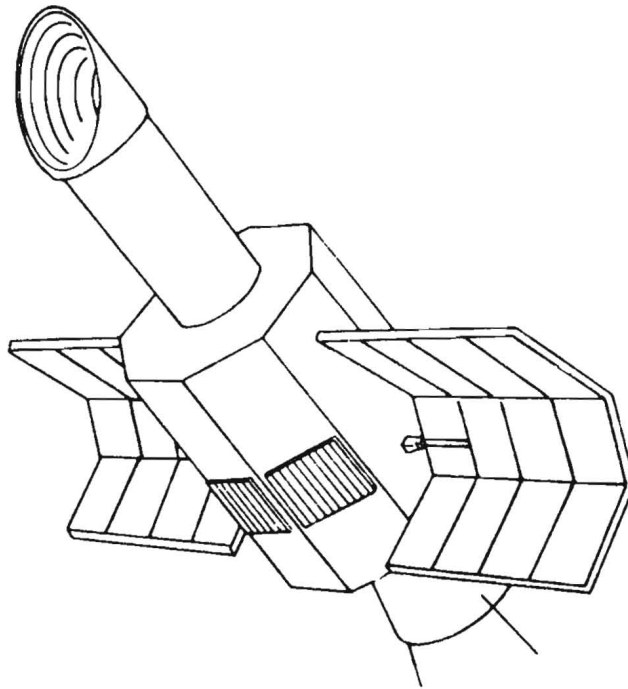


International Ultraviolet Explorer (IUE)

NASA NEWSLETTER



No. 22

(SPECIAL EDITION)

Goddard Space Flight Center
Greenbelt, Maryland
20771

INTERNATIONAL ULTRAVIOLET EXPLORER (IUE)
NASA
NEWSLETTER
NO. 22
(SPECIAL EDITION)

November 4, 1983

Dear Colleague:

This Special Edition of the IUE NASA Newsletter has been prepared to facilitate distribution of The IUE Ultraviolet Spectral Atlas. This Atlas, which appeared in a preliminary form in NASA IUE Newsletter No. 14, represents many hours of effort by members of the IUE Observatory Staff at NASA's Goddard Space Flight Center. It is hoped that it will be found to be a valuable resource for scientists throughout the astronomical community.

Preparation of this Atlas was undertaken with the encouragement of the NASA IUE Users' Committee, which anticipated the value of the work and endorsed the use of a few shifts of NASA observing time in each of several years for the purpose of accumulating necessary data. Their support of this activity is appreciated.

Atlas spectra are available on magnetic tape and copies may be obtained via the procedure described on page 8 of the Atlas.

Sincerely,



J. Keith Kalinowski
NASA IUE Operations Scientist
Code 685



THE IUE ULTRAVIOLET SPECTRAL ATLAS

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IUE Observatory

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I. INTRODUCTION

In March 1980, the International Ultraviolet Explorer (IUE) Observatory at the Goddard Space Flight Center initiated a program to obtain low dispersion trailed IUE spectra to provide a representative set of spectral type standard stars with a reasonably good coverage of the Hertzsprung-Russell diagram. Early observations were published in a preliminary edition of the IUE Ultraviolet Spectral Atlas (Wu et al. 1981). The rationale for producing a spectral atlas and the selection criteria for the standard stars are given in Wu et al. (1981).

Since the publication of the preliminary edition, a significant number of additional stars have been observed and all early data have been reprocessed with the software used in routine production since 1980 November 4, 00:11 hour UT. This Atlas presents the spectra of all standard stars obtained before 1983 March 24.

II. OBSERVATIONS AND REDUCTIONS

Observations were made with the short wavelength prime (SWP) and long wavelength redundant (LWR) cameras on board the IUE. In low dispersion mode, SWP covers the spectral region between 1150-2000 Å with a resolution of about 6 Å. Similarly, LWR covers the 1900 - 3200 Å region with a resolution of about 7 Å. Detailed discussions on the IUE scientific instrument and its performance are given in Boggess et al. (1978 a, b).

In order to increase the signal to noise ratio, most spectra were obtained by trailing the star perpendicular to the dispersion direction. For some late type stars, the exposure time is sufficiently long such that changes in the telescope thermal conditions and inaccuracies of the control gyros would cause the trailing to deviate from the desired direction of the aperture. For these stars, multiple exposures (3 or 4) were taken on the same image by placing the star at discrete locations along the major axis of the aperture (very close to the normal trail path) and with the telescope locked to a guide star during each exposure. Data on additional stars observed by other investigators were obtained from the archive.

A small fraction of the spectra are single, point source exposures in either the large or the small aperture. The point source spectra were either observed by other

investigators and obtained from the archive or were taken of the coolest stars, for which widening would make the exposure time prohibitively long. Untrailed spectra are noted in Table 1.

No SWP spectra were obtained for many stars with late spectral types due to prohibitively long exposure times and variability of the chromospheric contribution to the spectra.

All spectra were processed or reprocessed by the Goddard IUE Observatory staff with the IUESIPS production software in use after 1980 November 4.007 UT. The trailed and multiple spectra were processed with the trailed source extraction schemes, while the single spectra obtained through the large or the small aperture were extracted with the point source schemes. In both cases, the net flux is determined by integrating the gross flux in a slit approximately normal to the dispersion and then subtracting a smoothed background derived from an area near the slit. The trailed and point source processings differ in the length and orientation of the slit. For trailed spectra, the slit-integrated flux is calculated for each sampled wavelength by adding together the central 15 lines (lines 21 to 35) of the line-by-line data. The slit thus extends for a distance of $15\sqrt{2}=21.2$ pixels = 32 arcsec perpendicular to the dispersion, well beyond the limits of the large aperture. For point source spectra, the central 9 lines of the line-by-line file define the gross spectrum. Unlike the trailed spectra, the lines of constant

wavelength, along which the line-by-line fluxes are sampled, are not precisely perpendicular to the dispersion direction, but rather depend on the geometry of the apertures.

The background flux is obtained by summing lines 15 through 19 and 37 through 41 to either side of the gross spectrum, normalizing to the gross slit area, and filtering the resulting background spectrum in the wavelength direction by a 63-point median filter followed by a double-pass 31-point mean filter to remove artificial features (Bohlin, Lindler, and Turnrose, 1981). The filtered background is subtracted point-by-point from the gross spectrum to obtain the net fluxes as recorded in the merged low dispersion (MELO) file.

It should be pointed out that not all the spectra presented in this Atlas were processed with a uniform set of software. Rather, whatever production software in use on the date of processing was applied to the standard star data. There have been two significant changes to the production IUESIPS since 1980 November 4. On 1981 March 3, Goddard IUE Observatory implemented the schemes to correct for the reseau movements and changes of dispersion constants which are dependent on the time of observation and the temperature of the camera head amplifier. On 1981 July 10, a new extrapolation algorithm for the Intensity Transfer Function at high exposure levels was implemented. More

detailed discussions on the history of IUESIPS changes can be found in Turnrose and Harvel (1982) and Turnrose and Thompson (1983).

The spectra presented in this Atlas are calibrated in absolute energy units with the system of Bohlin and Holm (1980). No correction for the interstellar reddening has been applied.

III. THE ATLAS

The stars included in the Atlas are listed in Table 1. Columns (1) and (2) give the HD number and the name or BD number of the star, respectively. Column (3) gives the spectral type adopted from Morgan and Keenan (1973), Johnson and Morgan (1953), Walborn (1973), Lesh (1968, 1972), or Hiltner, Garrison, and Schild (1969). The primary MK standards ("dagger" type) from Morgan and Keenan (1973) are designated by an asterisk. Column (4) indicates the notes at the end of the Table. Columns (5) and (6) give the V and B-V, respectively, obtained mostly from Nicolet (1978). For a small number of stars, the UBV photometry was obtained from Blanco et al. (1970) and several original publications. Column (7) gives the E(B-V) which is derived by adopting the intrinsic colors of FitzGerald (1970). Column (8) gives the IUE image numbers. Column (9)

indicates the aperture used for exposure. L and S are for large and small aperture, respectively, and M is used to indicate that multiple exposures are taken in the large aperture. Column (10) is the exposure time in seconds. For trailed spectra, the exposure time is equal to the trail length in arcsec divided by the trail rate in arcsec per sec. The trail length is 21.4 and 20.5 arcsec, respectively, for SWP and LWR (Panek 1981). Note that the exposure times for trailed spectra indicated on the Goddard IUE observing scripts and merged log are calculated by assuming a trail length of 20 arcsec (Panek 1982). For multiple spectra, with each individual spectrum having the same exposure time, the sum of the exposure times is given. Column (11) is the temperature of the camera head amplifier during the exposure. This temperature was used to correct for the temperature dependence of the reseau movement and the dispersion constant. Column (12) gives the maximum exposure level expressed in the unit of data number (DN) which has a range from 0 to 255. A zero in this column means that no written record can be found on the exposure level for the image. At a DN value of 255, the image has at least one saturated pixel. For a severely overexposed spectrum, the designation of 4X, for example, means that the peak overexposure is estimated to be four times. The last column is reserved for comments. A single exposure in the large or small aperture is noted as "NOT TRAILED" and, multiple spectra in the large aperture are indicated by the number of exposures taken. Otherwise, trailed spectra are assumed understood and not noted. LWR images are

frequently affected by microphonic disturbance; the peak DN noise level and the contaminated wavelength region are included as comments.

In this version of the Atlas, the SWP and LWR spectra are plotted separately for individual stars. These plots have sufficient expansion in both the flux and wavelength scales to show spectral features with reasonable clarity. For some stars, in order to increase the signal to noise ratio, several spectra were added together and averaged, weighted effectively by their exposure time. The individual images used in the averaging are given in Table 1. Note that for many stars, especially those of later spectral types which have a steep gradient in their flux distribution, the bright portions of their spectra were overexposed so that low flux levels could be reached. When several spectra were combined, the saturated pixels were ignored and not included in the averaging. The throughput of the small aperture is not well defined; it averages 50% but ranges between 25 and 75%. Small aperture data are normalized to those of the large aperture. No attempt was made to repair the spectral region of some LWR images affected by the microphonic noise. The spectra in this Atlas represent the unsmoothed pixel-to-pixel data, with the wavelength regions affected by reseaux plotted as plus signs. The reseaux that lie in the background are not expected to affect the net spectrum (see section II); therefore, they are not flagged. Most LWR spectra are contaminated by a permanent bright blemish at 2190 Å. In many cases this blemish has also been flagged by plotting it with plus signs. Saturated spectral regions are plotted with plus signs.

The Atlas may be obtained on magnetic tape, in blocked (IBM/VMS) or unblocked (IUE Guest Observer Tape) format, at a density of 1600 bpi [on 3 2400-ft (732-m) tapes] or a density of 6250 bpi (on 1 tape), by supplying blank (preferably new) tapes and a letter specifying requirements to:

Dr. Wayne H. Warren, Jr.

[National Space Science Data Center (NSSDC)] (domestic) or
[World Data Center A for Rockets and Satellites (WDC-A-R&S)] (foreign)

Code 601, NASA Goddard Space Flight Center

Greenbelt, Maryland 20771 [U. S. A.]

Telephone (301) 344-8310 [FTS 344-8310]; TELEX 89675 NASCOM GBLT

The machine-readable Atlas will be copied, to the desired specifications, onto the tape(s) supplied. Uncertainties regarding format and tapes required should be resolved before ordering. If data from the Atlas are used in an investigation, please include acknowledgments to "The IUE Observatory at the NASA Goddard Space Flight Center" and to the NSSDC (or WDC-A-R&S) in the resulting publication(s). Reprints of such publications will be appreciated by both organizations.

We wish to thank Mrs. Ruth E. Bradley for data handling, and Mr. Stephen O. Walter for assisting in the publication of the Atlas. We also wish to thank Drs. R. D. Chapman, J. K. Kalinowski, J. Huchra, N. A. Oliverson and G. Sonneborn for carrying out some of the observations, and the NSSDC for supplying data from the IUE archives. This work is partially supported by contract NAS 5-25774 to the Computer Sciences Corporation.

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HD	NAME	SP	TYPE	NOTES	V	(B-V)	E(B-V)	IMAGE	AP	EXP	THDA	MDN	COMMENTS
93250		03	V	x	7.37	0.16	0.48	SWP 11224 LWR 9840	L L	115.56 71.75	10.8 15.2	200 200	42 DN Noise 2489-2526A
303308		03	V	x	8.17	0.12	0.44	SWP 11225 LWR 9841	L L	192.60 117.88	10.8 15.2	210 195	46 DN Noise 2969-3011A
46223		04			7.26	0.22	0.54	SWP 14776 LWR 11362 LWR 11363	L L L	166.86 72.57 290.27	9.5 13.8 14.2	190 207 4X	
93632		04		x	8.34	0.32	0.64	SWP 14482 SWP 14483 LWR 11067 LWR 11068	L L L L	428.00 267.50 288.73 205.00	7.2 7.2 11.8 12.2	2X 193 255 215	98 DN Noise 2741-2773A
164794	9 Sgr	05			5.97	0.00	0.32	SWP 14163 SWP 14194 LWR 10768 LWR 10787	L L L L	18.20 16.05 3.28 12.30	8.2 8.5 13.2 12.8	230 226 205 203	Not Trailed
93403		05	III		7.26	0.21	0.53	SWP 14305 LWR 10936	L L	128.37 82.00	7.5 13.8	190 205	48 DN Noise 2470-2512A
	-59 2600	06	V	((f)) x	8.61	0.21	0.53	SWP 11137 LWR 9806 LWR 9842	L L L	353.14 322.83 261.38	11.2 15.9 15.2	190 255 227	
93130		06	III	x	8.06	0.22	0.54	SWP 14306 LWR 10937	L L	278.21 179.35	7.8 13.2	0 210	65 DN Noise 2727-2773A
163758		06.5	Ia	f	7.31	0.03	0.35	SWP 1638	L	15.97	6.8	140	Not Trailed
47839	15 Mon	07	V	* m	4.66	-0.25	0.07	SWP 8146 LWR 7077	L L	1.47 1.98	9.2 13.2	215 215	Variable = S Mon
14633		08	V		7.46	-0.21	0.10	SWP 8149 SWP 8150 LWR 7080	L L L	15.18 23.01 28.47	9.2 9.5 13.8	160 205 225	
151804		08	I	f	5.22	0.07	0.36	SWP 1627 SWP 2858 SWP 2858	L S L	1.64 4.00 3.69	10.8 5.5 5.5	100 160 240	Not Trailed Not Trailed Not Trailed

IUE SPECTRAL ATLAS, CONTINUED

HD	NAME	SP	TYPE	NOTES	V	(B-V)	E(B-V)	IMAGE	AP	EXP	THDA	MDN	COMMENTS
152408		08	I	f	5.77	0.15	0.44	SWP 1625	L	6.96	9.8	0	Not Trailed
								SWP 1625	S	7.00	9.8	0	Not Trailed
								LWR 11110	S	5.73	12.2	225	68 DN Noise 2461-2503A Small Aper Only
								LWR 11182	L	21.52	12.5	245	7 DN Noise 3062-3086A
								LWR 11182	S	30.00	12.5	3X	
188001	9 Sge	08	I	f	6.23	0.01	0.30	SWP 1602	L	5.73	9.8	0	Not Trailed
								SWP 1602	S	6.00	9.8	0	Not Trailed
								SWP 3466	S	4.92	8.8	165	Small Aperture Only
								LWR 1682	L	5.75	6.5	255	Not Trailed
								LWR 1682	S	12.00	6.5	255	Not Trailed
								LWR 1683	L	3.69	11.5	210	Not Trailed
								LWR 1683	S	7.00	11.5	210	Not Trailed
LWR 3044	S	4.92	12.8	190	Small Aperture Only								
214680	10 Lac	09	V		4.88	-0.20	0.11	SWP 1764	L	1.86	15.2	200	
								LWR 1655	L	2.56	15.9	220	
38666	Mu Col	09.5	IV		5.17	-0.28	0.02	SWP 14340	L	1.93	7.5	220	
								LWR 10954	L	2.48	12.5	200	
188209		09.5	Ia		5.62	-0.07	0.20	SWP 8195	L	11.76	6.1	230	
								LWR 7123	L	7.48	11.8	210	65 DN Noise 2573-2633A
36512	Ups Ori	B0	V	*	4.62	-0.26	0.04	SWP 8164	L	1.18	6.8	215	
								LWR 7097	L	1.83	12.8	225	
63922		B0	III		4.11	-0.18	0.12	SWP 9511	L	1.22	5.8	215	
								LWR 8237	L	1.44	12.8	230	
204172	69 Cyg	B0	Ib		5.94	-0.08	0.16	SWP 19249	L	16.05	11.2	200	
								LWR 15285	L	10.25	15.9	205	
55857	GY CMa	B0.5	V	n	6.11	-0.26	0.02	SWP 14339	L	5.67	7.5	205	
								LWR 10953	L	6.97	12.5	200	
34816	Lam Lep	B0.5	IV		4.29	-0.26	0.02	SWP 8166	L	1.04	6.8	230	
								LWR 7099	L	1.51	12.2	230	46 DN Noise 2731-2811A
								LWR 7100	L	1.51	12.2	225	47 DN Noise 3254-3300A
119159		B0.5	III	x	6.00	-0.08	0.20	SWP 19245	L	16.05	11.5	210	
								LWR 15281	L	11.27	15.9	190	

IUE SPECTRAL ATLAS. CONTINUED

HD	NAME	SP TYPE	NOTES	V	(B-V)	E(B-V)	IMAGE	AP	EXP	THDA	MDN	COMMENTS
64760		B0.5 Ib		4.24	-0.14	0.08	SWP 7719	L	0.70	0.0	0	
							SWP 19056	L	1.96	10.5	205	
							LWR 6706	L	0.70	0.0	0	
							LWR 15100	L	1.86	17.2	205	
150898		B0.5 Ia		5.58	-0.08	0.14	SWP 10173	L	8.42	9.5	190	
							LWR 8837	L	10.40	13.2	260	41 DN Noise 2652-2685A
31726		B1 V		6.15	-0.21	0.05	SWP 8165	L	8.42	6.8	230	
							LWR 7098	L	10.40	12.5	220	
46328	Xi 1 CMa	B1 III	n	4.34	-0.25	0.01	SWP 19244	L	7.23	12.2	208	Variable = Xi 1 CMa
							LWR 15280	L	1.76	15.5	220	
40111	139 Tau	B1 Ib		4.82	-0.06	0.13	SWP 8151	L	5.72	9.5	220	
							LWR 7081	L	4.04	14.2	210	
91316	Rho Leo	B1 Iab		3.85	-0.14	0.05	SWP 19501	L	3.08	7.2	2X	Variable = Rho Leo
							SWP 19520	L	1.97	9.8	200	
							LWR 15529	L	1.48	12.5	215	
150168		B1 Ia		5.65	-0.03	0.16	SWP 19246	L	18.19	11.2	220	
							LWR 15282	L	9.74	15.9	200	
74273		B1.5 V		5.90	-0.21	0.04	SWP 14307	L	6.75	7.8	220	
							LWR 10938	L	6.51	13.2	185	80 DN Noise 3118-3165A
62747		B1.5 III		5.62	-0.19	0.06	SWP 19295	L	9.16	12.5	2X	
							SWP 19297	L	6.42	12.5	210	
							LWR 15328	L	6.95	16.9	220	
64802		B2 V		5.49	-0.19	0.05	SWP 14308	L	6.85	7.8	205	
							LWR 10939	L	6.51	13.2	200	89 DN Noise 3216-3263A
3360	Zet Cas	B2 IV		3.66	-0.20	0.04	SWP 4316	L	1.03	9.2	195	
							SWP 4316	S	1.00	9.2	2X	
							LWR 3812	L	0.82	13.8	170	
							LWR 3812	S	1.00	14.2	230	
51283		B2 III	n	5.28	-0.19	0.05	SWP 8167	L	9.11	6.5	208	
							LWR 7101	L	6.34	12.2	220	

