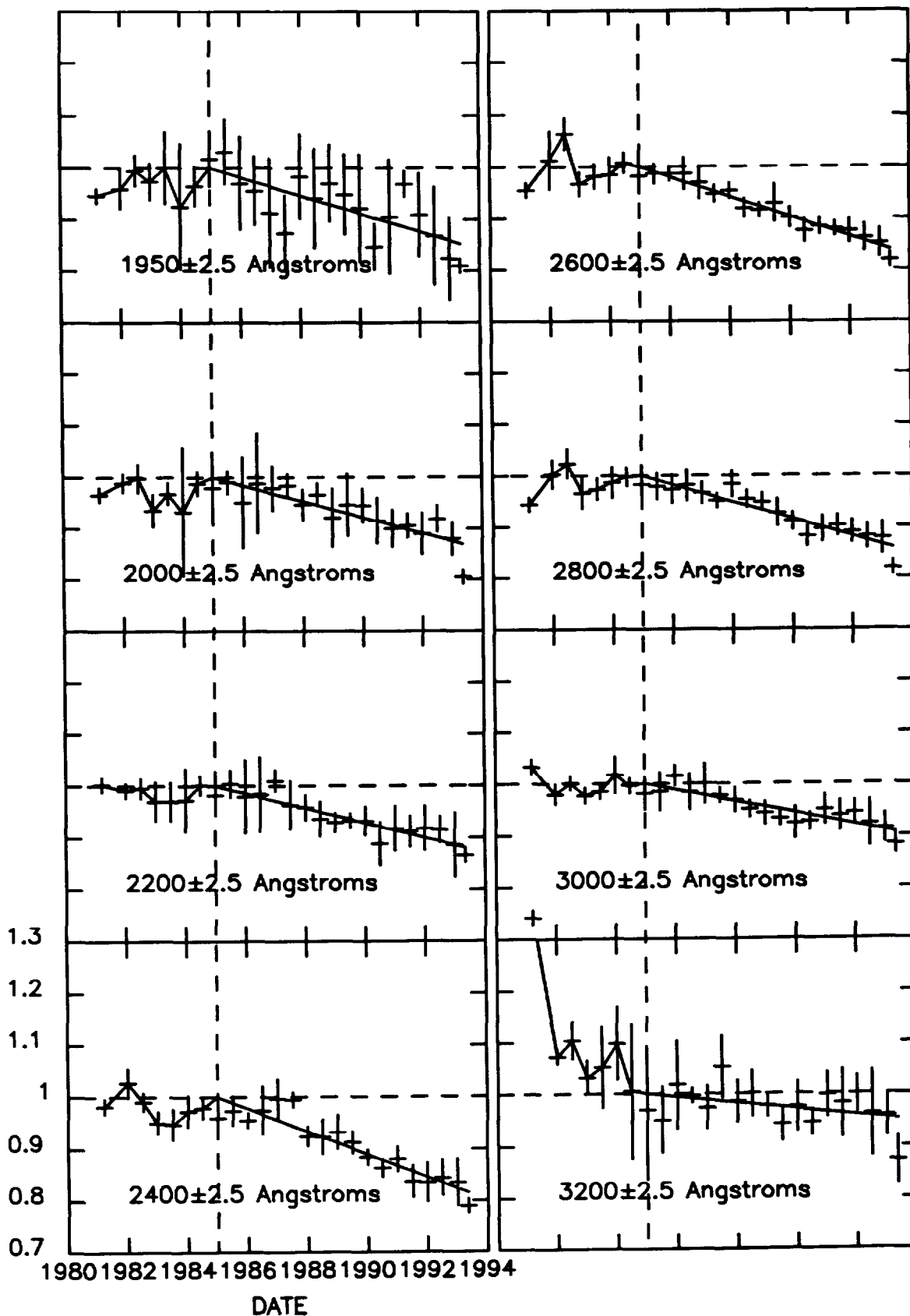
LWP FLUX RATIOS

Figures 6a-6c



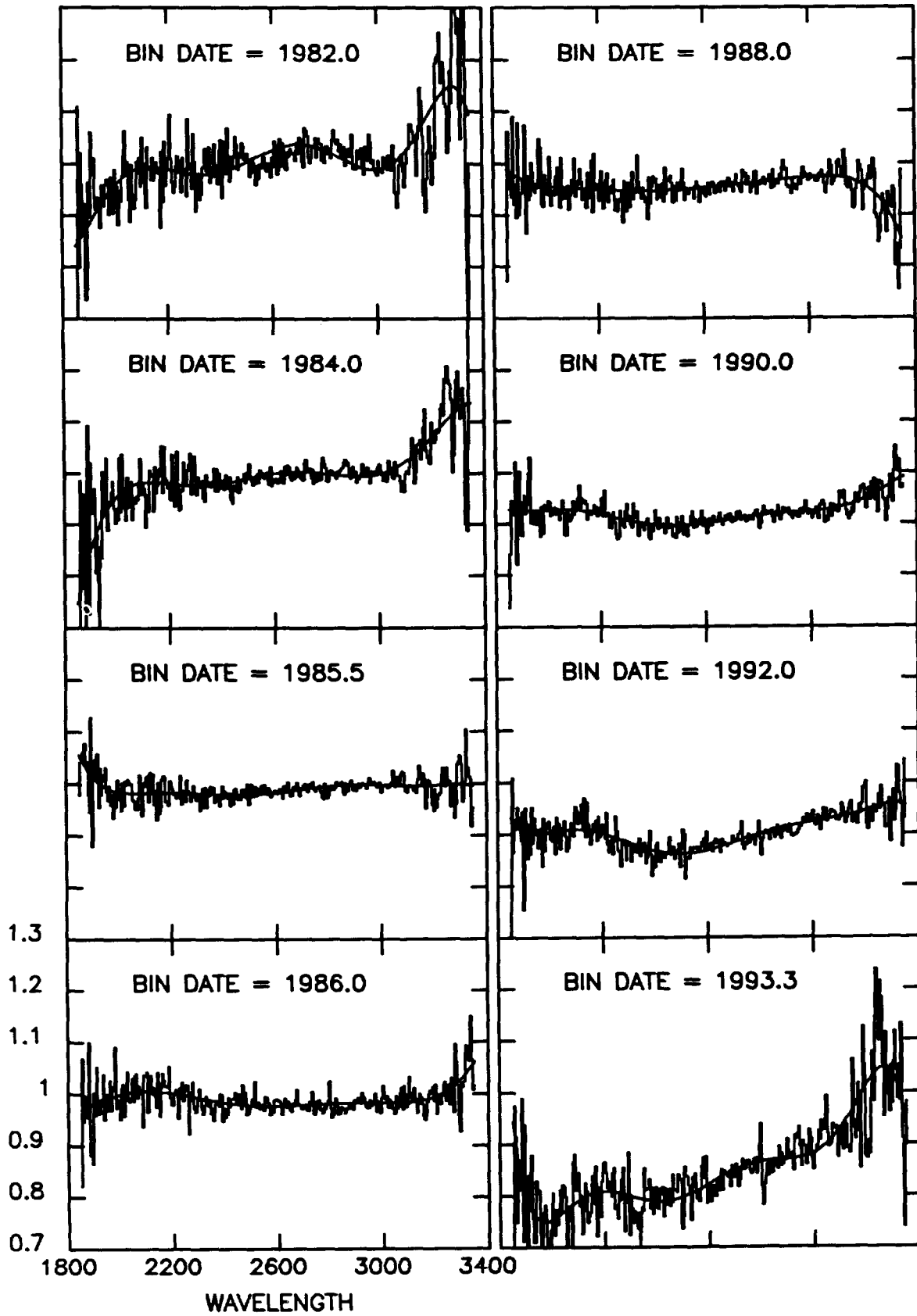
LWP Trailed Ratios

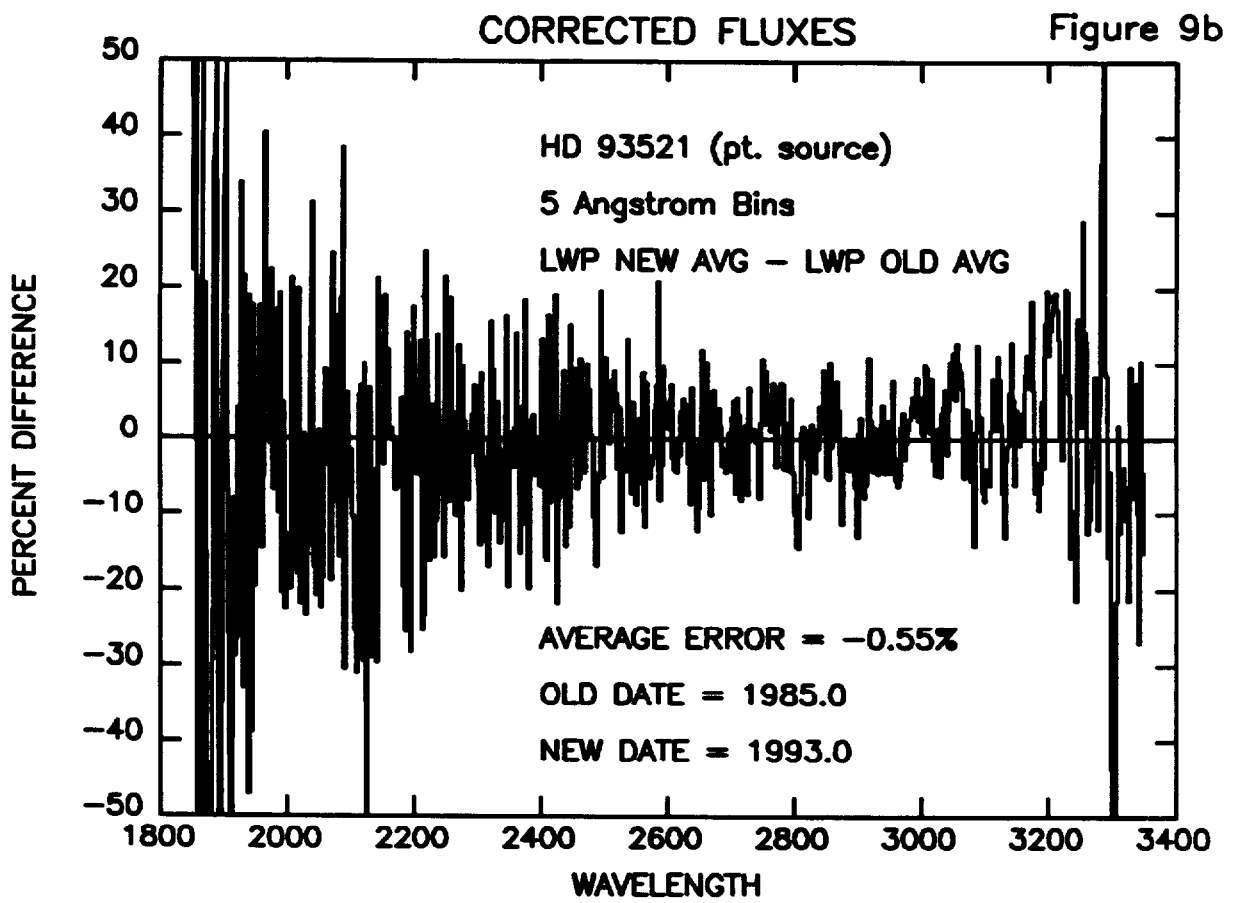
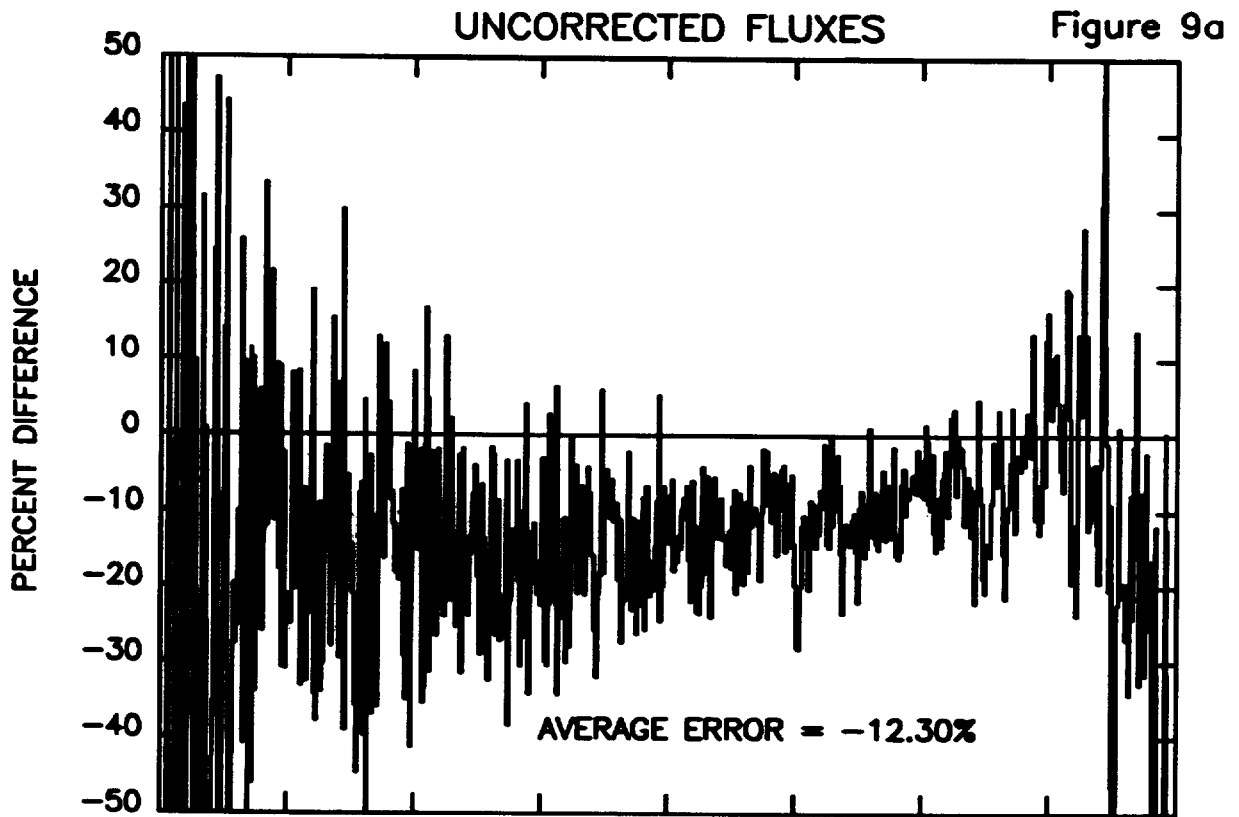
Figures 7a-7h