IUE SPECTRAL ATLAS, CONTINUED

HD	NAME	SP	TYPE	NOTES	V	(B-V)	E(B-V)	IMAGE	AP	EXP	THDA	MDN	COMMENTS	
165024	The Ara	B2	Ib		3.66	-0.08	0.08	SWP 10174 LWR 8838	L L	2.21 1.45	8.5 13.2	220 225		
61831		B2.5	V	n	4.84	-0.20	0.02	SWP 14309 LWR 10940	L L	4.28 4.03	7.8 13.2	200 190	65 DN Noise 3156-3197A	
32612		B2.5	IV		6.41	-0.18	0.04	SWP 19500 LWR 15528	L L	23.54 20.50	6.8 12.2	245 230		
63465		B2.5	III		5.08	-0.10	0.12	SWP 19296 LWR 15329	L L	10.91 71.55	12.5 16.9	240 212		
32630	Eta Aur	B3	V	*	3.17	-0.18	0.02	SWP 8197 LWR 7125 LWR 7126	L L L	1.06 1.01 1.01	6.1 11.8 11.8	208 205 207	47 DN Noise 2783-2830A 32 DN Noise 2764-2802A	
120315	Eta UMa	B3	V		1.86	-0.19	0.01	SWP 2341 SWP 4110 LWR 2127 LWR 2127 LWR 3640	L L L S L	0.29 0.33 0.29 0.12 0.33	6.5 8.2 11.5 11.5 13.2	220 200 220 255 200	Small Aperture Not Usable Effective Expo. Length Very Uncertain Effective Expo. Length Very Uncertain Effective Expo. Length Very Uncertain Effective Expo. Length Very Uncertain	
142096	Lam Lib	B3	V		5.03	-0.01	0.19	LWR 10778	L	6.87	11.5	200	90 DN Noise 2783-2830A	
190993	17 Vul	B3	V	*	5.07	-0.18	0.02	SWP 9961 LWR 12024	L L	5.47 5.74	8.8 13.5	200 215		
42560	Xi Ori	B3	IV		4.48	-0.18	0.02	SWP 19365 SWP 19365 LWR 15403	L S L	4.82 0.68 3.49	11.8 11.8 16.2	230 120 200		
79447		B3	III		3.97	-0.18	0.02	SWP 14338 LWR 10952	L L	2.35 1.81	7.8 12.8	200 195	136 DN Noise 2950-2992A	
53138	Omi 2 CMa	B3	Ia	*	n	3.04	-0.08	0.05	SWP 8168 LWR 7102 LWR 7103	L L L	2.17 1.05 1.06	6.8 12.2 12.2	210 210 210	33 DN Noise 2708-2769A
65904		B4	V	*	5.99	-0.14	0.04	SWP 15557 LWR 12042	L L	16.26 16.91	8.8 13.8	205 230		

IUE SPECTRAL ATLAS, CONTINUED

HD	NAME	SP	TYPE	NOTES	V	(B-V)	E(B-V)	IMAGE	AP	EXP	THDA	MDN	COMMENTS
202654		B4	IV		6.46	-0.15	0.03	SWP 19363 LWR 15401	L L	33.17 22.55	12.2 16.5	240 200	
195986		B4	III		6.60	-0.11	0.07	SWP 19248 SWP 19292 LWR 15284	L L L	28.89 41.73 32.90	11.2 12.2 16.2	145 200 210	
34759	Rho Aur	B5	V *		5.23	-0.15	0.01	SWP 15537 LWR 9868	L L	8.56 7.69	9.8 15.5	190 215	
188665	23 Cyg	B5	V *		5.14	-0.13	0.03	SWP 15338 SWP 15339 LWR 11856 LWR 12008	L L L L	5.35 8.02 8.20 9.22	8.2 8.8 12.2 13.5	120 180 208 205	114 DN Noise 3319-3342A
147394	Tau Her	B5	IV *		3.89	-0.15	0.01	SWP 8194 LWR 7122	L L	3.17 2.63	6.5 12.8	205 220	6 DN Noise 3132-3165A
4180	Omi Cas	B5	III		4.54	-0.07	0.09	SWP 19293 LWR 15326	L L	9.63 6.50	12.5 16.5	207 230	Variable = Omi Cas
83183		B5	II		4.08	0.01	0.13	SWP 9512 LWR 8238	L L	11.44 4.63	6.1 12.2	245 215	
86440	Phi Vel	B5	Ib		3.54	-0.08	0.01	SWP 9513 LWR 8239	L L	4.37 2.07	6.5 12.2	230 220	
164353	67 Oph	B5	Ib		3.97	0.02	0.11	SWP 10172 LWR 8836	L L	6.14 4.10	11.2 12.5	175 230	
58350	Eta CMa	B5	Ia *	n	2.44	-0.07	0.02	SWP 8199 LWR 7127	L L	1.50 0.72	6.5 11.5	215 220	51 DN Noise 2839-2904A
90994	Bet Sex	B6	V		5.09	-0.14	0.00	SWP 15791 LWR 12162	L L	11.23 9.94	10.2 15.2	200 230	
79694		B6	IV		5.85	-0.12	0.02	SWP 19527	L	23.54	10.5	200	
182255	3 Vul	B6	III		5.18	-0.12	0.02	SWP 19291 LWR 15325	L L	9.54 9.41	12.2 16.5	180 215	

IGE SPECTRAL ATLAS, CONTINUED

HD	NAME	SP	TYPE	NOTES	V	(B-V)	E(B-V)	IMAGE	AP	EXP	THDA	MDN	COMMENTS
125288		B6	Ib		4.33	0.12	0.19	SWP 19362	L	14.82	12.8	160	
								SWP 19460	L	14.82	7.8	170	
								LWR 15400	L	8.83	15.9	200	
								LWR 15489	L	8.82	0.0	220	
17081	Pi Cet	B7	V		4.25	-0.14	-0.01	SWP 16255	L	6.95	11.5	197	
								LWR 12501	L	4.67	14.8	205	
29335	49 Eri	B7	V		5.31	-0.12	0.02	SWP 15788	L	15.78	12.5	200	
								LWR 12159	L	11.89	14.2	210	
23630	Eta Tau	B7	III *		2.87	-0.09	0.03	SWP 8147	L	2.82	8.8	205	
								LWR 7078	L	1.68	13.5	210	
23324	18 Tau	B8	V *		5.64	-0.07	0.04	SWP 8148	L	29.72	8.8	202	
								LWR 7079	L	20.10	13.8	208	
10205	Tau And	B8	IV		4.94	-0.09	0.01	SWP 19294	L	10.33	12.5	180	
								LWR 15327	L	8.81	16.9	200	
23850	27 Tau	B8	III *		3.63	-0.09	0.01	SWP 11245	L	6.42	10.8	210	
								LWR 9867	L	3.59	15.5	220	18 DN Noise 2764-2806A
46759		B8	Ib		5.80	-0.00	0.02	SWP 19066	L	32.30	10.8	180	
								LWR 15094	L	25.32	15.9	205	
38899	134 Tau	B9	V		4.91	-0.07	0.00	SWP 16639	L	22.00	10.5	200	
								LWR 12875	L	14.54	14.8	210	
196867	Alp Del	B9	IV		3.77	-0.06	0.01	SWP 15545	L	8.56	6.1	210	
								LWR 12025	L	5.33	13.2	210	
202850	Sig Cyg	B9	Iab		4.23	0.12	0.12	SWP 15099	L	28.89	7.8	190	
								LWR 11614	L	11.79	11.2	222	
193432	Nu Cap	B9.5	V		4.76	-0.05	-0.01	SWP 16850	L	21.40	10.2	170	
								LWR 12874	L	16.40	15.2	210	
222661	Omg 2 Aqr	B9.5	V		4.49	-0.04	0.00	SWP 15789	L	18.20	12.2	205	
								LWR 12160	L	10.76	14.8	205	

IUE SPECTRAL ATLAS. CONTINUED

HD	NAME	SP TYPE	NOTES	V	(B-V)	E(B-V)	IMAGE	AP	EXP	THDA	MDN	COMMENTS
186882	Del Cyg	B9.5 III	d	2.87	-0.03	0.02	SWP 16489 LWR 12745	L L	4.50 2.67	8.2 14.5	180 200	
95608	60 Leo	A0 V		4.42	0.05	0.06	SWP 8207 SWP 8207 LWR 7007	L S L	59.80 12.00 17.37	11.8 11.8 14.8	140 140 210	Not Trailed Not Trailed
103287	Gam UMa	A0 V *		2.44	0.00	0.01	SWP 8196 SWP 8198 LWR 7124	L L L	6.33 4.75 2.22	6.1 6.1 11.8	255 208 195	
199629	Nu Cyg	A0 V		3.94	0.02	0.03	SWP 15556 LWR 12039	L L	25.68 10.76	8.5 13.5	229 230	
111775		A0 II		6.33	0.03	0.03	SWP 9515 LWR 8241	L L	142.67 78.84	6.5 11.8	190 217	
104035		A0 Ia		5.61	0.18	0.16	SWP 9514 LWR 8240	L L	330.74 80.05	6.5 11.8	230 210	94 DN Noise 3076-3114A
166205	Del UMi	A1 V		4.36	0.02	0.00	SWP 9132 LWR 7863	L L	33.65 13.92	8.5 14.5	210 195	
80081	38 Lyn	A2 V	d	3.82	0.06	0.01	SWP 11235 SWP 11236 LWR 9855	L L L	21.40 70.63 11.28	9.2 11.8 13.8	200 3X 210	47 DN Noise 2447-2498A
197345	Alp Cyg	A2 Ia *		1.25	0.09	0.04	SWP 9133 LWR 7864	L L	4.39 1.08	8.8 14.2	260 197	Variable = Alp Cyg
216956	Alp PsA	A3 V *		1.16	0.09	0.01	SWP 9134 LWR 7865	L L	2.45 1.02	8.8 14.2	220 190	8 DN Noise 3016-3039A
122408	Tau Vir	A3 III		4.26	0.10	0.01	SWP 9516 LWR 8242	L L	9.60 5.82	6.5 11.8	72 120	
97603	Del Leo	A4 V		2.56	0.12	0.00	SWP 19247 LWR 15283	L L	9.63 4.10	11.2 16.2	185 190	

IUE SPECTRAL ATLAS, CONTINUED

HD	NAME	SP	TYPE	NOTES	V	(B-V)	E(B-V)	IMAGE	AP	EXP	THDA	MDN	COMMENTS
116842	80 UMa	A5	V		4.01	0.16	0.01	SWP 10283	L	19.76	9.2	113	
								SWP 10285	L	43.50	8.2	211	
								SWP 10285	S	95.00	8.2	100	
								LWR 8949	L	16.40	12.8	220	
159561	Alp Oph	A5	III		2.08	0.15	0.00	SWP 16490	L	7.17	8.8	180	
								LWR 12747	L	2.77	14.2	210	
59612		A5	Ib		4.85	0.23	0.13	SWP 15234	L	139.19	9.8	100	
								SWP 15318	L	306.02	6.8	180	
								LWR 11748	L	71.80	14.5	180	
								LWR 11824	L	215.25	12.5	2X	
28527		A6	V	n	4.78	0.17	0.00	SWP 19459	L	107.00	7.8	210	
								LWR 15488	L	42.02	12.8	240	
								LWR 15497	L	35.98	14.2	210	
87696	21 LMi	A7	V		4.48	0.18	-0.02	SWP 15548	L	74.90	6.8	210	
								LWR 12028	L	25.62	12.2	205	
76644	Iot UMa	A7	IV	*	3.14	0.19	-0.03	SWP 10284	L	22.84	8.5	215	
								LWR 8950	L	7.68	12.8	210	
27176	51 Tau	A8	V		5.65	0.28	0.01	SWP 15538	L	353.14	11.2	205	
								LWR 12009	L	97.39	13.8	215	69 DN Noise 2894-2941A
								LWR 12182	L	97.39	15.2	205	
157792	44 Oph	A9	V		4.17	0.28	-0.02	SWP 19461	L	83.60	8.2	165	
								SWP 19498	L	101.65	7.5	180	
								LWR 15490	L	25.62	13.2	215	
147547	Gam Her	A9	III		3.75	0.27	-0.01	SWP 10872	L	114.49	10.8	225	
								LWR 9560	L	23.55	14.8	215	28 DN Noise 2060-2093A
12311	Alp Hyi	FO	V		2.86	0.28	-0.04	SWP 11242	L	39.59	11.5	203	
								LWR 9862	L	8.56	14.5	225	
40136	Eta Lep	FO	IV		3.71	0.33	0.03	SWP 10286	L	102.39	7.8	232	
								SWP 10286	S	3.75	7.8	0	
								LWR 6995	L	15.38	14.8	220	
89025	Zet Leo	FO	III	*	3.44	0.31	-0.01	SWP 15536	L	128.40	9.5	235	
								LWR 9732	L	23.91	14.8	210	39 DN Noise 3048-3086A

IUE SPECTRAL ATLAS. CONTINUED

HD	NAME	SP	TYPE	NOTES	V	(B-V)	E(B-V)	IMAGE	AP	EXP	THDA	MDN	COMMENTS
36673	Alp Lep	F0	Ib		2.58	0.21	0.06	SWP 15073 LWR 11601	L L	59.93 10.25	6.1 10.5	215 195	33 DN Noise 2857-2899A
113139	78 UMa	F2	V	d	4.93	0.36	0.01	SWP 15547 LWR 12027	L L	353.14 50.22	6.8 12.2	220 205	
99028	Iot Leo	F2	IV	d	3.94	0.41	0.04	SWP 11311 SWP 13426 LWR 9918 LWR 10090	L L L L	310.30 235.42 24.60 56.38	10.2 9.8 15.5 15.5	225 175 210 2X	23 DN Noise 2232-2279A
17584	16 Per	F2	III		4.23	0.34	-0.02	SWP 19465 LWR 15499 LWR 15527	L L L	246.10 43.05 32.80	8.5 13.8 11.8	240 255 205	
161471	Iot 1 Sco	F2	Ia		3.03	0.51	0.33	SWP 19525 LWR 15565 LWR 15565	L S L	180.00 97.00 46.13	10.2 15.9 15.9	240 255 255	Not Trailed
163506	89 Her	F2	Ia		5.46	0.34	0.16	SWP 15555 LWR 12038	L L	2640.00 225.50	7.8 13.8	140 189	Dust Shell; Variable = V441 Her
157950		F3	V		4.54	0.39	-0.02	SWP 19462 SWP 19499 LWR 15491	L L L	70.04 321.00 30.75	8.2 7.5 13.5	165 230 200	Not Trailed 3 Passes
61110	Omi Gem	F3	III		4.90	0.40	0.01	SWP 19458 SWP 19464 LWR 15487 LWR 15498	L L L L	385.20 535.00 92.25 71.75	7.8 8.2 12.5 14.2	143 200 255 230	3 Passes 5 Passes
27524		F5	V *		6.80	0.44	-0.01	SWP 4756 SWP 15819 LWR 4119 LWR 4119 LWR 12183	L L S L L	7020.00 3360.00 300.00 310.61 286.91	6.1 9.8 12.2 12.2 14.5	255 200 255 230 200	Not Trailed
61421	Alp CMi	F5	IV-V	d	0.38	0.42	0.00	SWP 2826 SWP 6661 SWP 6662 LWR 9108	L L L L	59.80 29.90 59.80 0.86	10.5 7.2 7.2 13.8	0 0 0 205	VILSPA, Not Trailed VILSPA, Not Trailed VILSPA, Not Trailed
20902	Alp Per	F5	Ib		1.79	0.48	0.22	SWP 15316 LWR 7094	L L	205.37 7.18	7.2 15.5	240 185	

THE COGNITIVE ATLAS
IUE SPECTRAL ATLAS, CONTINUED

HD	NAME	SP	TYPE	NOTES	V	(B-V)	E(B-V)	IMAGE	AP	EXP	THDA	MDN	COMMENTS
173667	110 Her	F6	V		4.19	0.46	-0.02	SWP 10784	L	643.60	10.2	205	
								LWR 9459	L	30.60	16.5	200	
								LWR 9460	L	153.75	15.9	5X	
82328	The UMa	F6	IV		3.17	0.46	0.00	SWP 19466	L	160.50	9.2	167	3 Passes
								LWR 15500	L	14.86	14.2	255	
								LWR 15526	L	12.30	11.2	205	
160365		F6	III		6.12	0.56	0.10	SWP 16491	L	4800.00	8.8	183	
								LWR 4122	L	310.61	10.2	230	
								LWR 4122	S	300.00	10.2	255	
126660	The Boo	F7	V		4.05	0.50	0.00	SWP 15546	L	834.85	6.1	190	
								LWR 12026	L	30.75	12.8	207	
27808		F8	V	*	7.14	0.52	-0.01	LWR 4118	L	1242.40	11.8	255	
								LWR 4118	S	900.00	11.5	255	
90839	36 UMa	F8	V	m	4.83	0.52	-0.01	LWR 15402	L	71.93	16.5	220	
102870	Bet Vir	F8	V		3.61	0.55	0.02	SWP 7305	L	1800.00	10.5	5X	
								SWP 7305	S	300.00	10.5	100	
								SWP 7306	L	5400.00	10.5	15X	
								LWR 4867	S	30.00	12.8	255	
								LWR 4867	L	30.73	12.8	255	
194093	Gam Cyg	F8	Ib		2.20	0.68	0.13	SWP 3666	L	1200.00	8.8	5X	Not Trailed
								SWP 3666	S	120.00	8.8	80	
								SWP 3667	L	360.00	8.8	230	Not Trailed
								SWP 3667	S	360.00	8.8	230	
54605	Del CMa	F8	Ia		1.86	0.65	0.10	SWP 15831	L	756.00	10.8	2X	
								SWP 16800	M	650.00	7.5	255	4 Spectra
								LWR 11823	L	11.38	12.8	165	15 DN Noise 3202-3249A
								LWR 12189	L	22.55	15.9	250	
27383		F9	V		6.88	0.56	0.00	LWR 4126	L	512.50	10.2	100	
								LWR 4126	S	300.00	10.2	270	
								LWR 4128	L	305.97	11.5	180	
4614	Eta Cas	G0	V	m	3.44	0.57	-0.03	SWP 4031	L	1800.00	8.8	0	VILSPA, Not Trailed
								SWP 7433	L	1320.00	10.2	3X	
								SWP 9681	L	900.00	7.8	2X	Not Trailed
								LWR 4116	S	15.00	10.8	120	
								LWR 4116	L	30.60	10.8	170	