LWP Trailed Ratios

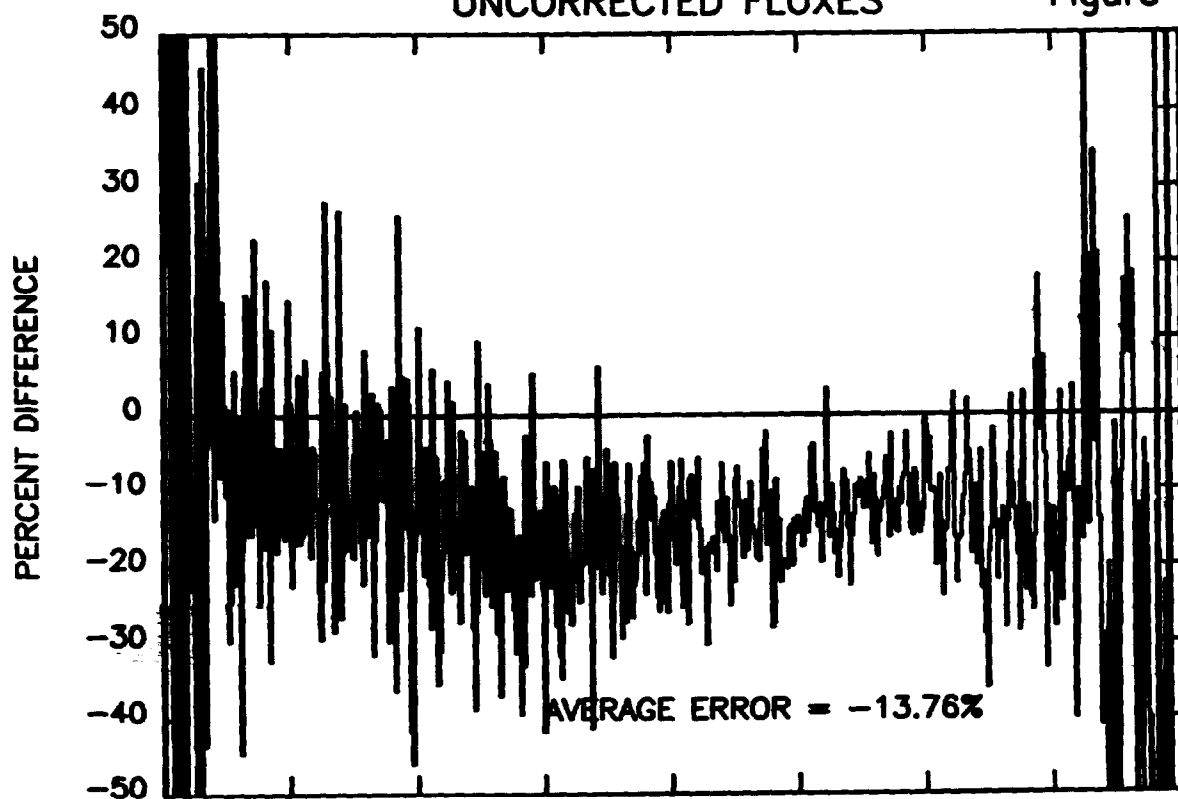
Figures 8a-8h





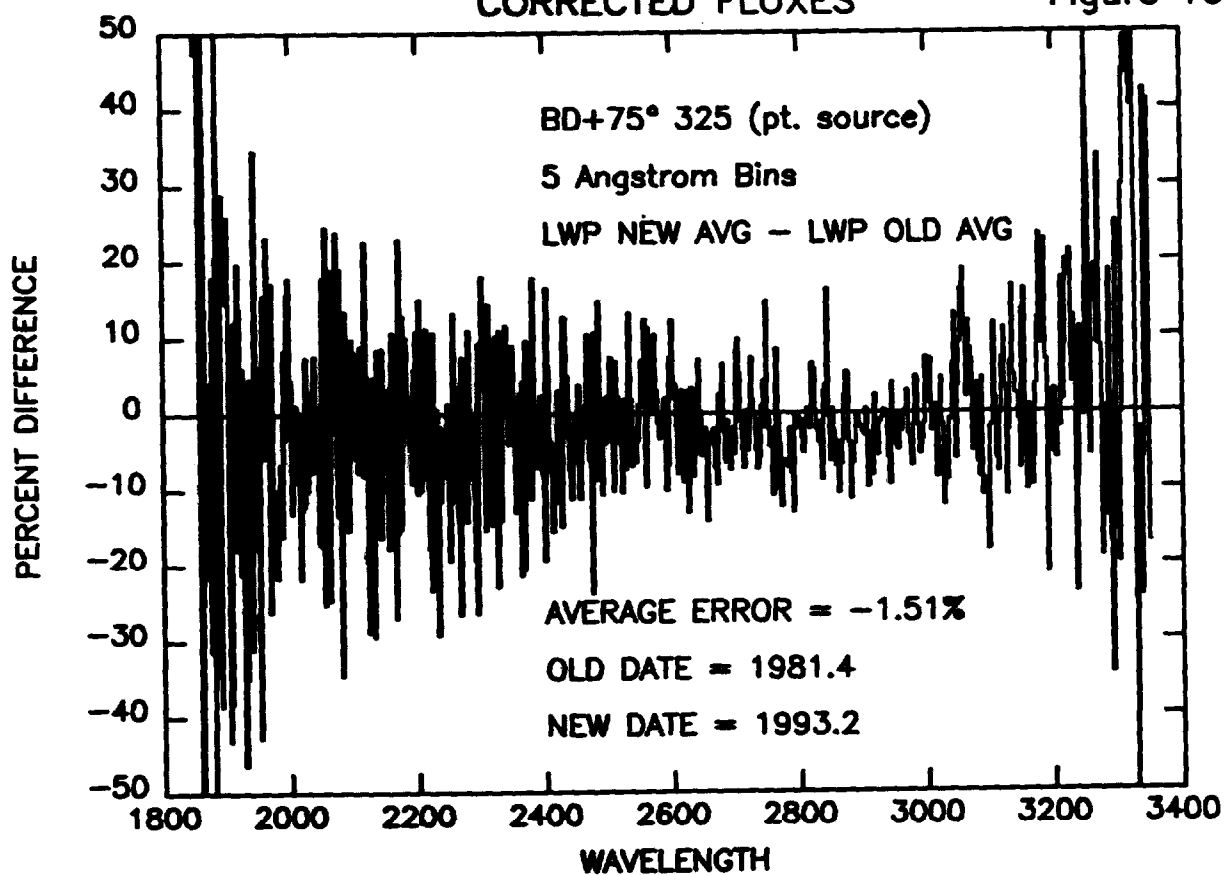
UNCORRECTED FLUXES

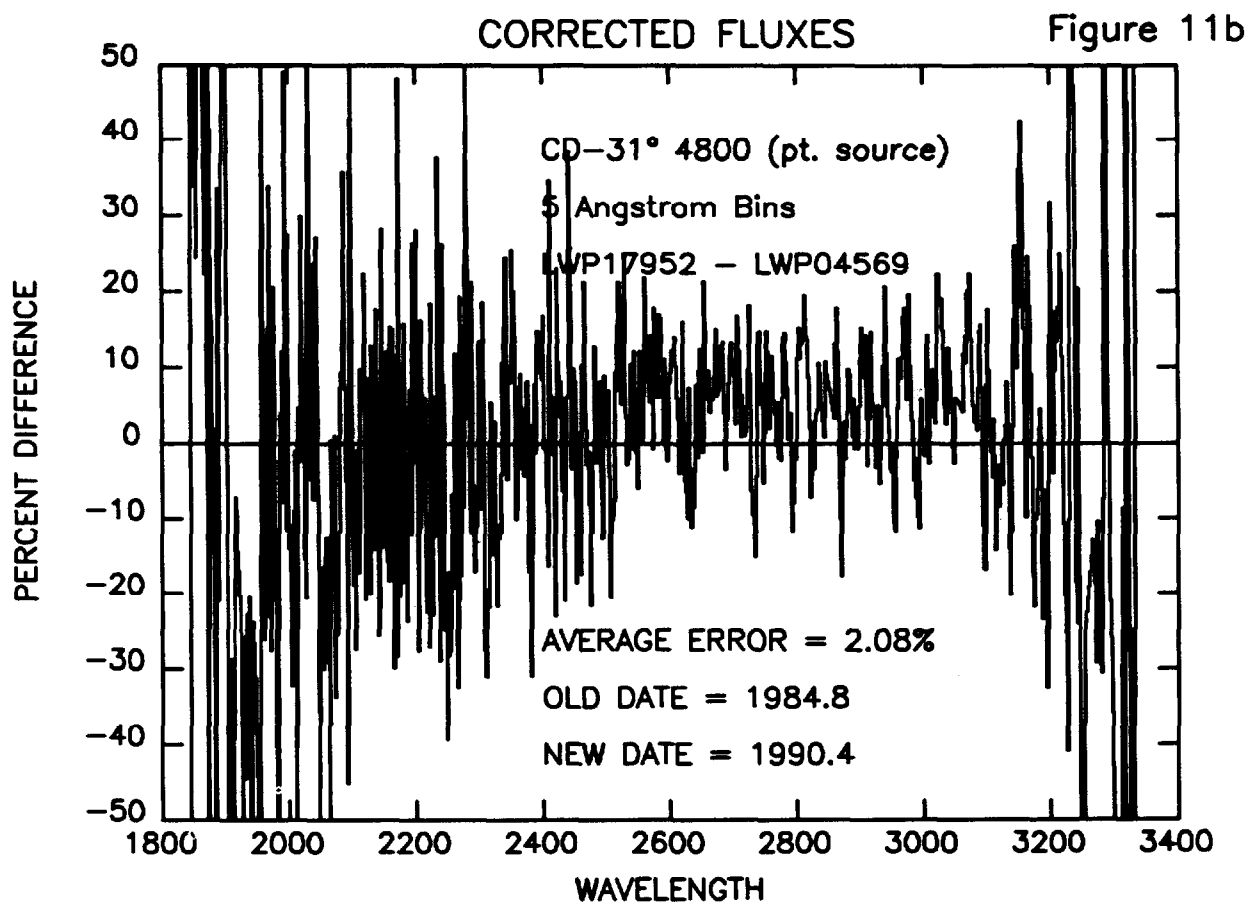
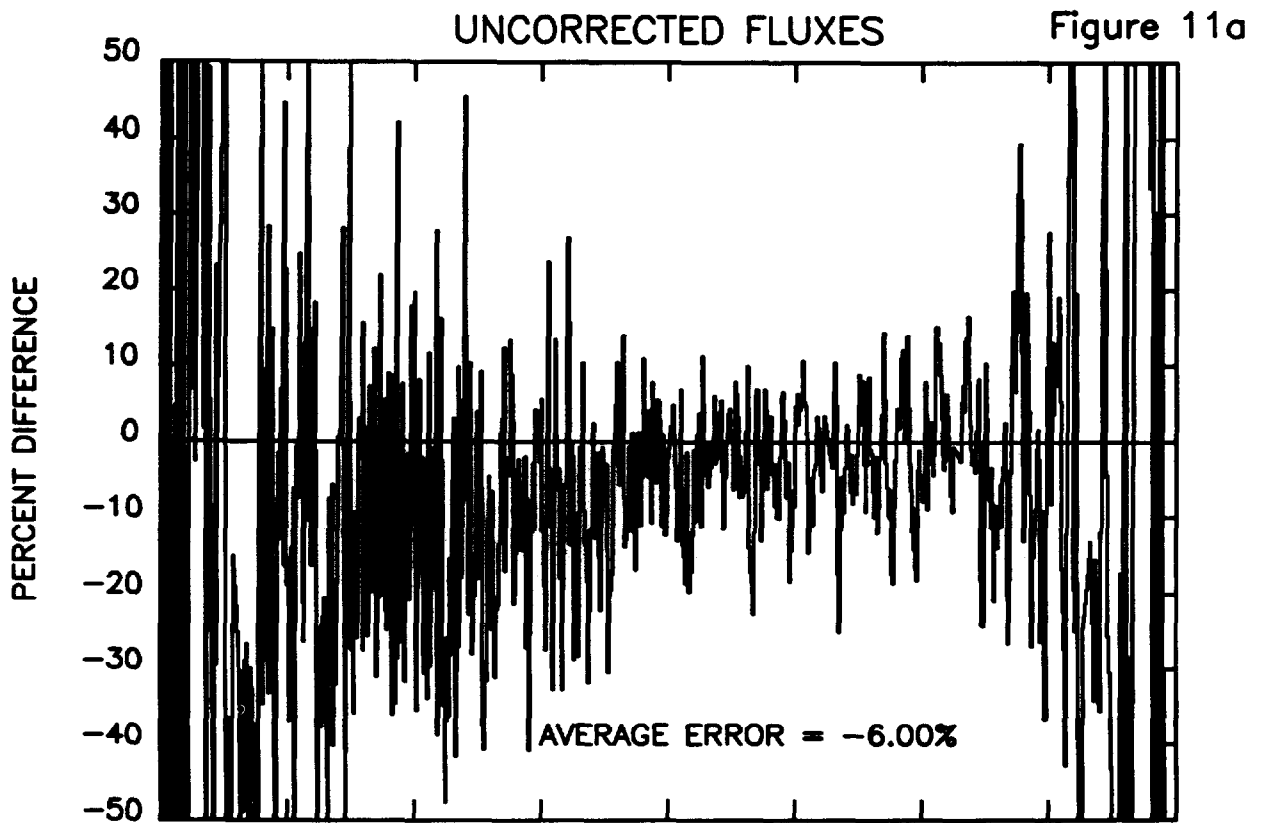
Figure 10a