IUE SPECTRAL ATLAS, CONTINUED

HD	NAME	SP	TYPE	NOTES	V	(B-V)	E(B-V)	IMAGE	AP	EXP	THDA	MDN	COMMENTS
109358	Bet CVn	GO	V		4.26	0.59	-0.01	LWR 4861	L	71.68	13.5	255	25 DN Noise 3230A
								LWR 4861	S	70.00	13.5	255	4 DN Noise 2797A
								LWR 15530	L	35.88	12.5	190	
114710	Bet Com	GO	V		4.26	0.57	-0.03	SWP 6179	S	900.00	7.8	130	
								SWP 9465	L	0.0	7.8	0	VILSPA, Not Trailed
								LWR 4834	L	81.92	14.2	0	Not Trailed
								LWR 4834	S	80.00	14.2	0	
								LWR 4835	L	82.00	14.5	255	
121370	Eta Boo	GO	IV		2.68	0.58	-0.05	SWP 5729	L	600.00	10.5	255	
								LWR 4863	S	20.00	13.5	255	
								LWR 4863	L	20.50	13.5	255	24 DN Noise 3249A
150680	Zet Her	GO	IV *	d	2.81	0.65	0.02	SWP 4759	L	2140.00	4.5	200	
								SWP 4759	S	1200.00	5.1	85	
								LWR 4123	L	20.50	10.5	255	
								LWR 4123	S	12.00	10.5	255	
6903	Psi 3 Psc	GO	III		5.55	0.69	0.05	LWR 4855	L	184.50	14.5	180	
								LWR 4855	S	180.00	14.5	240	
111812	31 Com	GO	III *		4.94	0.57	0.03	SWP 7769	L	240.00	9.8	0	VILSPA, Not Trailed
								SWP 7769	S	120.00	9.8	0	VILSPA, Not Trailed
								SWP 8206	L	3600.00	12.5	3X	Not Trailed
								SWP 8206	S	120.00	12.5	176	Not Trailed
								LWR 4860	L	122.75	13.5	220	
								LWR 4860	S	120.00	13.5	255	
84441	Eps Leo	GO	II		2.98	0.80	0.07	LWR 9730	L	20.50	14.2	150	57 DN Noise 3118-3165A
								LWR 9731	L	28.70	14.2	190	
26630	Mu Per	GO	Ib *	m	4.14	0.95	0.13	LWR 4117	L	186.36	11.2	255	
								LWR 4117	S	90.00	11.2	255	
27836		G1	V		7.62	0.60	-0.02	LWR 4127	L	1242.40	10.5	255	
								LWR 4127	S	1200.00	11.2	255	
115043		G1	V		6.83	0.60	-0.02	LWR 4862	L	488.10	13.5	245	4 DN Noise 2797A
								LWR 4862	S	480.00	13.5	245	
	Uranus	G2	V	x	6.00	0.70	0.07	LWR 4864	L	227.03	13.2	255	
								LWR 4864	S	240.00	13.2	255	
								LWR 4865	L	184.68	13.2	245	13 DN Noise 3086A
								LWR 4865	S	360.00	13.2	255	

IUE SPECTRAL ATLAS, CONTINUED

HD	NAME	SP	TYPE	NOTES	V	(B-V)	E(B-V)	IMAGE	AP	EXP	THDA	MDN	COMMENTS
10307		G2	V		4.95	0.62	-0.01	SWP 10029	L	5400.00	9.5	145	Not Trailed
							LWR 4854	S	120.00	14.5	255		
							LWR 4854	L	123.05	14.5	240		
186408	16 Cyg A	G2	V		5.96	0.64	0.01	LWR 4835	L	307.50	14.8	220	
							LWR 4836	S	300.00	14.8	255		
							LWR 4841	L	2460.00	14.5	255		
2151	Bet Hyi	G2	IV		2.80	0.62	-0.02	SWP 4760	L	648.48	4.5	105	
							SWP 6128	L	1020.00	5.8	2X		
							SWP 6128	S	180.00	5.8	90		
							SWP 7307	L	4800.00	10.5	8X		
							SWP 7307	S	600.00	10.5	120		
							SWP 7429	L	720.00	8.8	229		
							LWR 4125	L	20.50	10.2	255		
							LWR 4125	S	15.00	10.2	255		
							LWR 9863	L	16.40	15.2	255		
							LWR 9864	L	14.61	15.2	245		12 DN Noise 2633-2750A
159181	Bet Dra	G2	II *		2.79	0.98	0.11	SWP 2348	L	1440.00	9.2	255	
							SWP 2349	L	3600.00	9.2	255		
							SWP 2350	L	600.00	8.8	136		
							LWR 4124	S	12.00	10.2	135		
							LWR 4124	L	20.50	10.2	130		
209750	Alp Aqr	G2	Ib		2.96	0.98	0.10	LWR 12113	L	51.25	14.5	190	
26736		G3	V		8.09	0.66	0.01	LWR 4129	L	621.21	11.5	205	
							LWR 4129	S	1200.00	11.8	255		
192876	Alp 1 Cap	G3	Ib		4.24	1.07	0.15	LWR 12040	L	307.48	13.5	255	
26756		G5	V		8.46	0.70	0.02	LWR 4130	L	2174.20	11.8	185	
20630	Kap Cet	G5	V		4.83	0.68	0.00	SWP 9462	L	3000.00	7.8	0	
							LWR 4857	S	120.00	13.5	255		VILSPA, Not Trailed
							LWR 4857	L	123.05	13.5	250		10 DN Noise 3086-3146A
							LWR 4858	L	615.00	13.8	255		
186427	16 Cyg B	G5	V		6.20	0.66	-0.02	SWP 2700	L	10800.00	7.8	150	
							LWR 4838	S	360.00	15.2	255		
							LWR 4838	L	369.37	15.2	225		
							LWR 4840	L	1846.80	15.2	255		

IUE SPECTRAL ATLAS, CONTINUED

HD	NAME	SP	TYPE	NOTES	V	(B-V)	E(B-V)	IMAGE	AP	EXP	THDA	MDN	COMMENTS
161797	Mu Her	G5	IV	m	3.42	0.75	0.05	LWR 4121	L	31.06	10.2	195	
								LWR 4121	S	24.00	10.2	255	
93497	Mu Vel	G5	III	d	2.69	0.90	0.00	SWP 2338	L	900.00	5.8	255	Not Trailed
								SWP 2377	L	240.00	6.8	175	
								SWP 8212	S	10.00	9.5	100	Not Trailed
								SWP 8212	L	300.00	9.5	5X	Not Trailed
								LWR 4859	L	20.50	13.8	60	
								LWR 4859	S	20.00	13.8	210	
109379	Bet Crv	G5	III		2.65	0.89	-0.01	SWP 1571	L	2700.00	13.8	0	
								SWP 1572	L	5400.00	13.5	0	
								SWP 3585	L	5400.00	8.2	2X	Not Trailed
								LWR 4866	S	24.00	12.8	255	
								LWR 4866	L	24.61	12.8	180	
206859	9 Peg	G5	Ib		4.34	1.17	0.17	LWR 13095	S	90.00	14.5	100	45 DN Noise, 2811-2848A, Earthlight SAP
115617	61 Vir	G6	V		4.74	0.71	-0.01	LWR 12163	L	122.98	15.2	205	
10700	Tau Cet	G8	V		3.50	0.72	-0.02	SWP 4033	L	3420.00	8.8	0	VILSPA, Not Trailed
								SWP 4054	L	9000.00	9.5	0	VILSPA, Not Trailed
								SWP 5733	L	1440.00	7.8	102	
								SWP 5734	L	7320.00	7.3	3X	
								LWR 4856	L	61.50	13.5	255	
								LWR 4856	S	60.00	13.5	255	
188512	Bet Aql	G8	IV		3.71	0.86	0.04	LWR 12111	L	74.82	14.2	218	
								LWR 12112	L	358.77	14.2	5X	53 DN Noise 2629-2680A
76294	Zet Hya	G8	III		3.11	1.00	0.05	LWR 9650	L	83.44	14.5	210	
48329	Eps Gem	G8	Ib		2.98	1.40	0.26	LWR 12667	L	184.50	15.5	246	
								LWR 12667	S	49.00	15.5	209	
								LWR 12669	L	307.48	16.2	2X	
72324	Ups 2 Cnc	G9	III		6.36	1.02	0.04	LWR 9853	L	1653.00	14.5	235	
								LWR 9854	L	599.62	13.5	130	
185144	Sig Dra	K0	V		4.68	0.79	-0.02	LWR 5989	L	180.00	13.2	255	
								LWR 5989	S	60.00	13.2	213	
								LWR 12746	L	128.12	14.2	220	

THE SPECTRAL ATLAS
 IUE SPECTRAL ATLAS, CONTINUED

HD	NAME	SP	TYPE	NOTES	V	(B-V)	E(B-V)	IMAGE	AP	EXP	THDA	MDN	COMMENTS
198149	Eta Cep	K0	IV		3.43	0.92	0.01	LWR 12739	L	93.18	12.5	255	
62509	Bet Gem	K0	III *		1.14	1.00	-0.01	SWP 4730	L	1200.00	7.5	100	
								SWP 8232	L	7200.00	9.5	2X	Not Trailed
								SWP 8232	S	1500.00	9.5	110	Not Trailed
								SWP 10052	L	1400.00	10.2	2X	Not Trailed
								LWR 9843	L	6.15	15.2	110	
								LWR 9844	L	14.35	15.2	200	
								LWR 9845	L	40.18	15.5	3X	
10476	107 Psc	K1	V		5.24	0.84	-0.02	LWR 11854	L	246.01	12.8	170	
								LWR 11855	L	491.96	12.5	270	100 DN Noise 2988-3039A
								LWR 12041	L	307.48	13.8	255	
4128	Bet Cet	K1	III		2.04	1.02	-0.07	LWR 12180	L	61.51	14.8	2X	
								LWR 12180	S	7.00	14.8	120	
								LWR 12181	L	38.95	15.2	213	
22049	Eps Eri	K2	V		3.73	0.88	-0.04	LWR 12671	L	65.60	16.2	170	
85503	Mu Leo	K2	III		3.88	1.22	0.06	LWR 9856	L	230.62	14.5	107	38 DN Noise 3039-3067A
								LWR 9857	L	615.00	15.5	190	
137759	Iot Dra	K2	III		3.29	1.16	0.00	LWR 9858	L	338.25	16.2	205	
206778	Eps Peg	K2	Ib		2.39	1.53	0.30	LWR 12178	L	270.57	13.5	3X	Variable = Eps Peg
								LWR 12179	L	338.28	14.2	4X	
								LWR 12179	S	33.00	14.5	185	
219134		K3	V		5.56	1.01	0.06	LWR 12738	L	399.77	12.2	110	
								LWR 12740	L	860.98	12.8	180	
157244	Bet Ara	K3	Ib		2.85	1.46	0.04	LWR 12673	L	461.30	16.5	4X	
								LWR 12673	S	50.00	16.2	164	
69267	Bet Cnc	K4	III *		3.52	1.48	0.05	LWR 9738	L	683.26	16.5	193	
201091	61 Cyg A	K5	V		5.21	1.18	0.03	LWR 12741	L	923.42	13.2	238	
								LWR 12741	S	270.00	13.2	95	
								LWR 12743	L	1440.00	14.2	2X	

IUE SPECTRAL ATLAS, CONTINUED

HD	NAME	SP	TYPE	NOTES	V	(B-V)	E(B-V)	IMAGE	AP	EXP	THDA	MDN	COMMENTS
29139	Alp Tau	K5	III		0.85	1.54	0.03	SWP 2806	L	300.00	6.8	0	VILSPA, Not Trailed; Variable = Alp Tau
								SWP 2825	L	2400.00	10.8	0	VILSPA, Not Trailed
								SWP 4032	L	5400.00	8.5	0	VILSPA, Not Trailed
								SWP 4053	L	9000.00	9.5	0	VILSPA, Not Trailed
								SWP 10918	L	1800.00	11.2	2X	Not Trailed
								LWR 10144	L	35.87	13.2	157	51 DN Noise 2209-2265A
78647	Lam Vel	K5	Ib	v	2.21	1.66	0.06	LWR 12672	L	799.53	16.2	8X	Variable = Lam Vel
								LWR 12674	L	676.57	16.5	7X	
201092	61 Cyg B	K7	V		6.03	1.37	0.04	LWR 5538	L	450.00	12.2	180	Not Trailed
								LWR 12742	S	600.00	13.5	2X	
								LWR 12742	L	5400.00	13.5	9X	
								LWR 12744	L	3600.00	14.2	2X	
17709	17 Per	K7	III		4.53	1.56	0.03	SWP 10708	L	5400.00	9.8	65	Not Trailed
								LWR 9405	S	300.00	14.8	0	
								LWR 9405	L	2880.00	14.2	2X	53 DN Noise 3062A MG II EM SAT
52877	Sig CMa	K7	Ib	n	3.46	1.74	0.12	LWR 12190	L	615.00	15.7	3X	Variable = Sig CMa
								LWR 12190	S	30.00	15.9	115	
								LWR 12748	L	1260.00	12.8	2X	
								LWR 12748	S	63.00	13.2	130	
89758	Mu UMa	M0	III		3.05	1.59	0.02	LWR 13054	M	240.00	12.8	2X	4 Spectra
								LWR 13054	S	300.00	12.8	255	
102212	Nu Vir	M1	IIIab		4.03	1.51	-0.09	LWR 11960	M	1680.00	15.9	3X	4 Spectra
								LWR 11960	S	420.00	15.9	168	
39801	Alp Ori	M2	Iab	v	0.50	1.86	0.21	LWR 12668	L	41.00	15.9	246	Variable = Alp Ori
								LWR 12668	S	11.00	15.9	192	
								LWR 12670	L	116.88	16.2	2X	
44478	Mu Gem	M3	IIIab	v	2.88	1.64	0.04	LWR 11825	L	307.48	12.5	222	Variable = Mu Gem
								LWR 12737	L	960.00	11.5	4X	
19058	Rho Per	M4	I Ib-IIIa	v	3.39	1.65	0.00	LWR 11563	L	300.00	5.8	2X	Not Trailed; Variable = Rho Per
								LWR 11563	S	100.00	5.8	110	
								LWR 11822	M	2280.00	12.8	6X	63 DN Noise 2629-2675A, 4 Spectra
								LWR 11822	S	200.00	12.8	160	

"NOTES" ON PHOTOMETRY

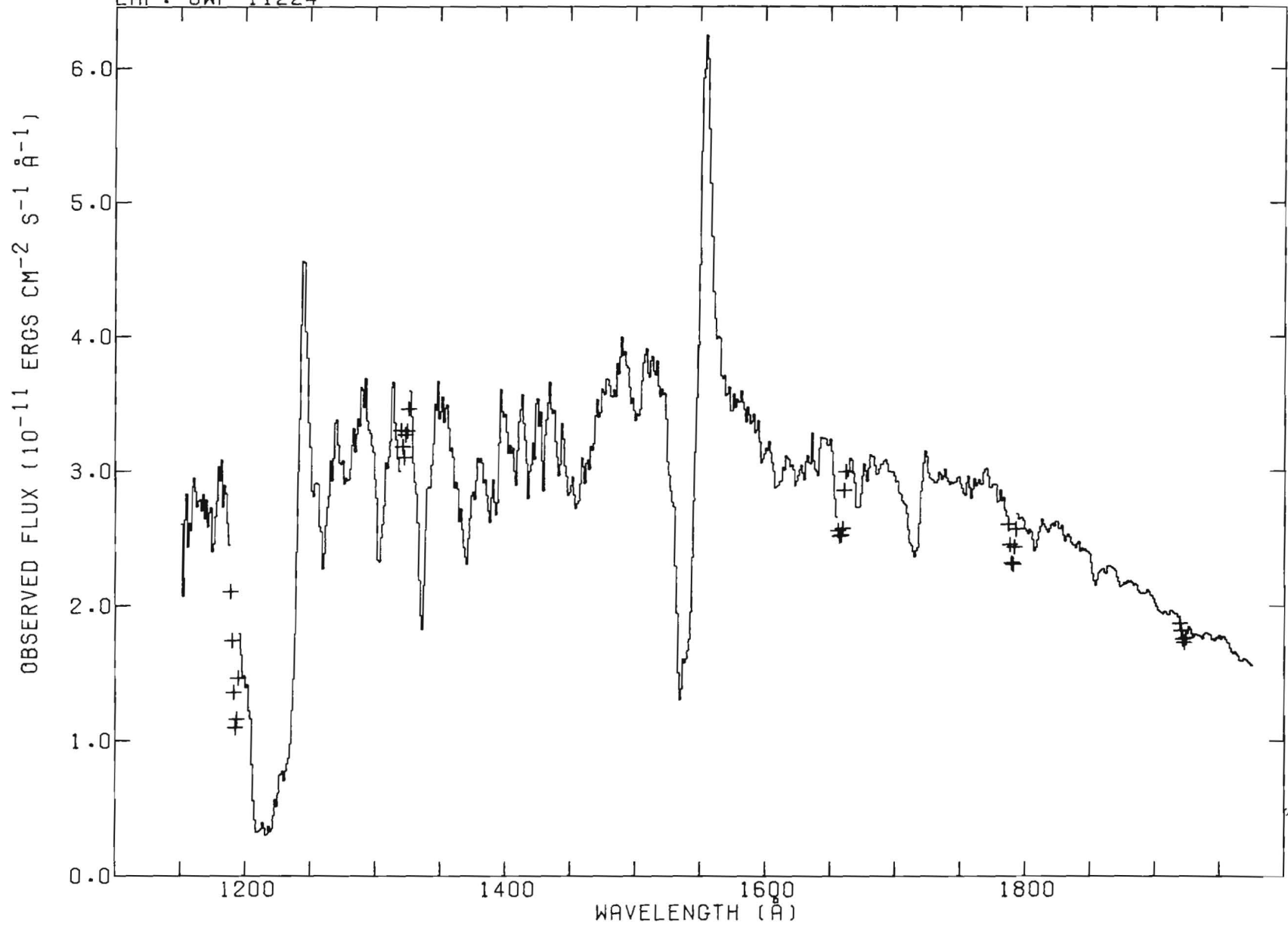
N -- PHOTOMETRY FROM USNO UBV CATALOG
X -- OTHER REFERENCES
BLANK OR OTHER ENTRY -- LISTED IN NICOLET (1978)

"NOTES" FROM NICOLET UBV CATALOG

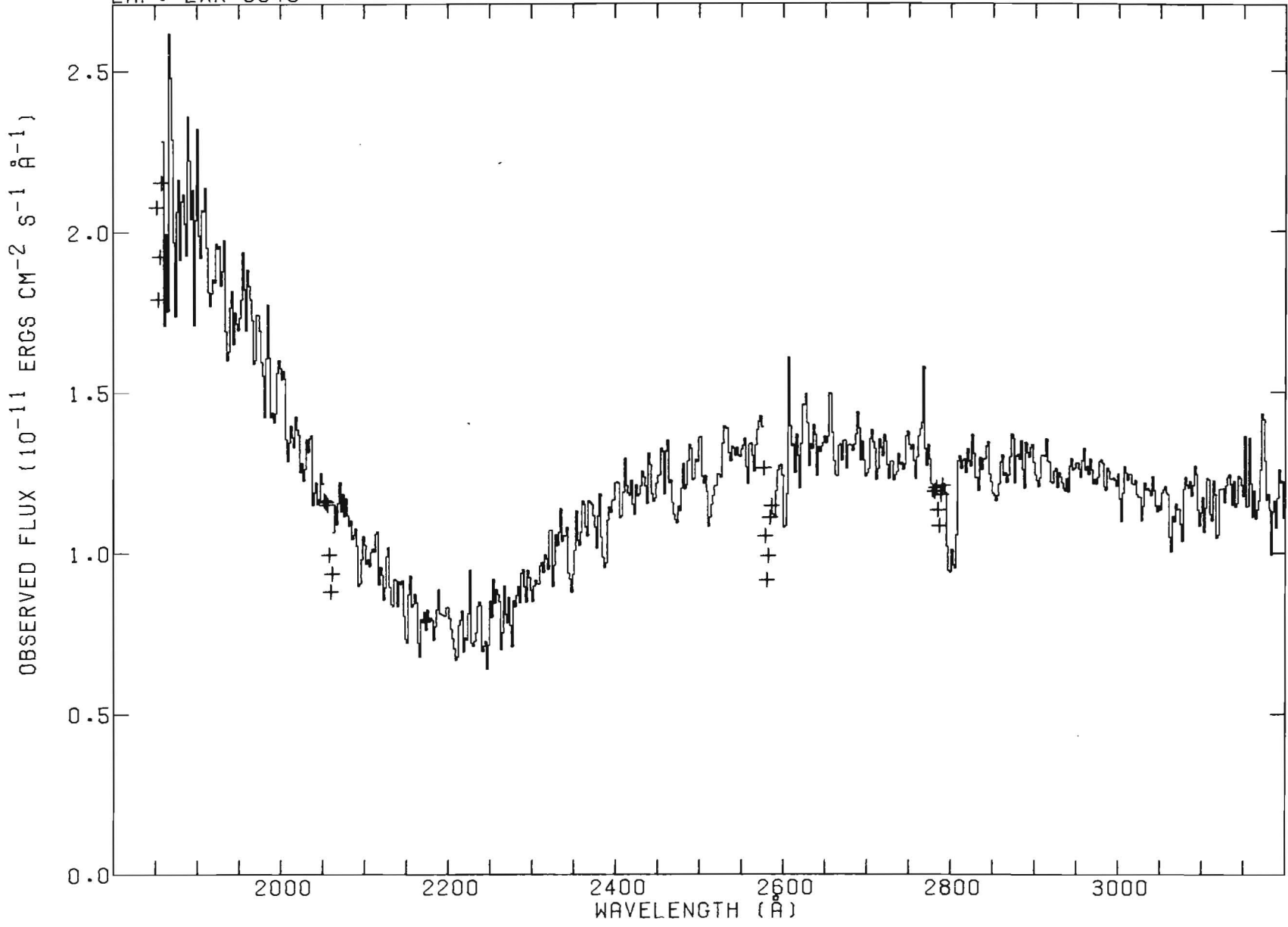
V -- VARIABLE
D -- MULTIPLE POSSIBLY BIASING PHOTOMETRY
M -- COMPONENT OF A MULTIPLE SYSTEM