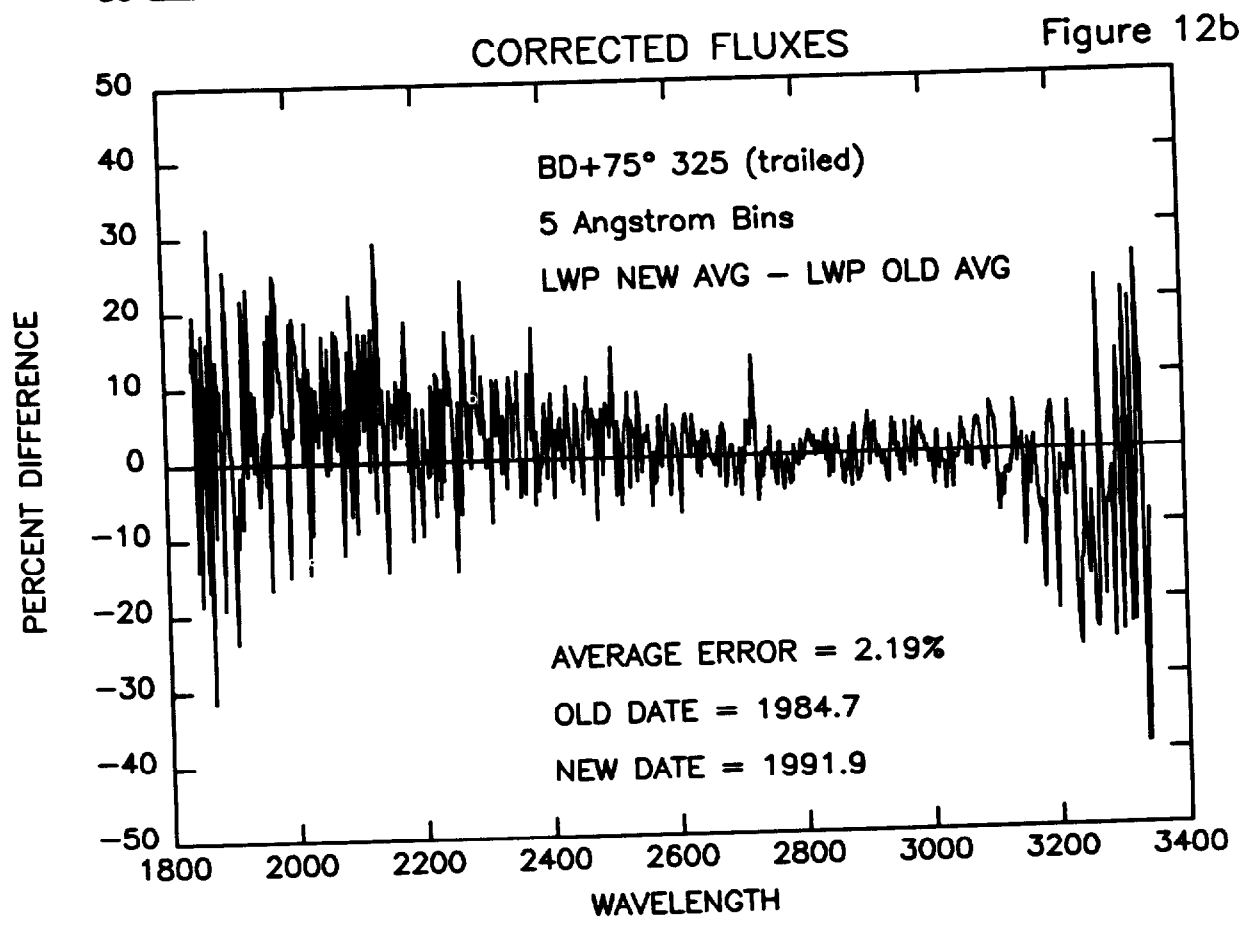
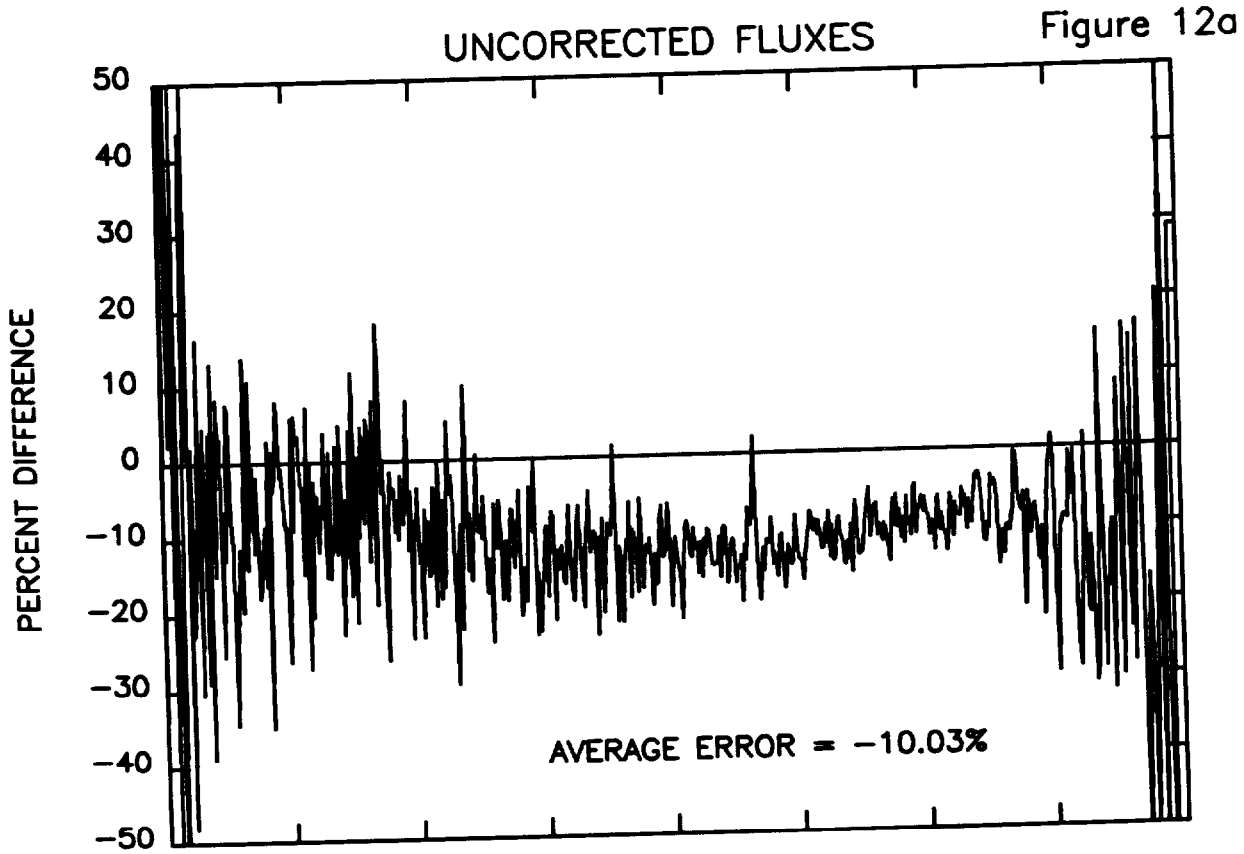