HD 93250 03 V
LAP: SWP 11224

V=7.37 (B-V)=0.16 E(B-V)=0.48

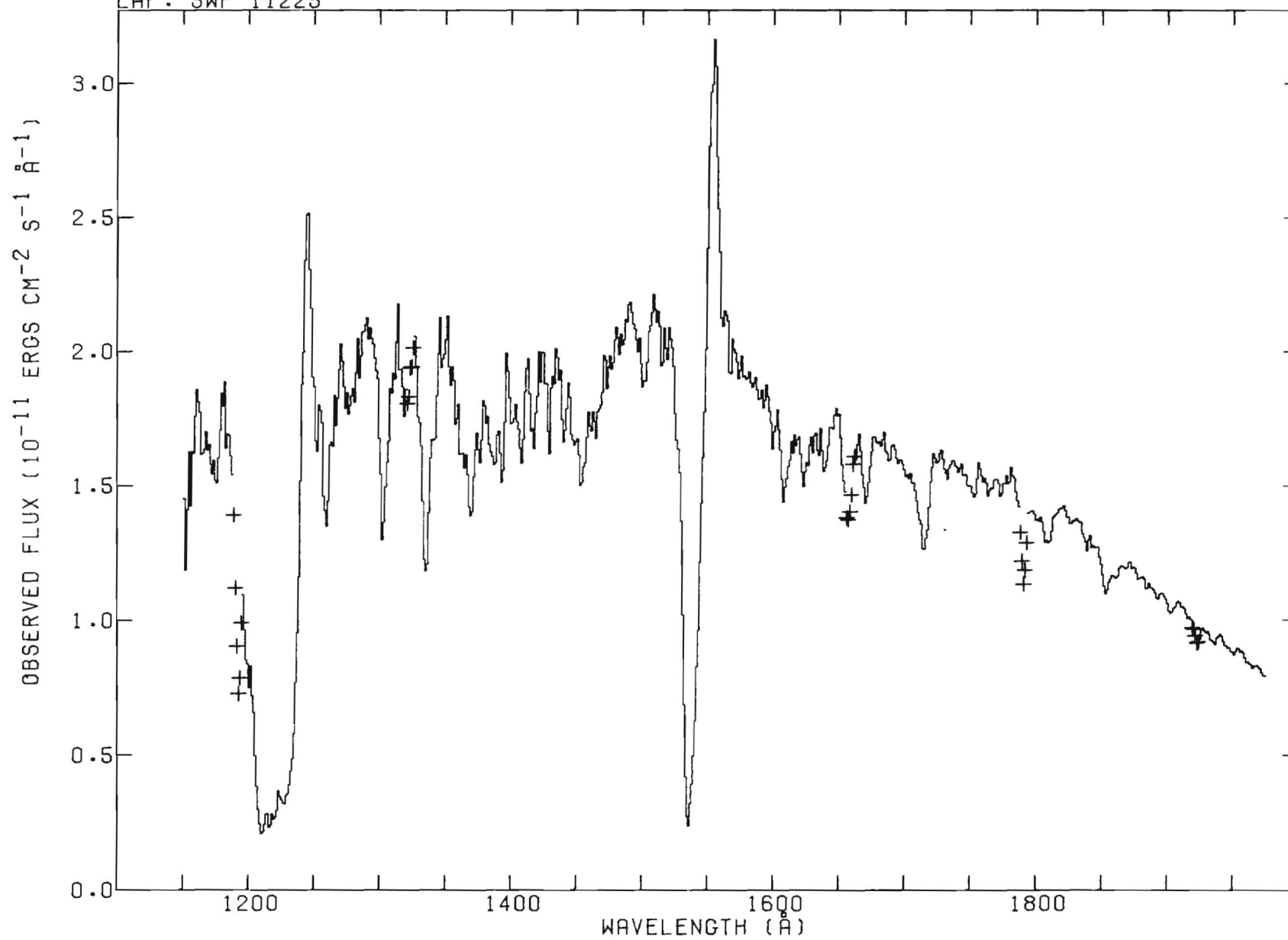


HD 93250 03 V V=7.37 (B-V)=0.16 E(B-V)=0.48
LAP: LWR 9840



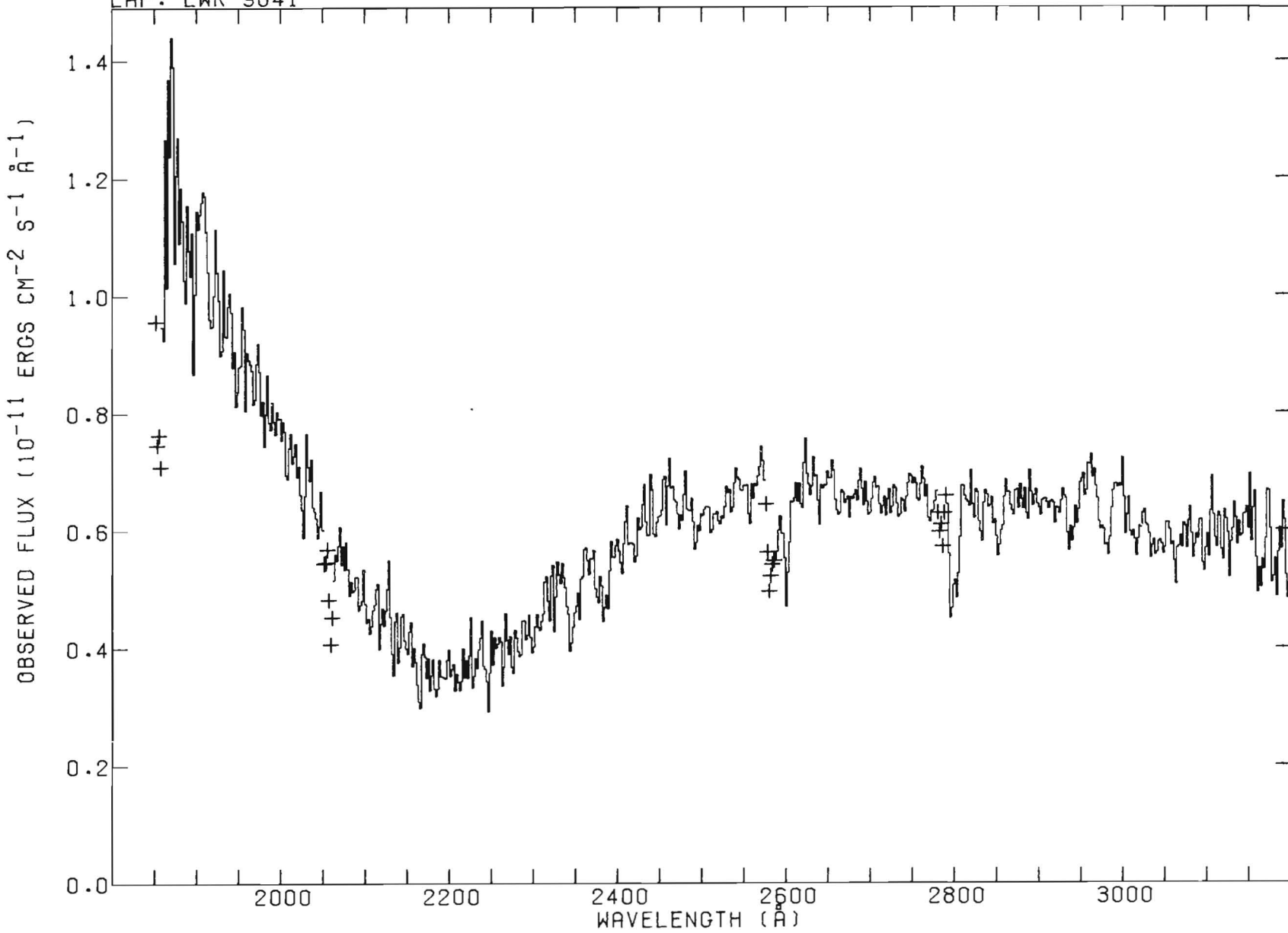
HD 303308 03 V
LAP: SWP 11225

V=8.17 (B-V)=0.12 E(B-V)=0.44



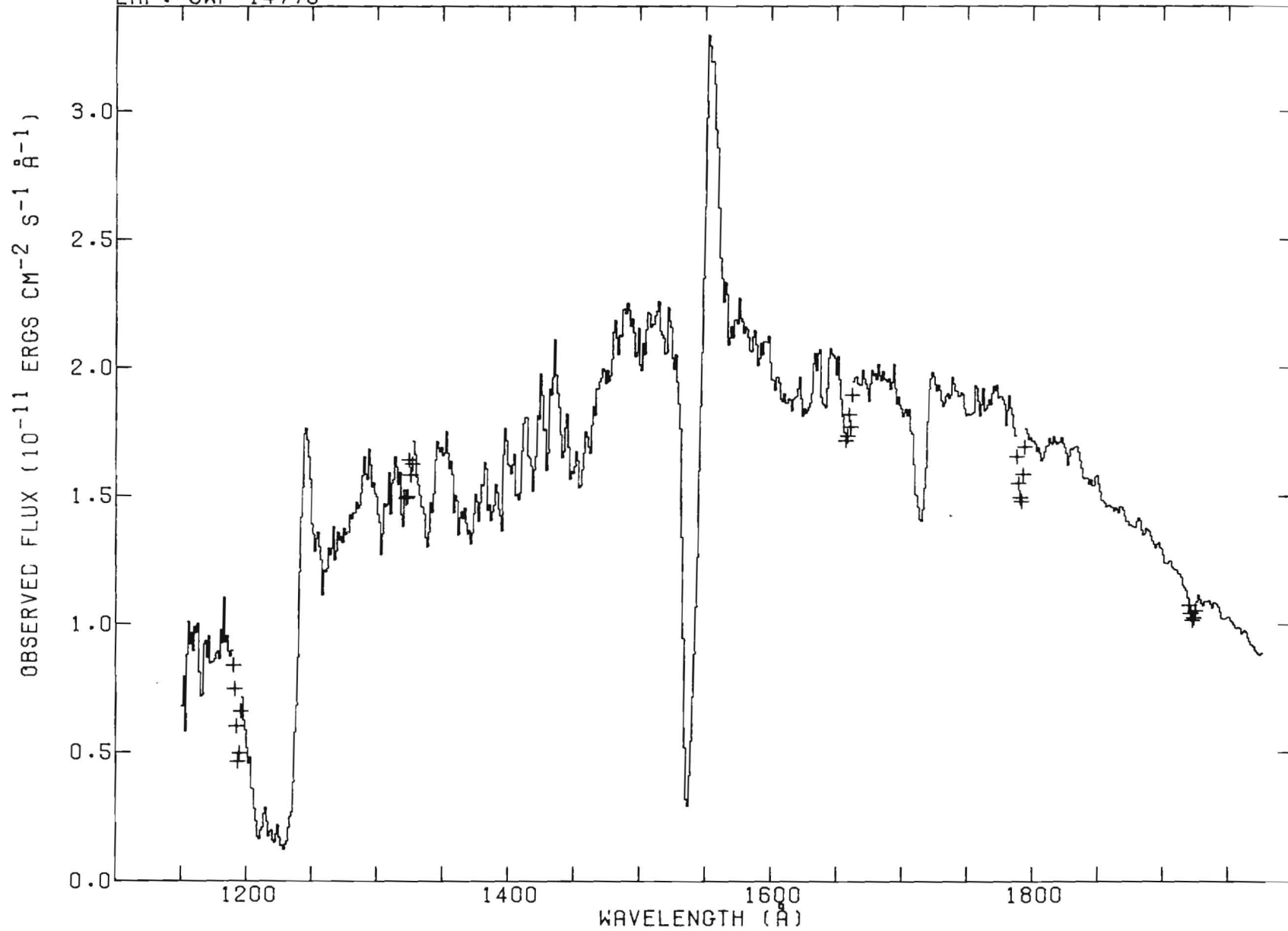
HD 303308 03 V
LAP: LWR 9841

V=8.17 (B-V)=0.12 E(B-V)=0.44

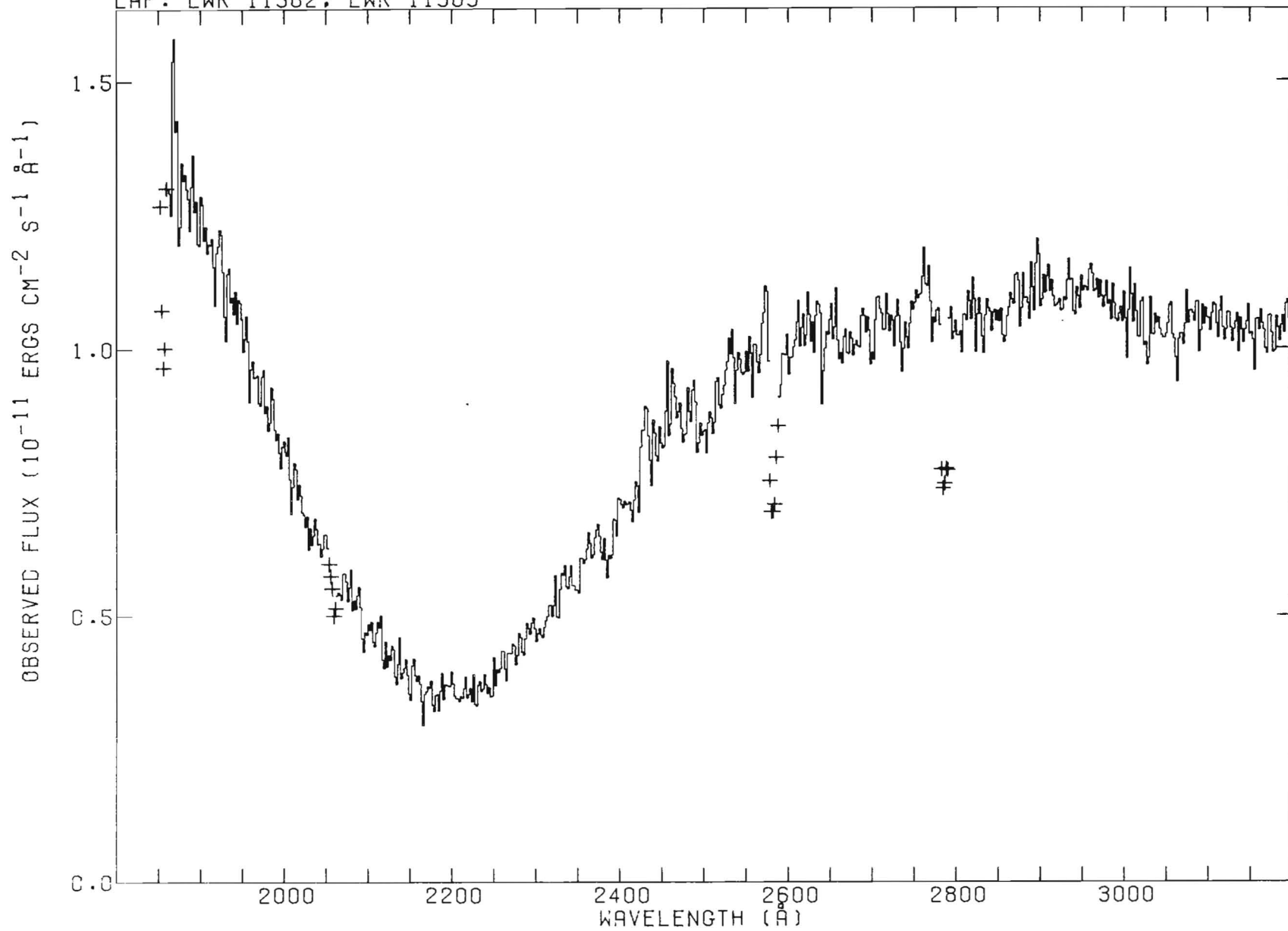


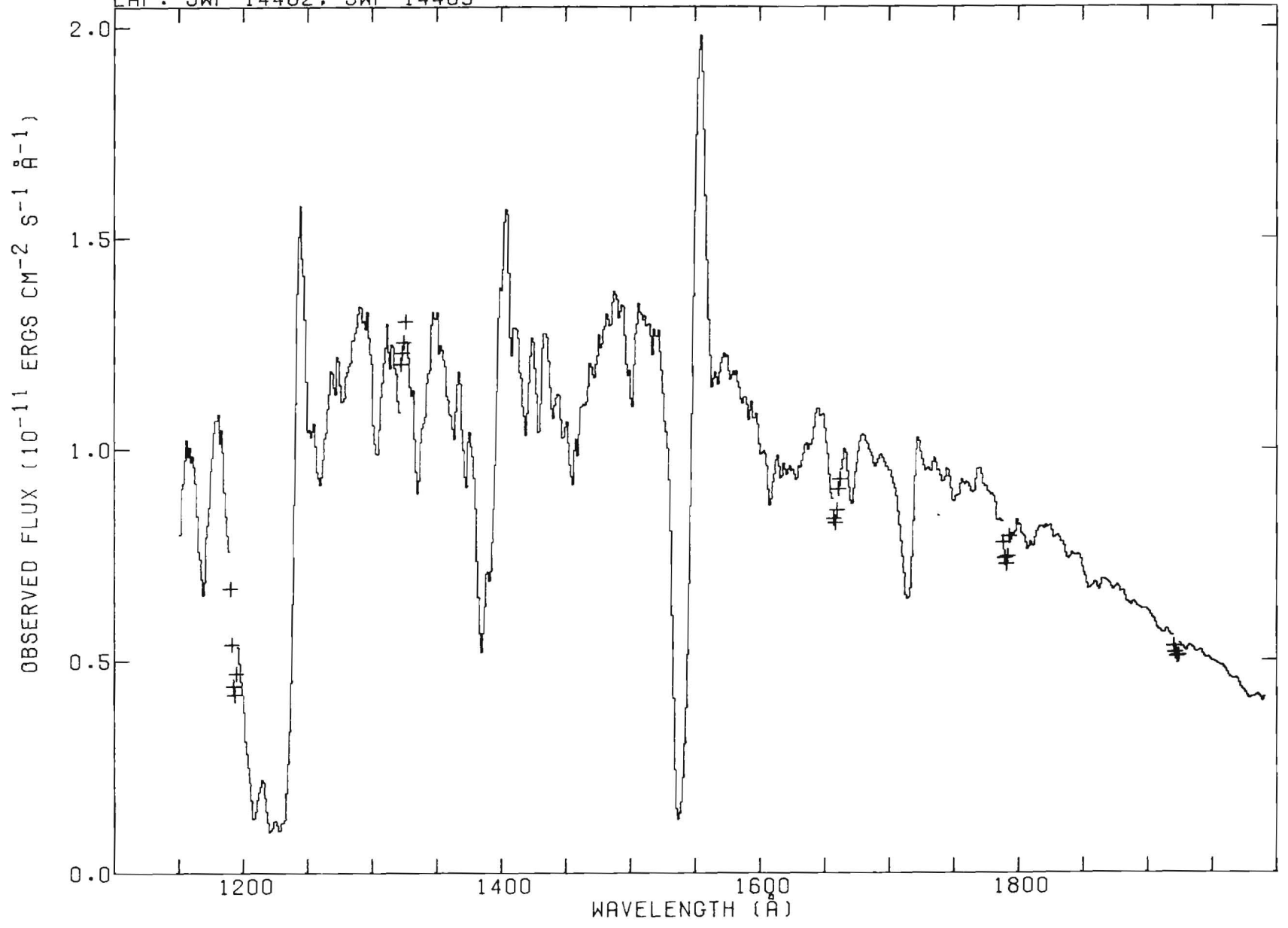
HD 46223 04
LAP: SWP 14776

V=7.26 (B-V)=0.22 E(B-V)=0.54

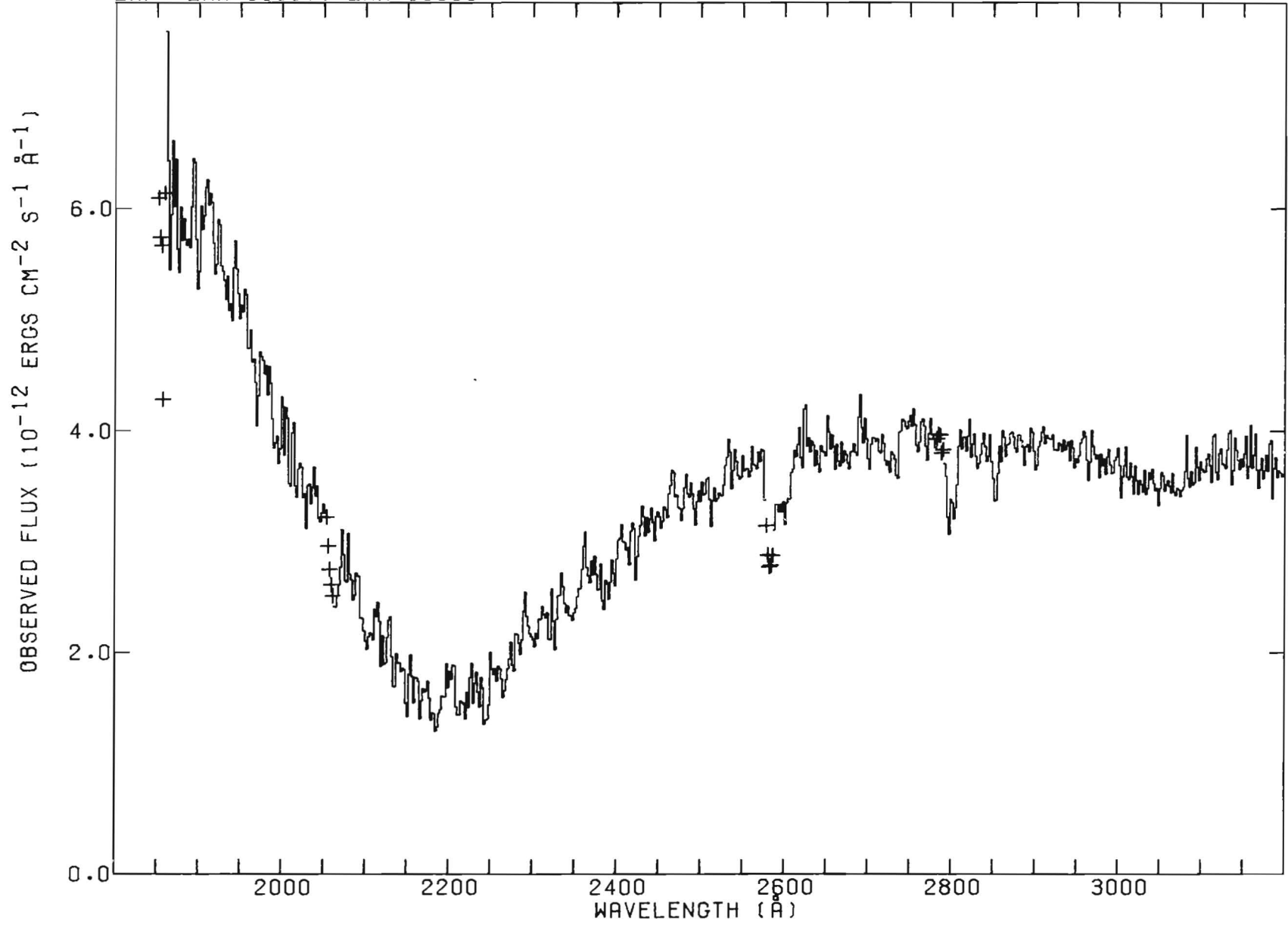


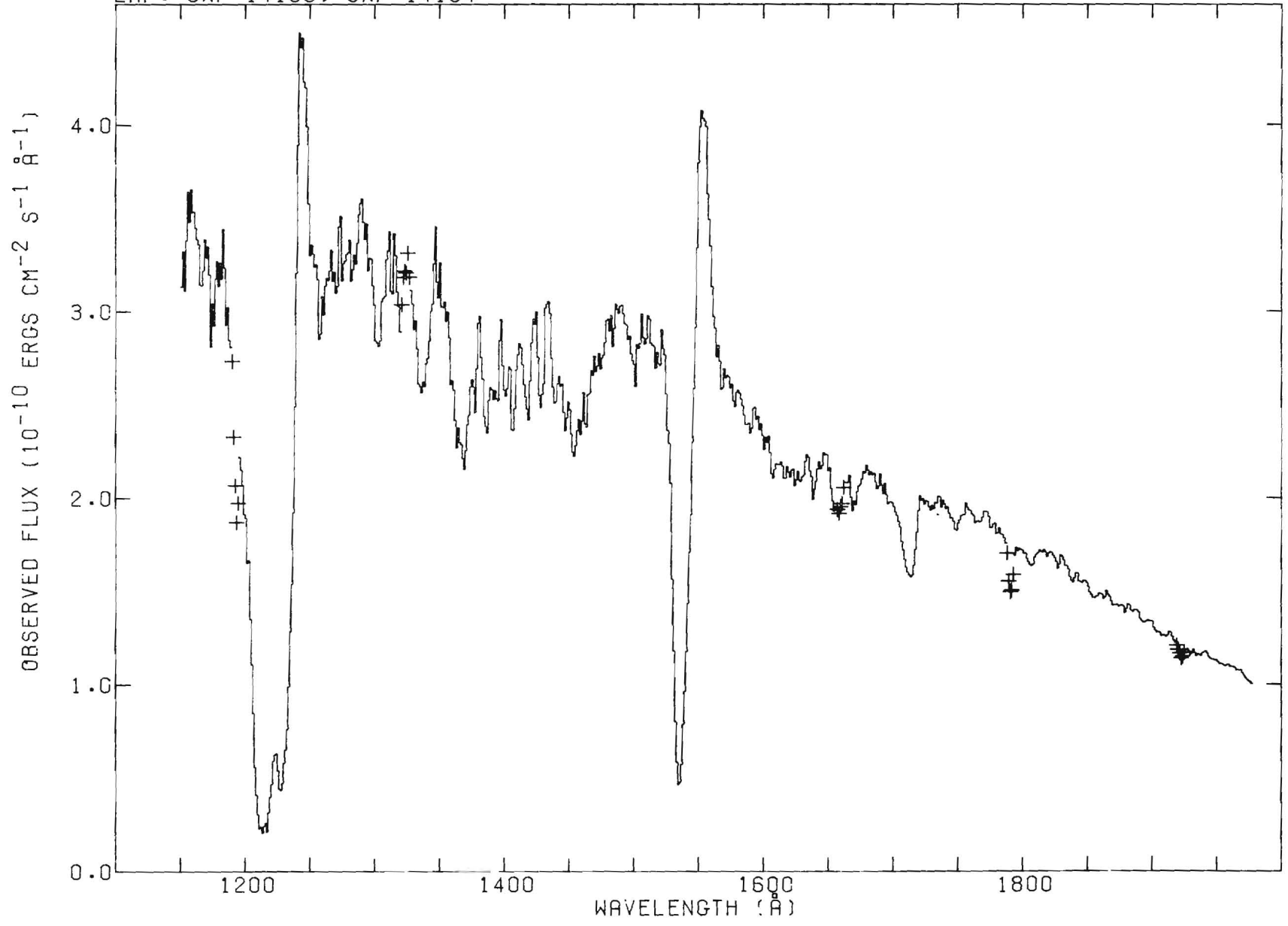
HD 46223 04 V=7.26 (B-V)=0.22 E(B-V)=0.54
LAP: LWR 11362, LWR 11363