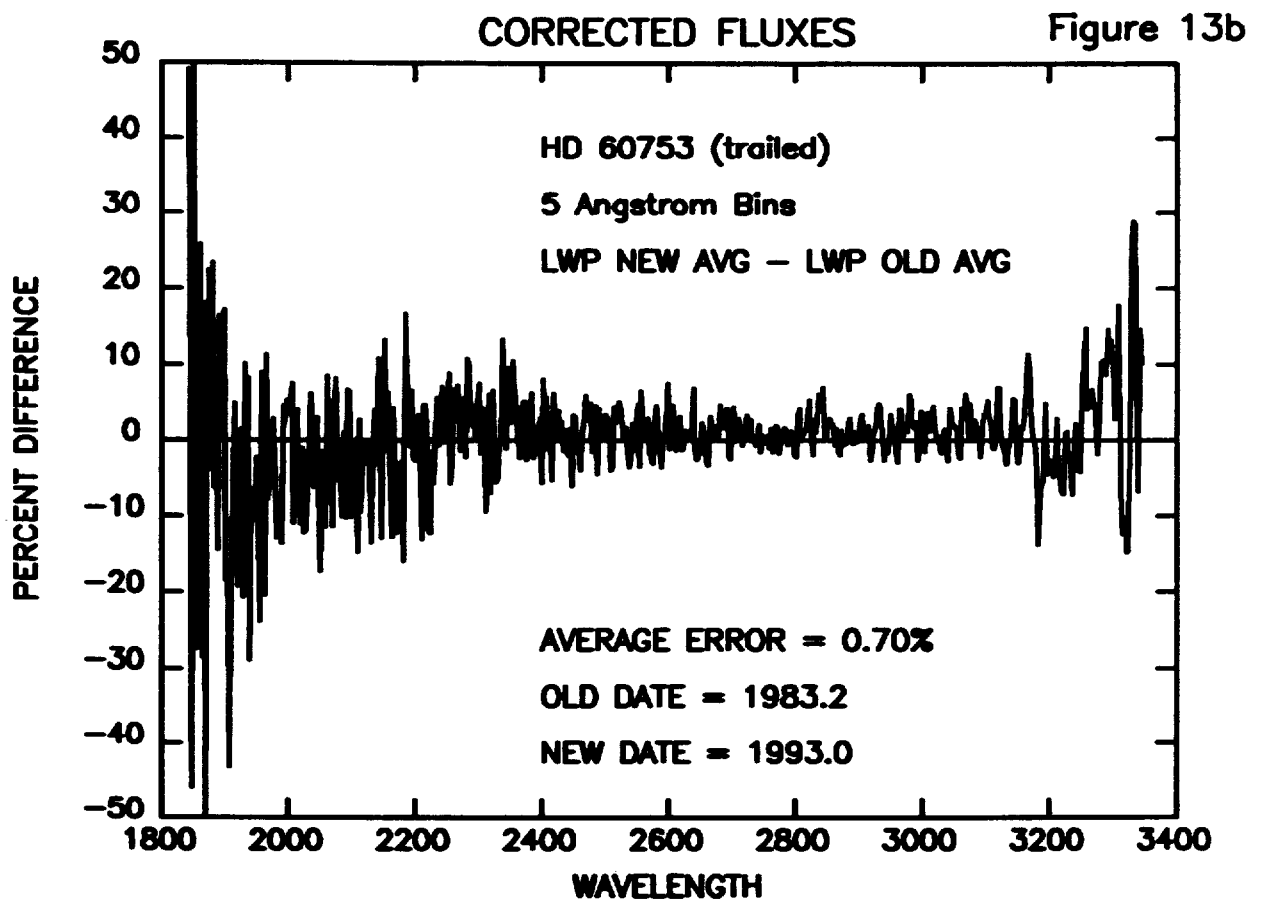
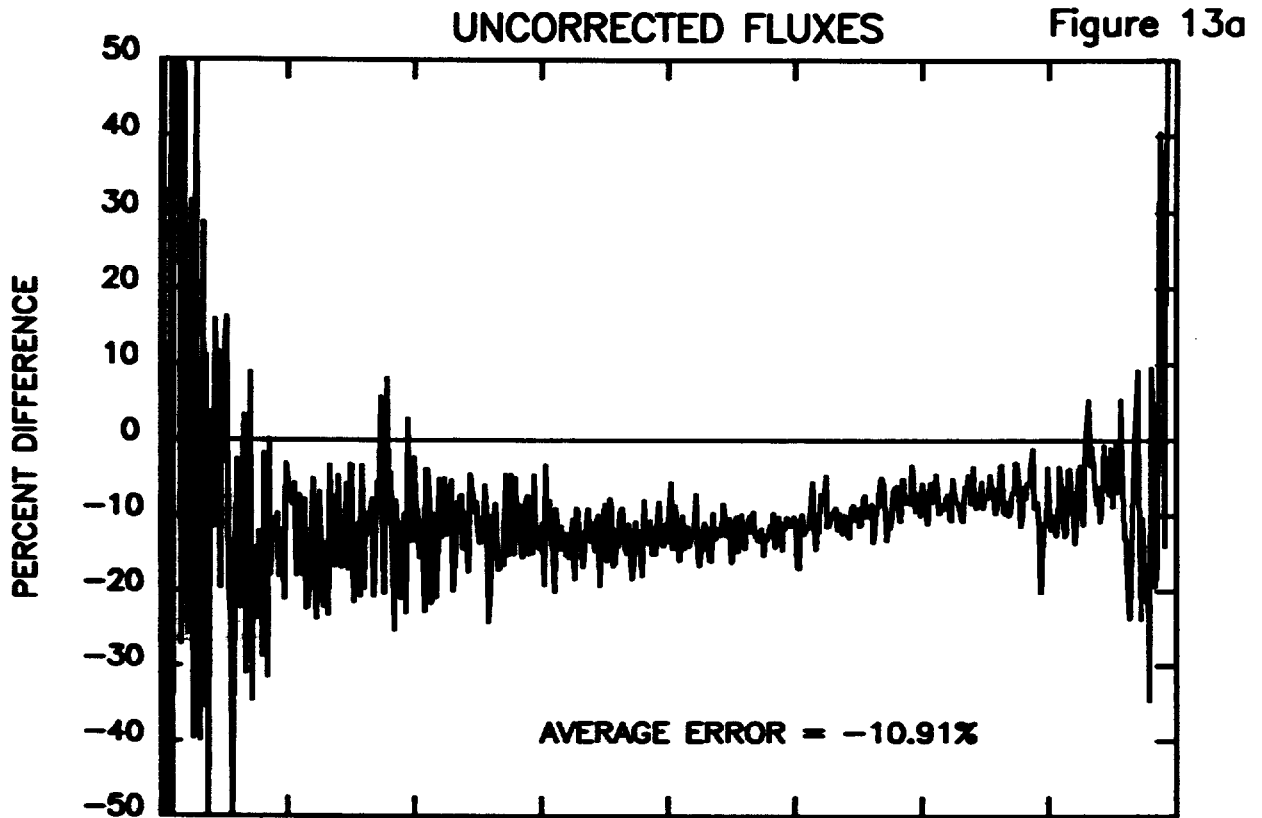
CORRECTED FLUXES