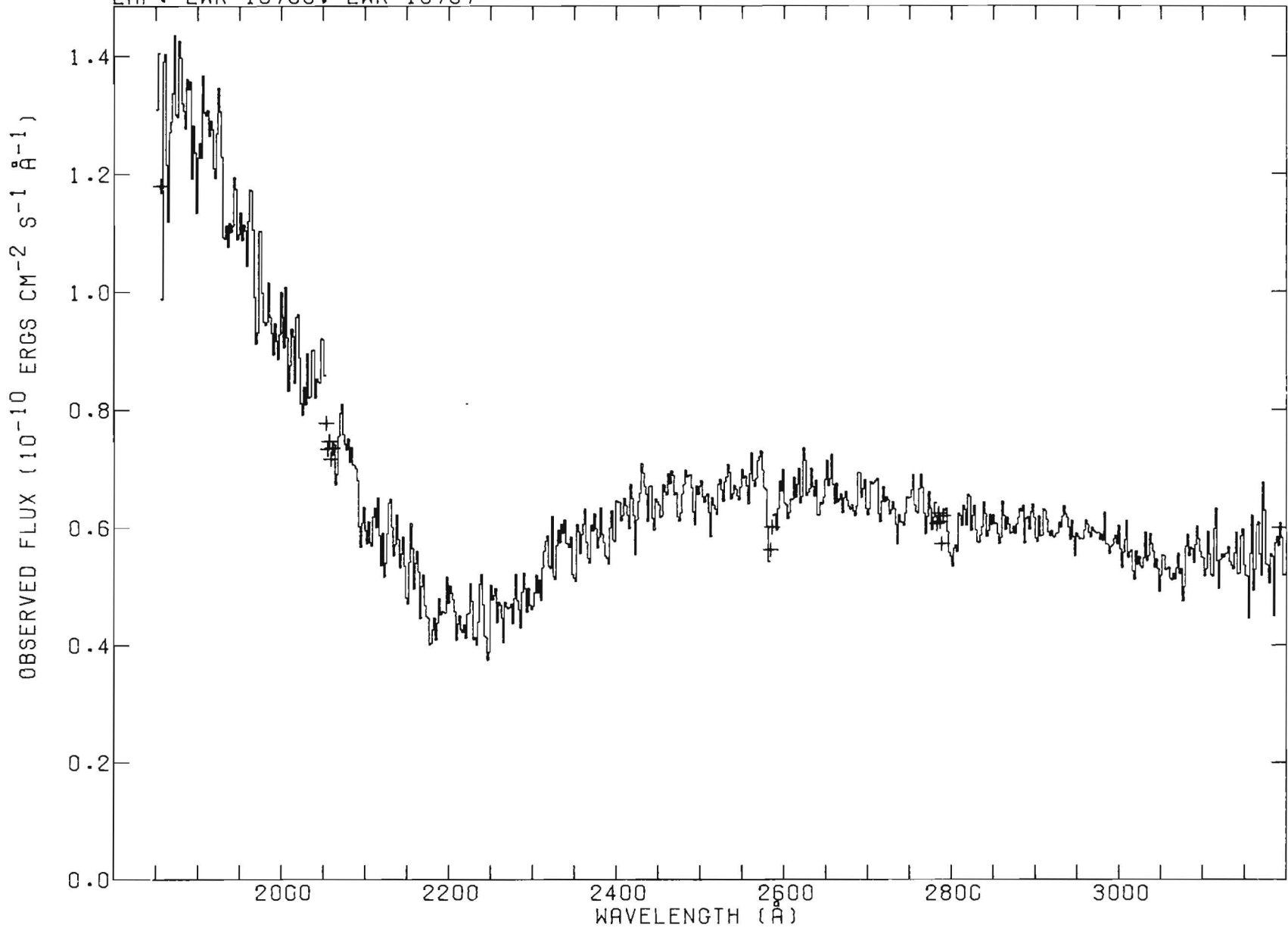


HD 93632 04 V=8.34 (B-V)=0.32 E(B-V)=0.64
LAP: LWR 11067, LWR 11068



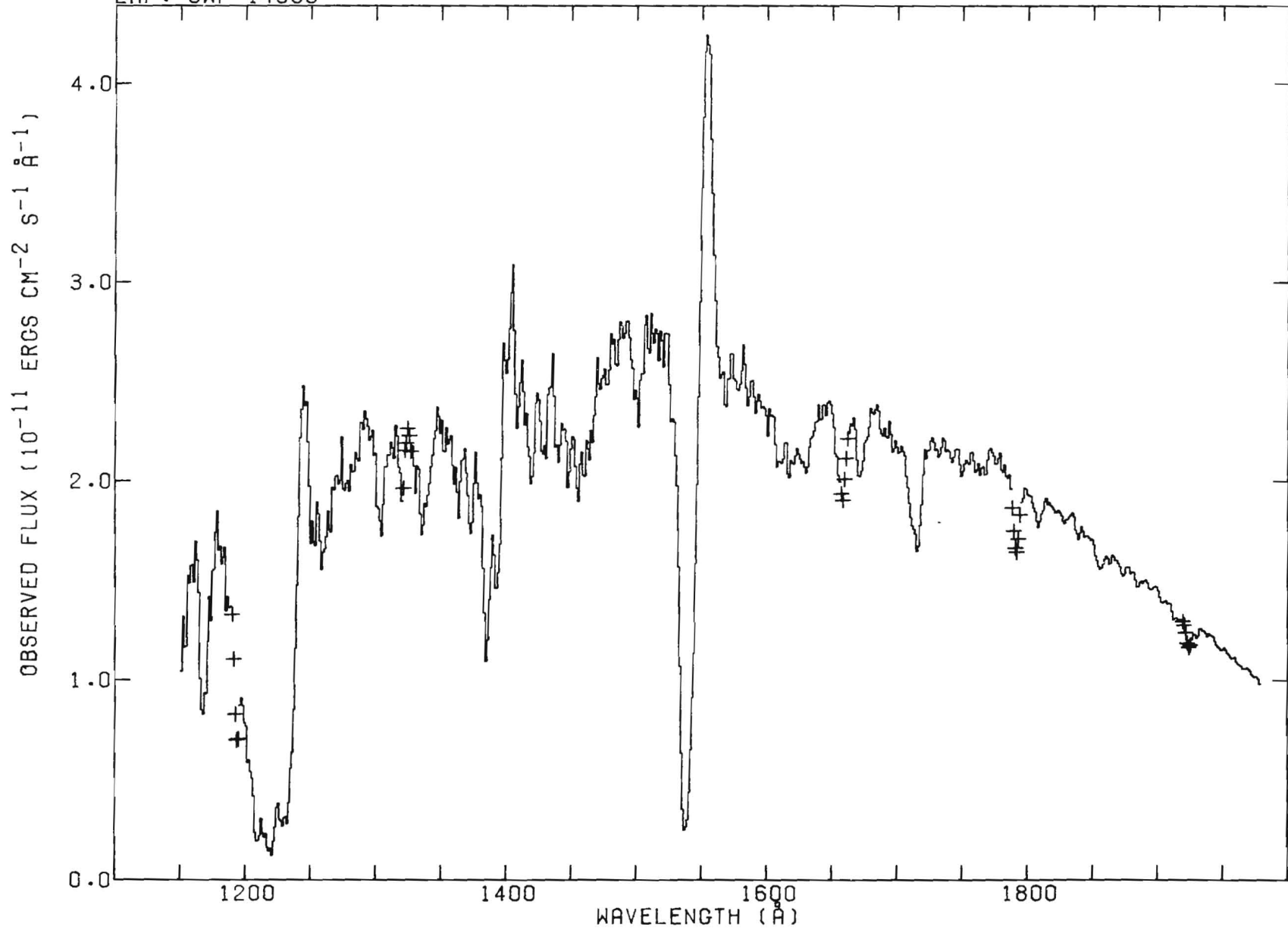


HD 164794 05 V=5.97 (B-V)=0.00 E(B-V)=0.32
LAP: LWR 10768. LWR 10787



HD 93403 05 III
LAP: SWP 14305

V=7.26 (B-V)=0.21 E(B-V)=0.53



HD 93403

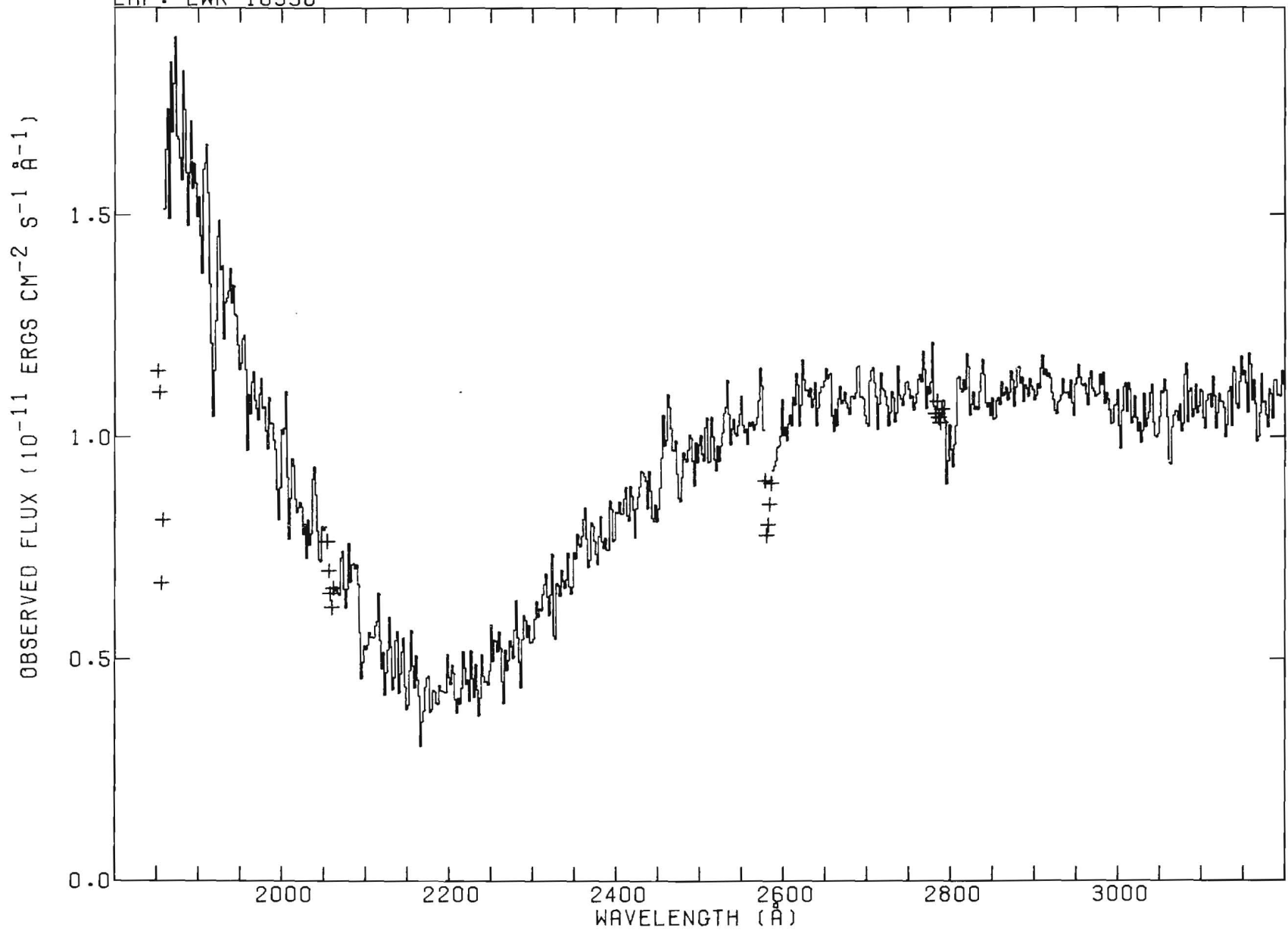
05 III

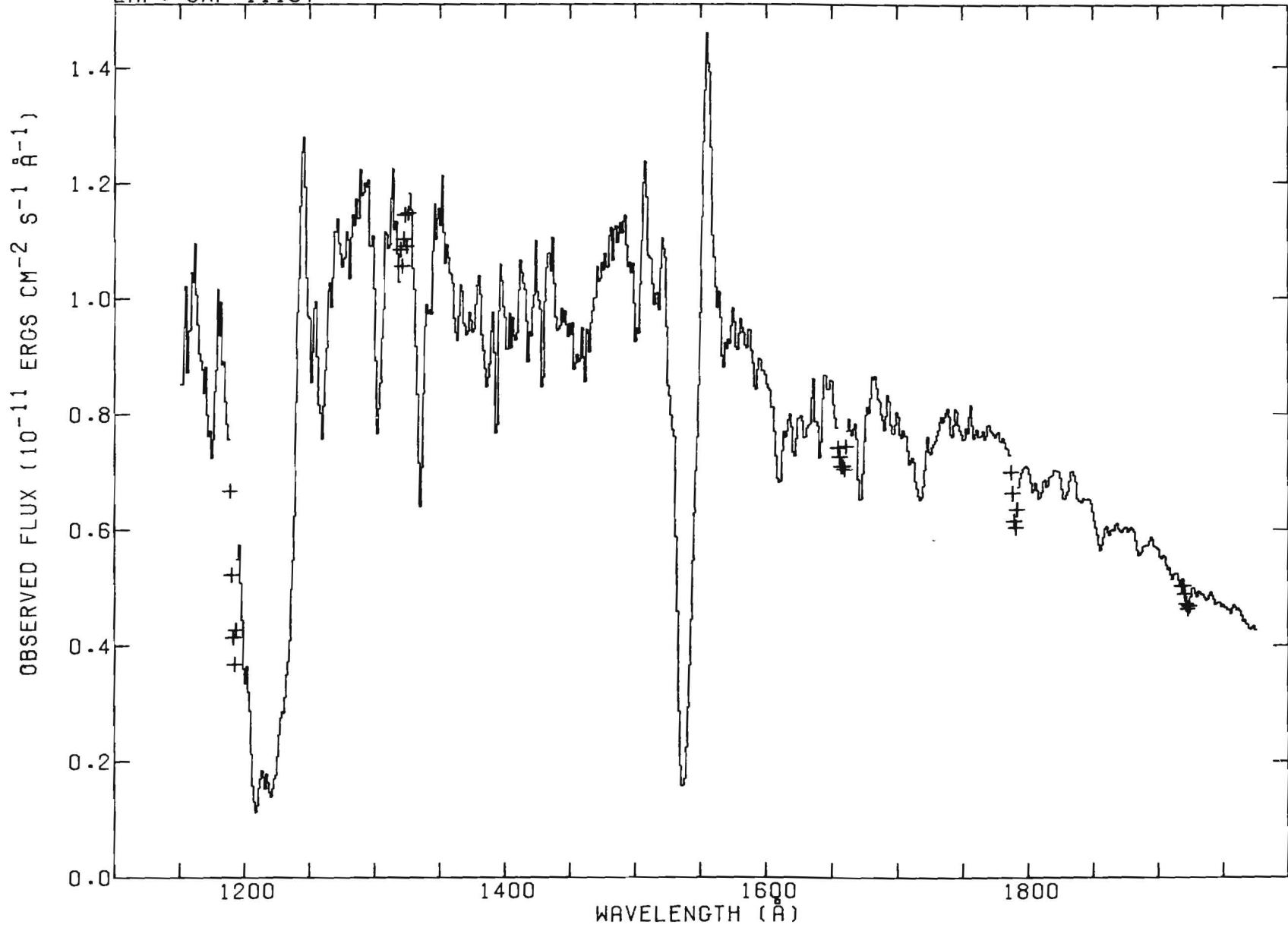
V=7.26

(B-V)=0.21

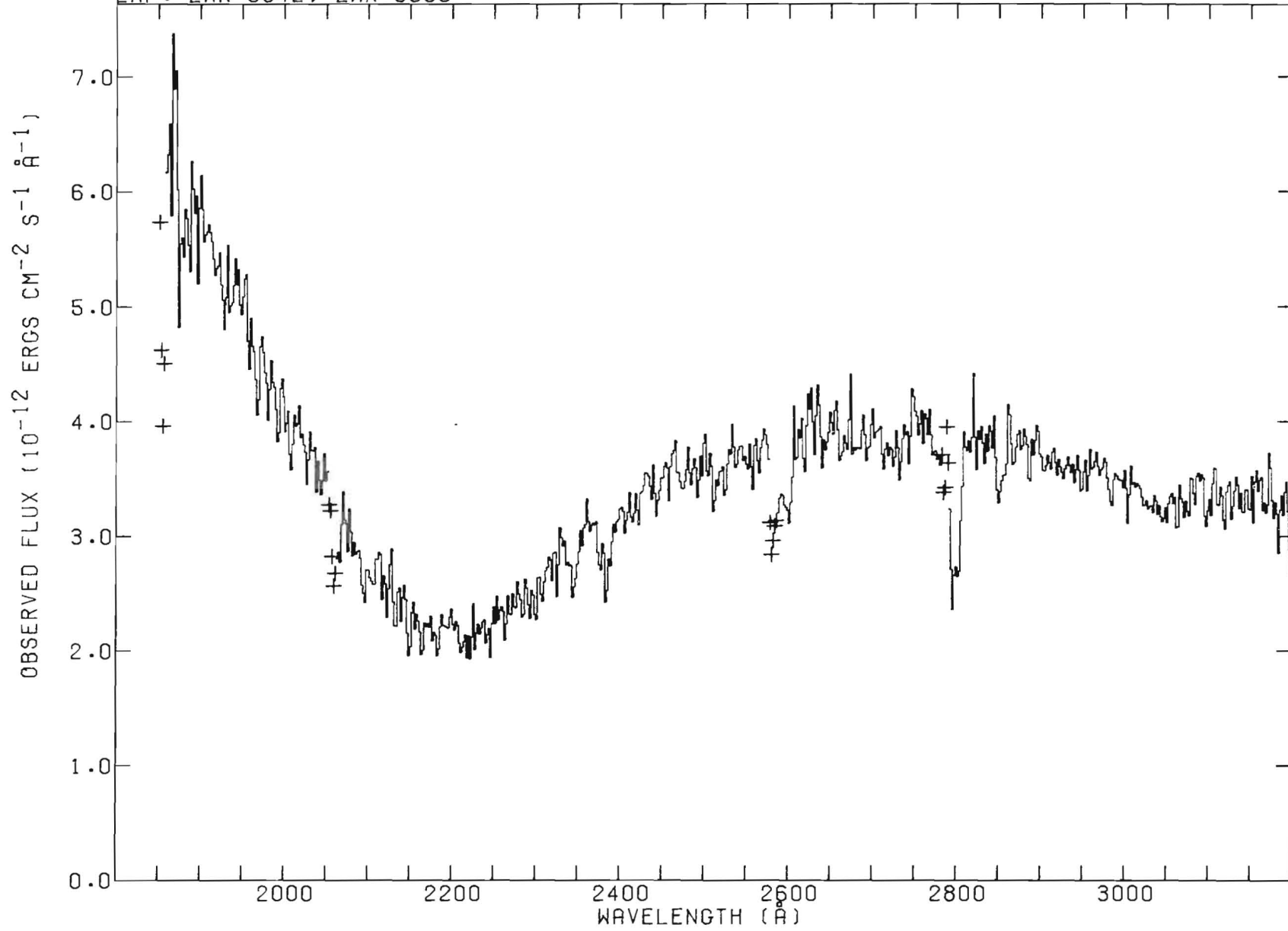
E(B-V)=0.53

LAP: LWR 10936



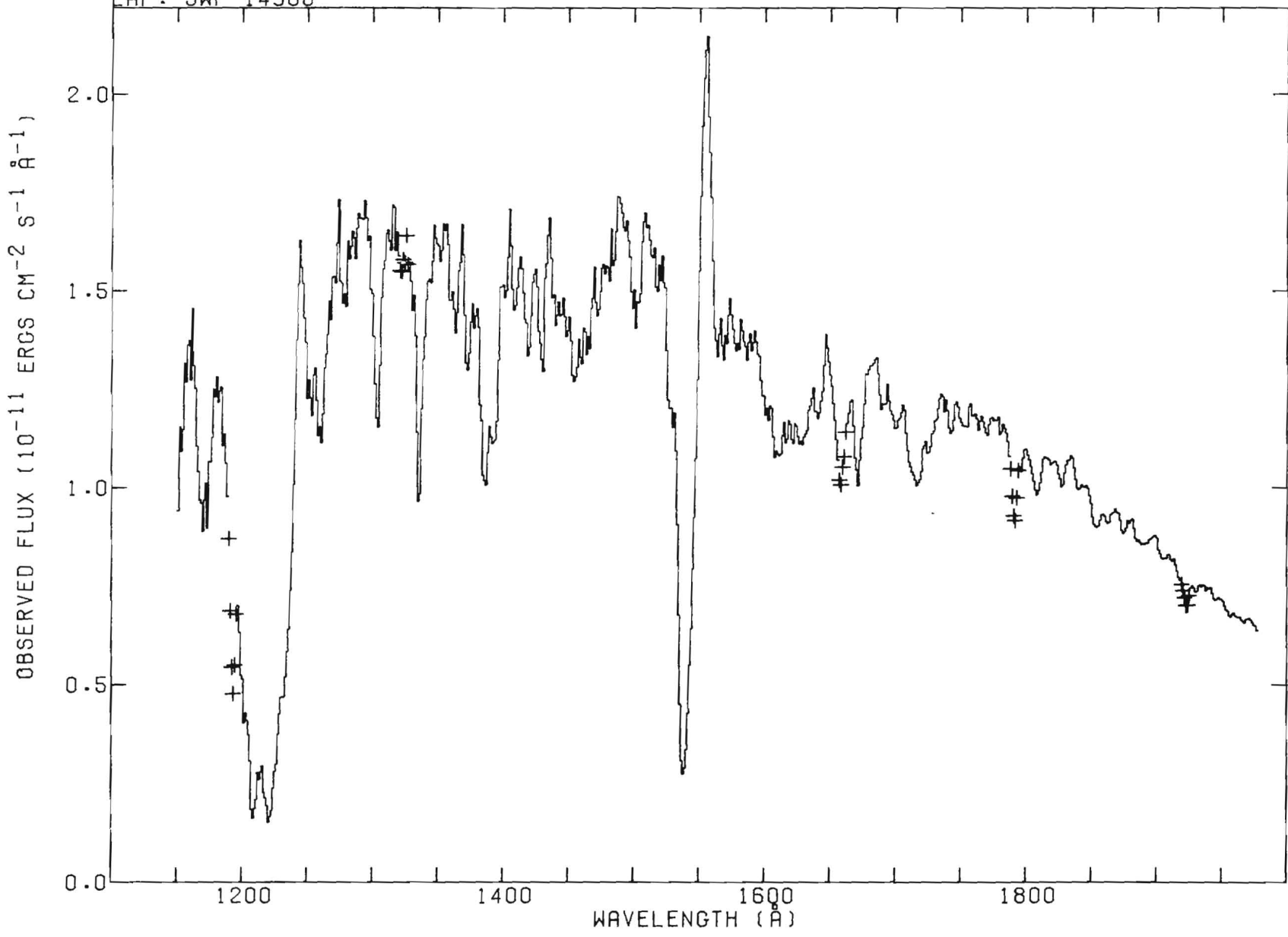


-59 2600 06 V ((F)) V=8.61 (B-V)=0.21 E(B-V)=0.53
LAP: LWR 9842, LWR 9806



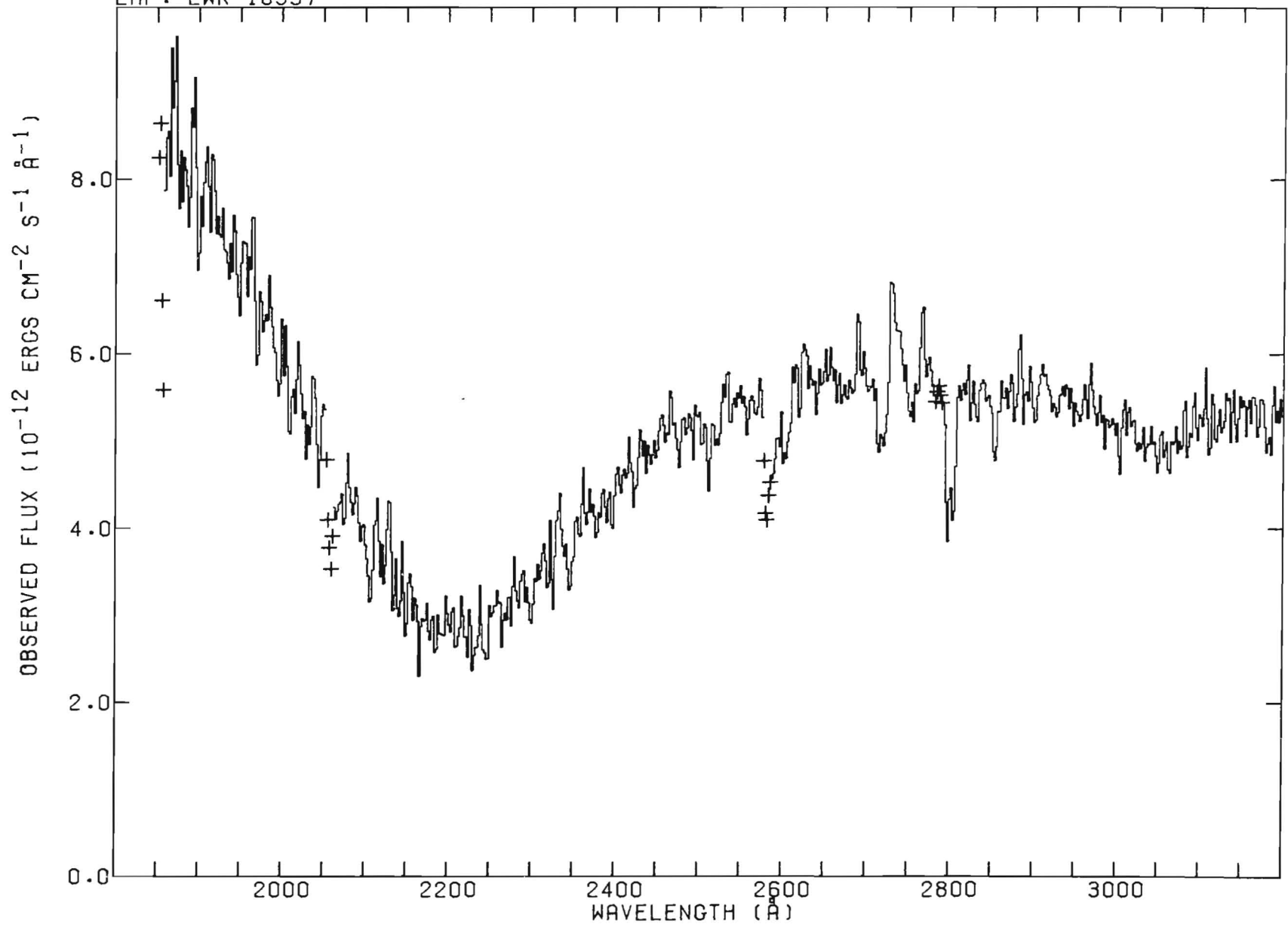
HD 93130 06 III
LAP: SWP 14306

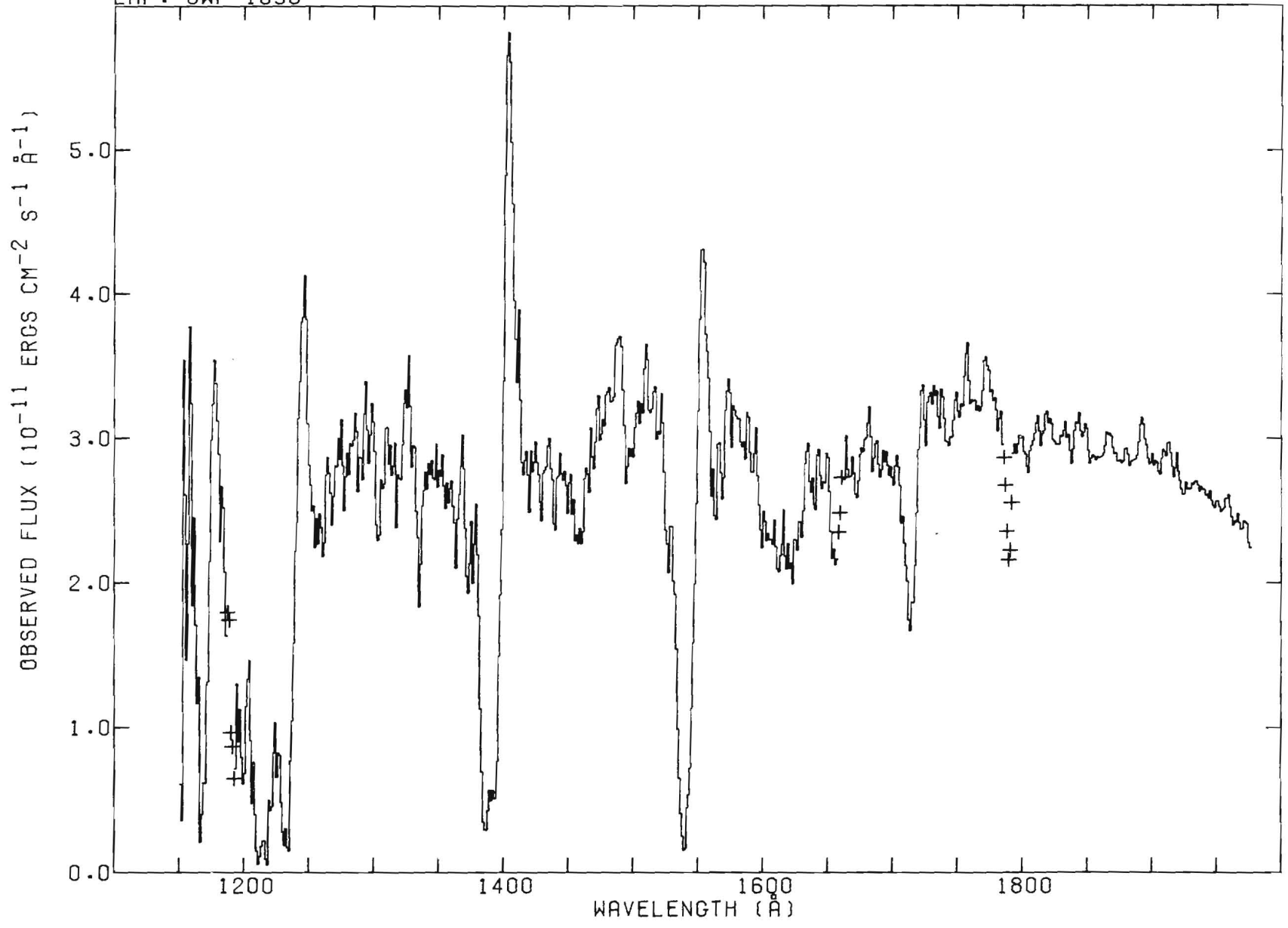
V=8.06 (B-V)=0.22 E(B-V)=0.54



HD 93130 06 III
LAP: LWR 10937

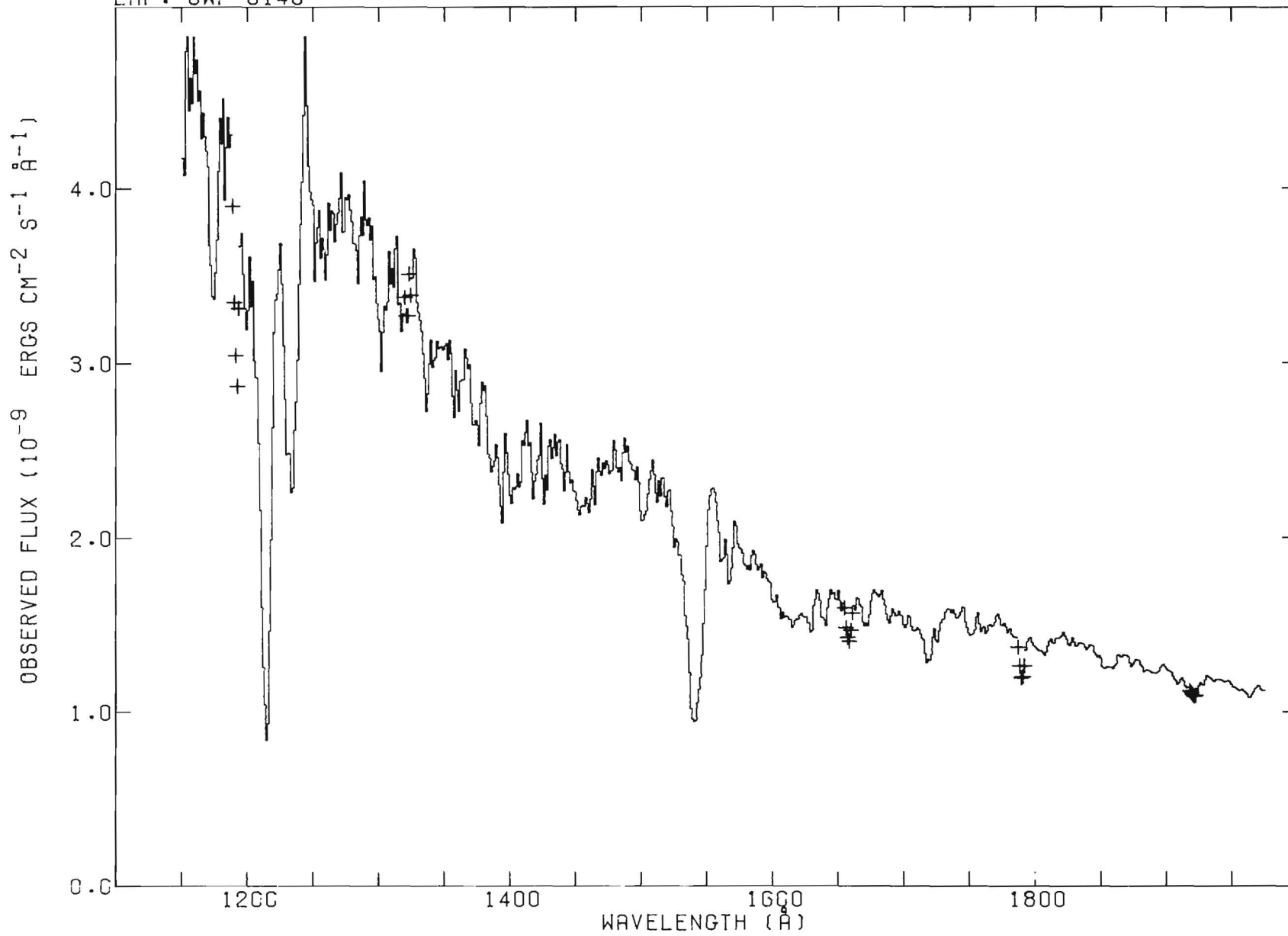
V=8.06 (B-V)=0.22 E(B-V)=0.54





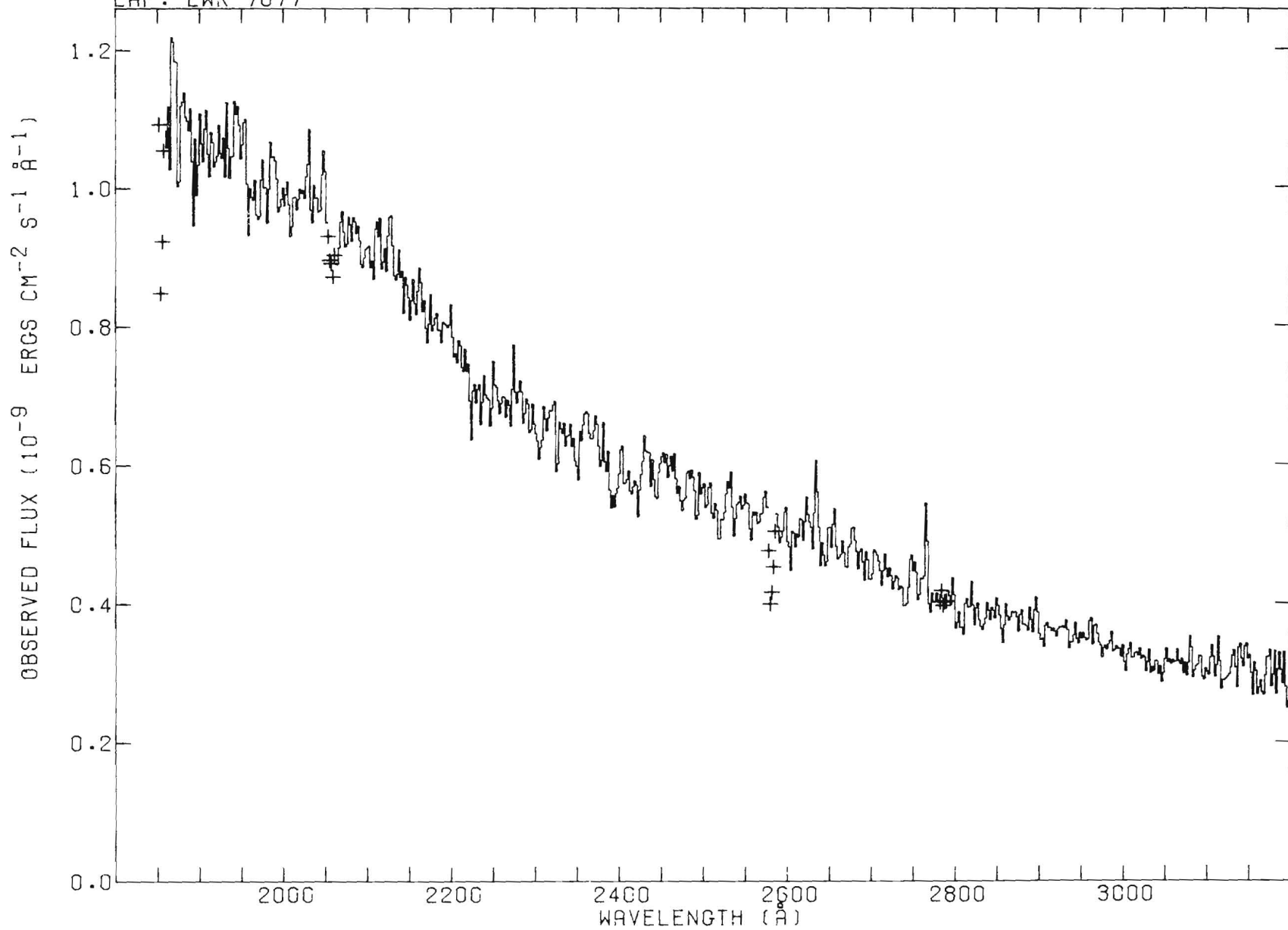
HD 47839 07 V +
LAP: SWP 8146

V=4.66 (B-V)=-0.25 E(B-V)=0.07

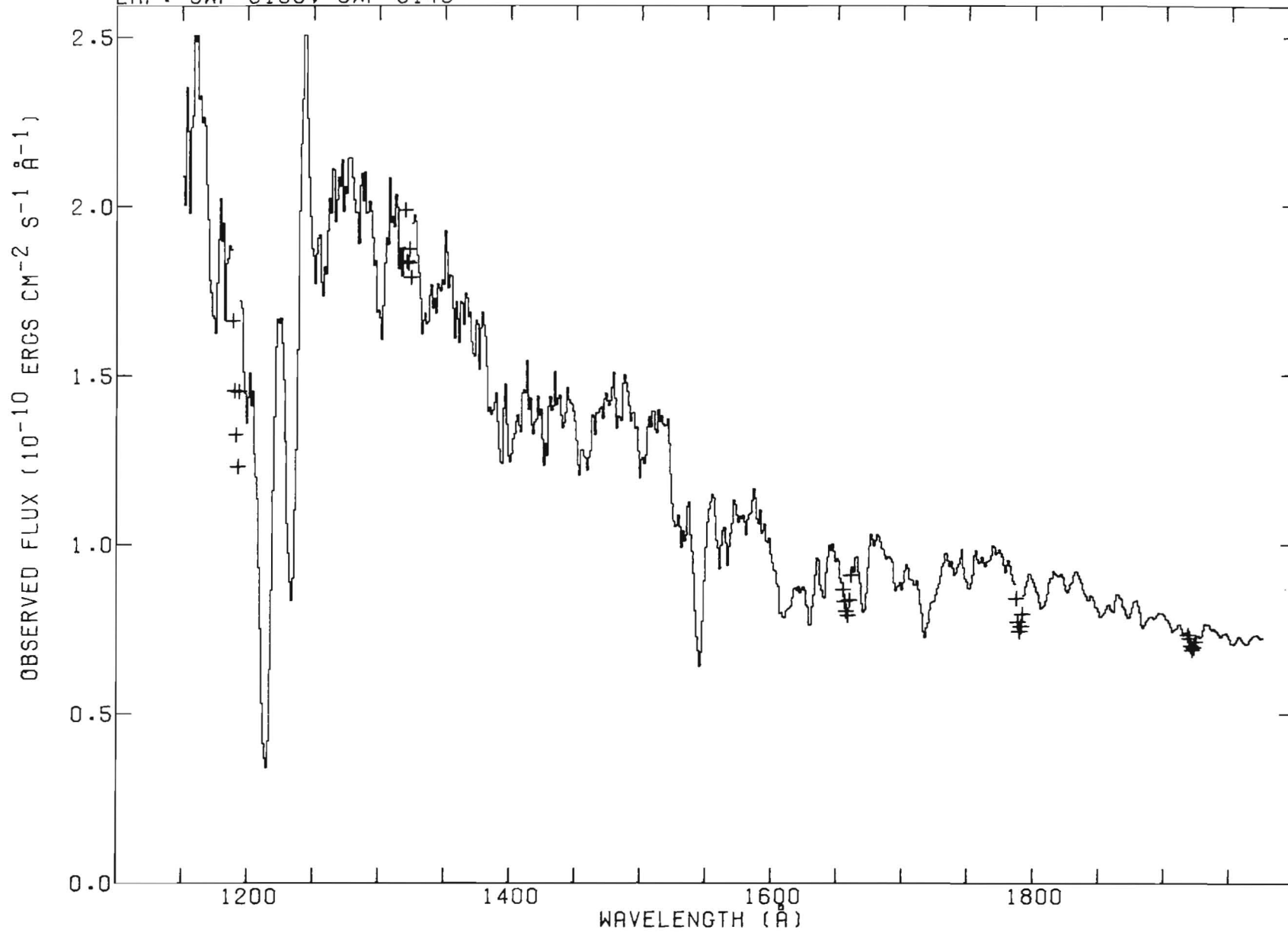


HD 47839 07 V +
LAP: LWR 7077