Figure 10b

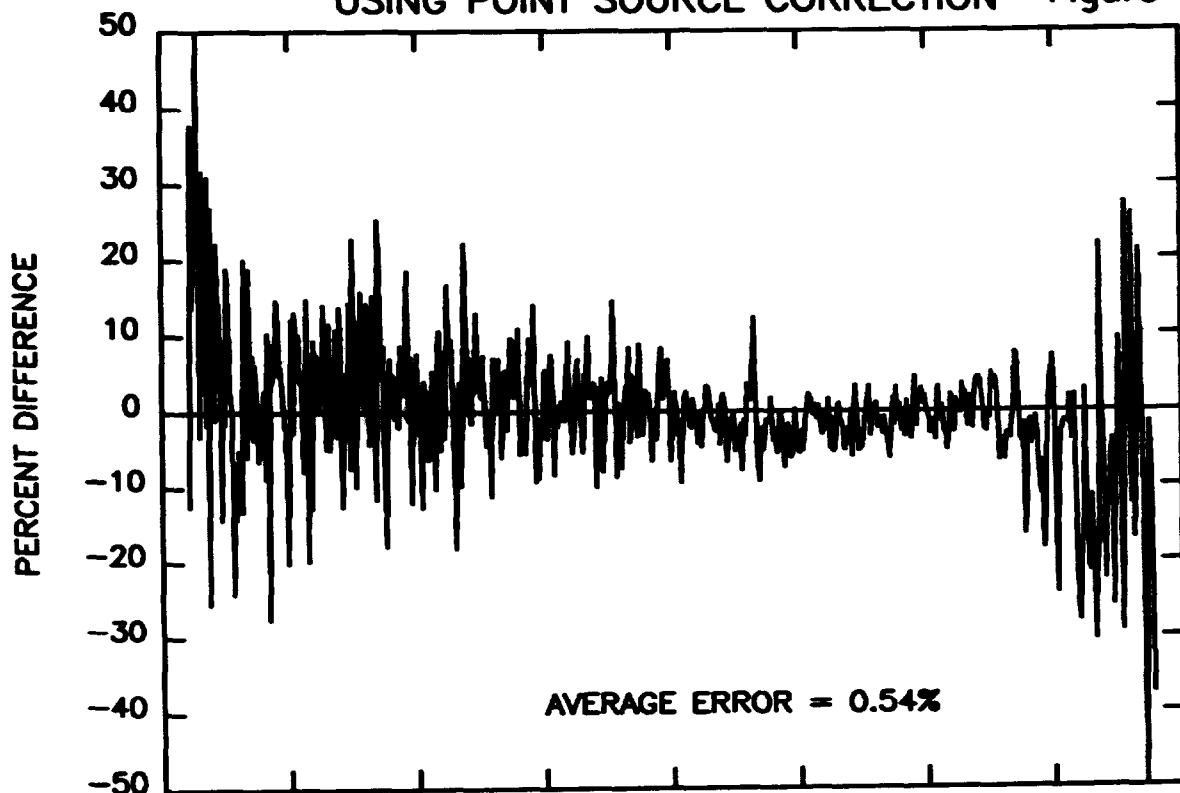




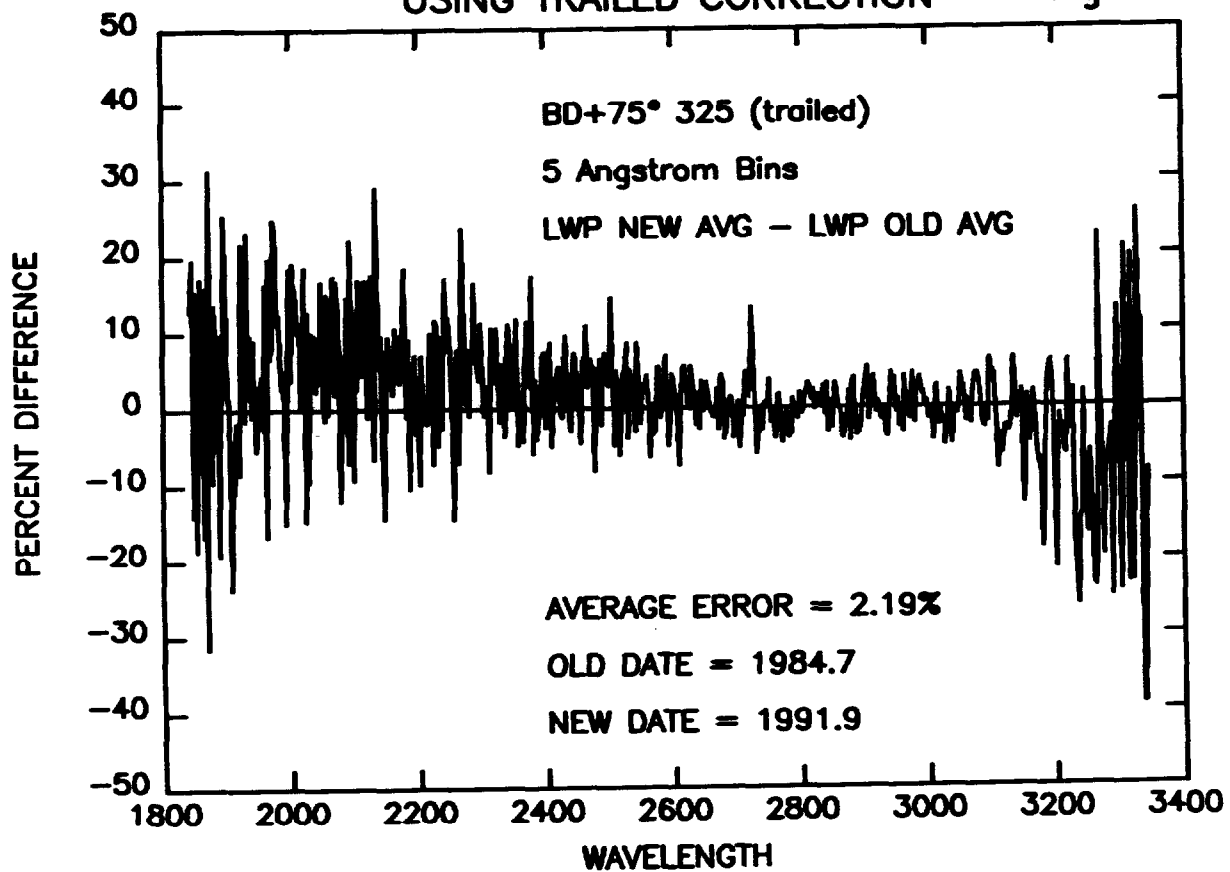




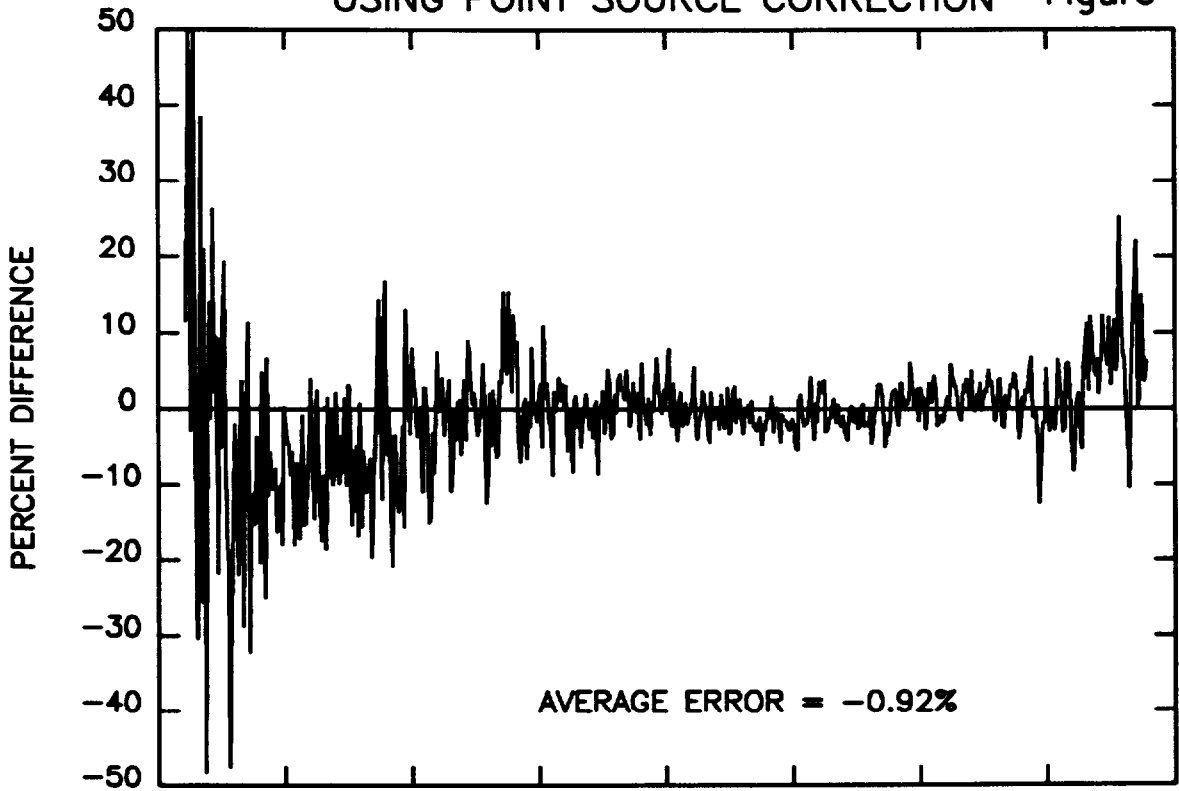
USING POINT SOURCE CORRECTION Figure 14a



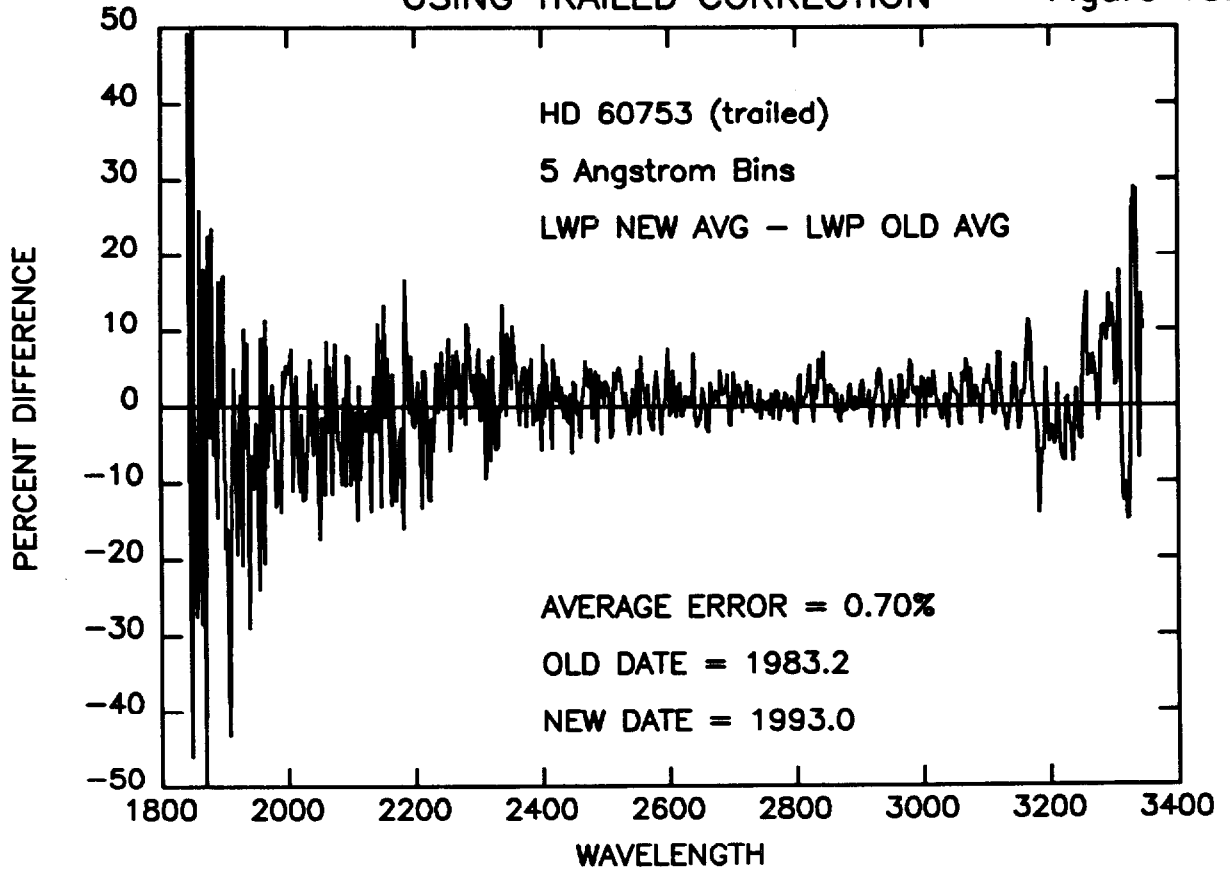
USING TRAILED CORRECTION Figure 14b



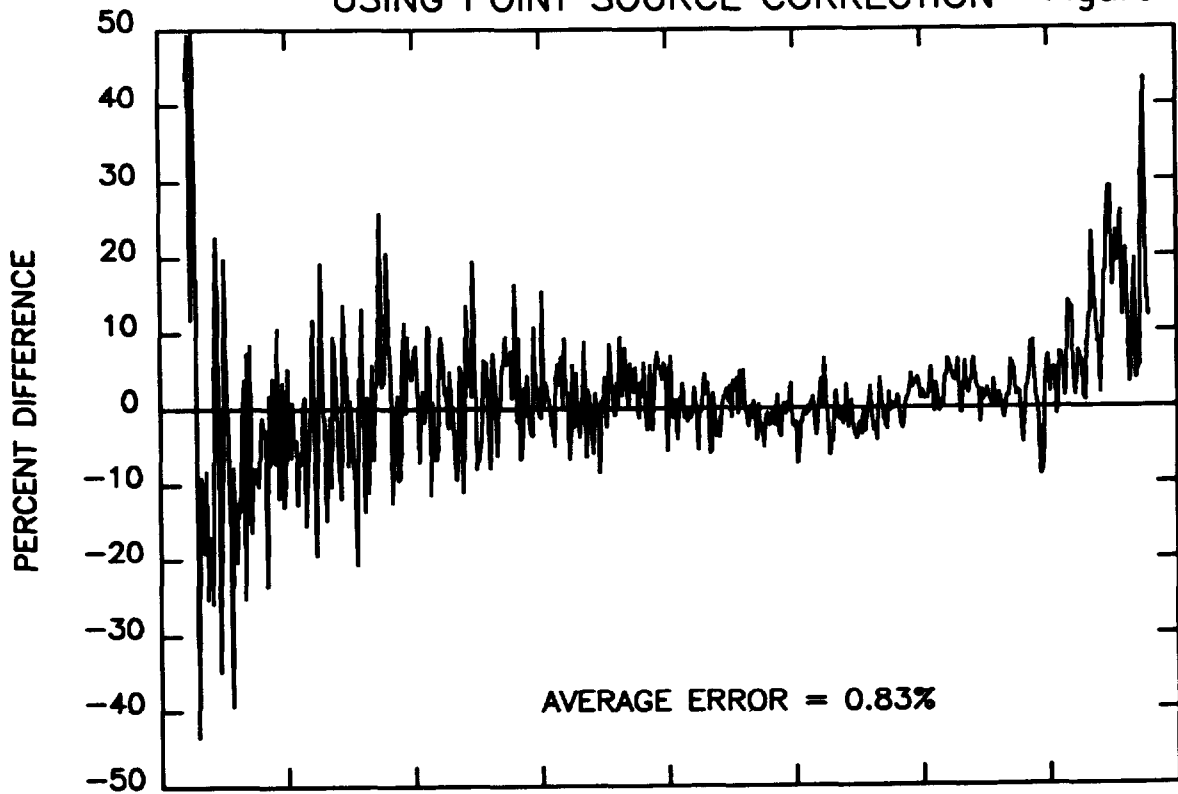
USING POINT SOURCE CORRECTION Figure 15a



USING TRAILED CORRECTION Figure 15b



USING POINT SOURCE CORRECTION Figure 16a



USING TRAILED CORRECTION Figure 16b