V=4.66 (B-V)=-0.25 E(B-V)=0.07

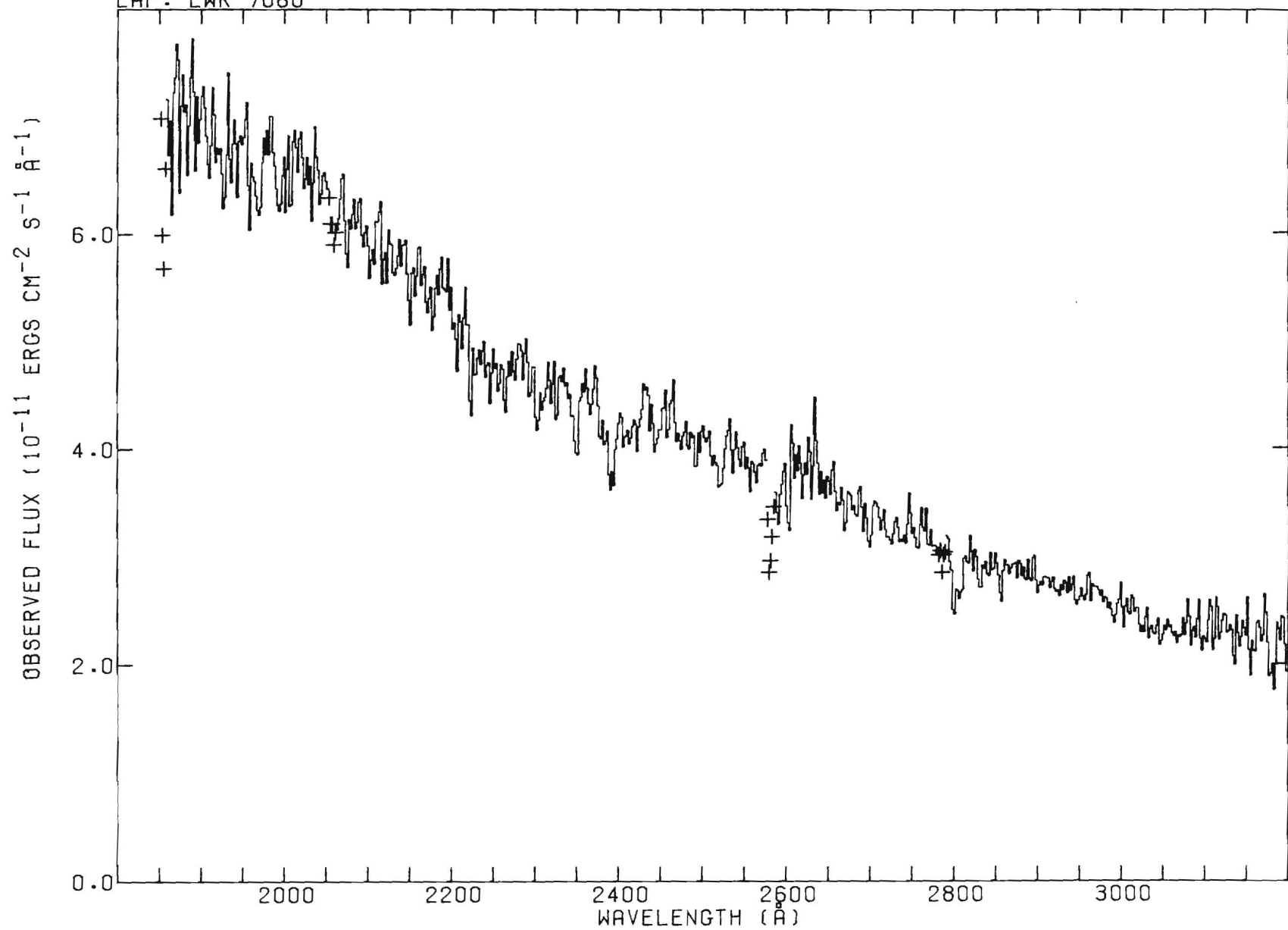


HD 14633 O8 V V=7.46 (B-V)=-0.21 E(B-V)=0.10
LAP: SWP 8150, SWP 8149

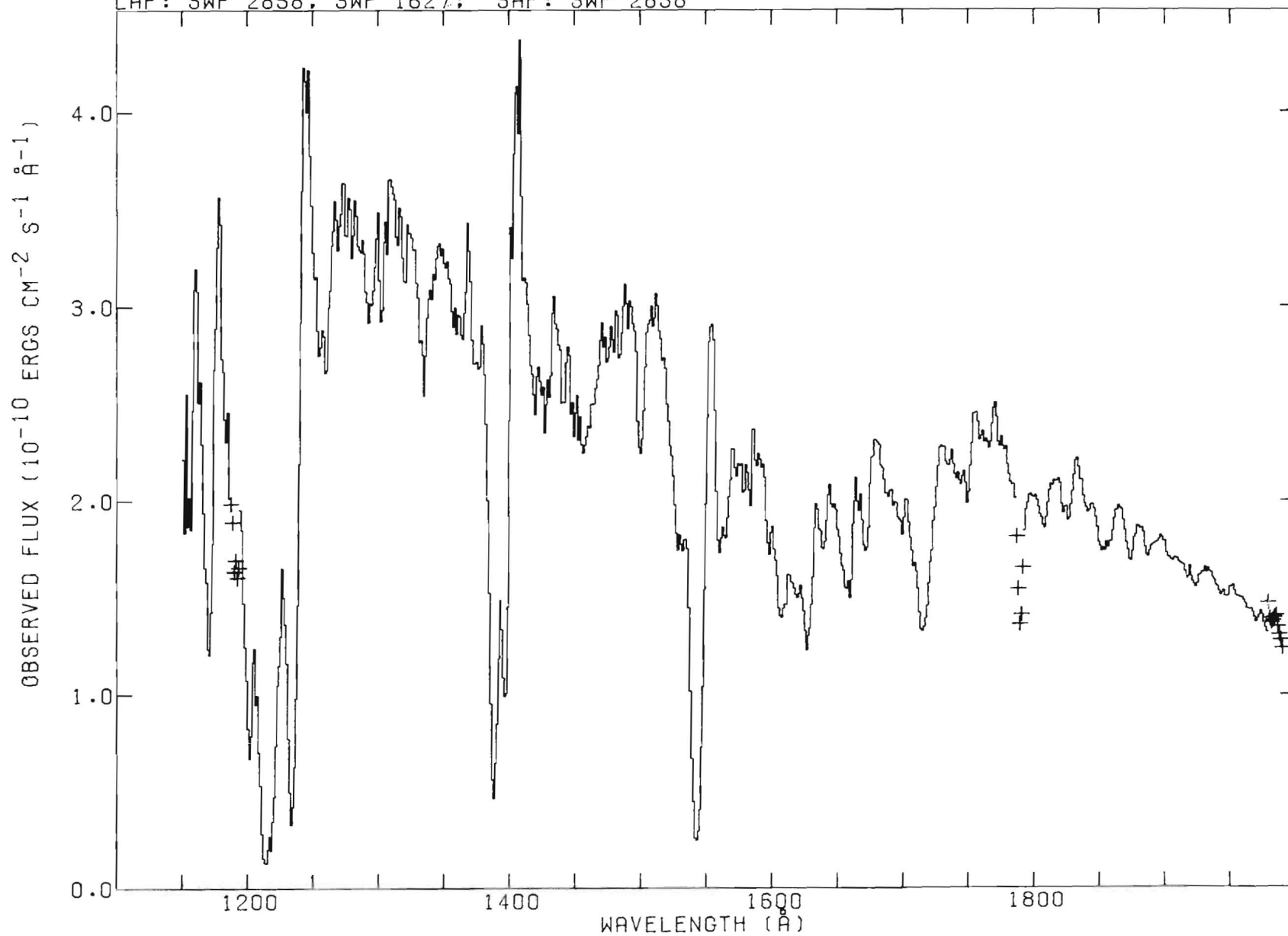


HD 14633 08 V
LAP: LWR 7080

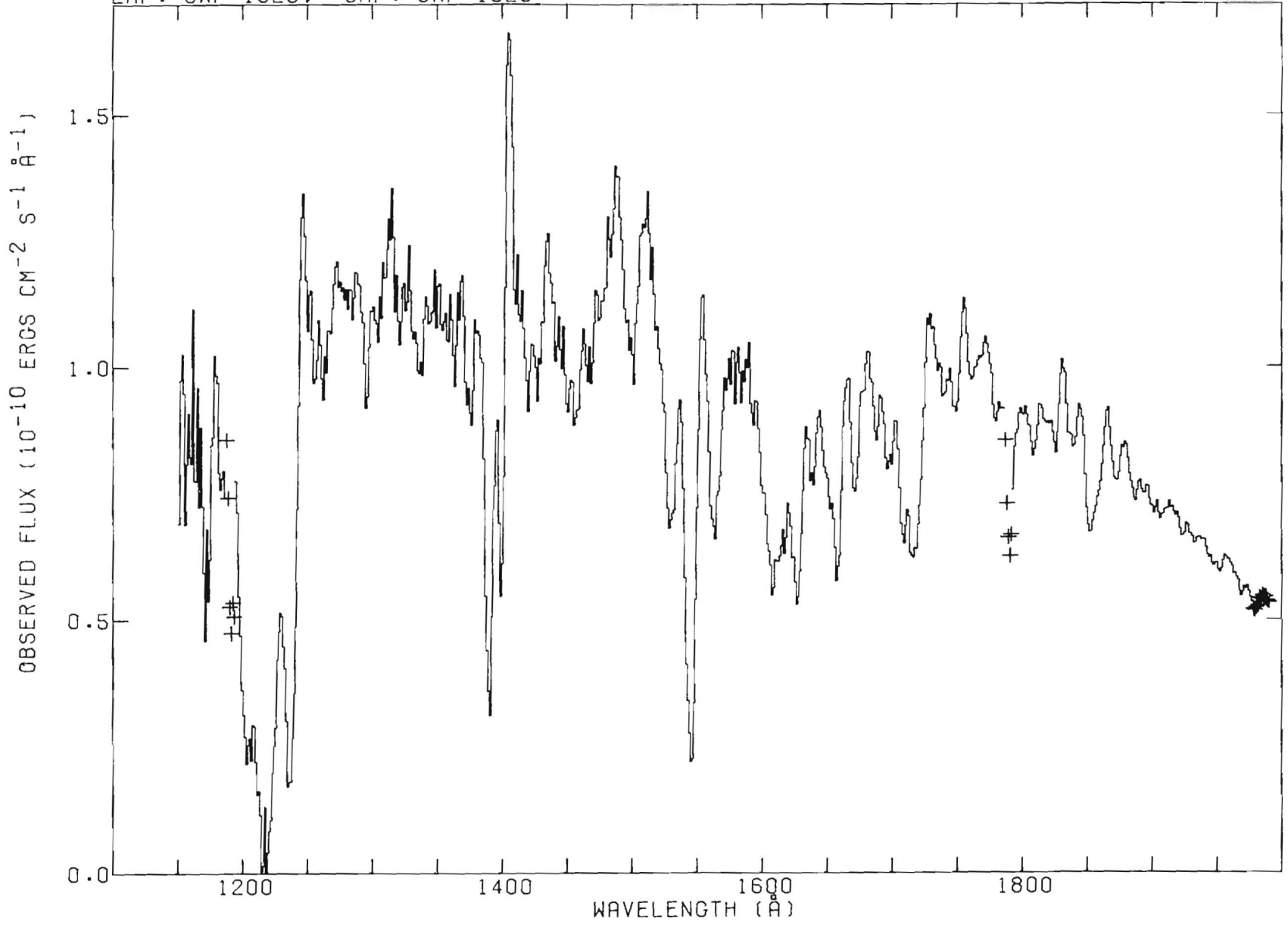
V=7.46 (B-V)=-0.21 E(B-V)=0.10



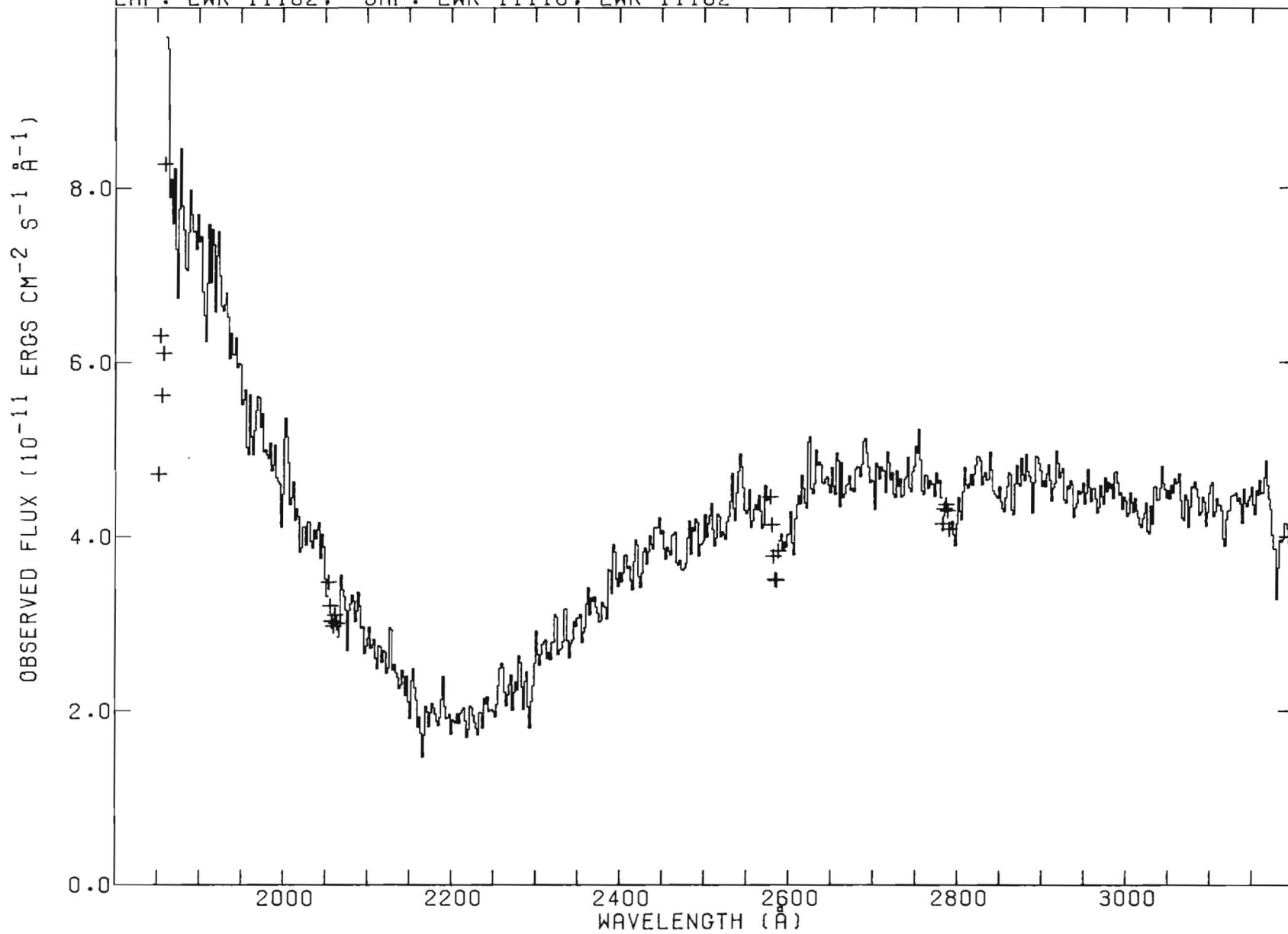
HD 151804 08 I F V=5.22 (B-V)=0.07 E(B-V)=0.36
LAP: SWP 2858, SWP 1627; SAP: SWP 2858



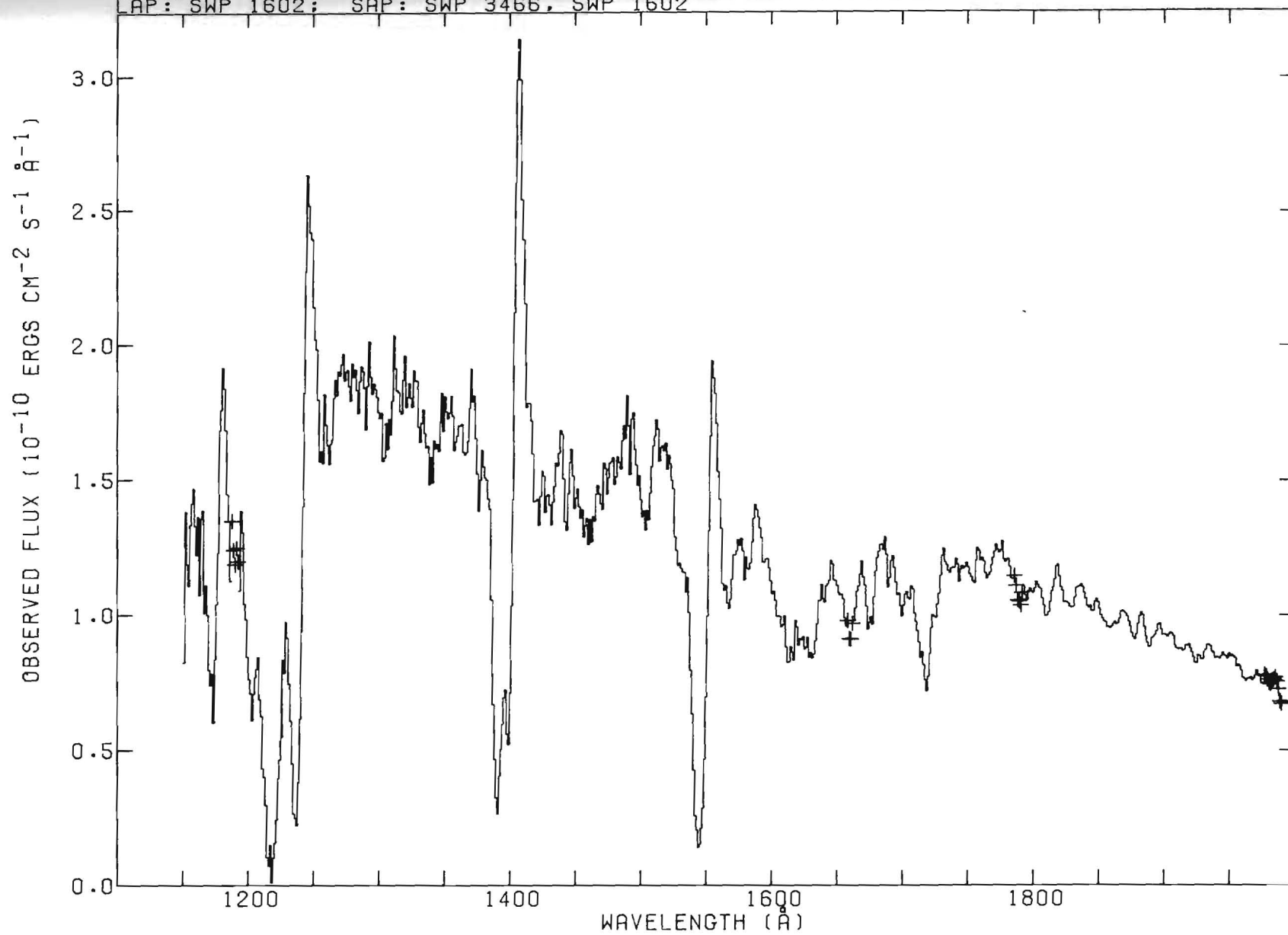
HD 152408 08 I F V=5.77 (B-V)=0.15 E(B-V)=0.44
LAP: SWP 1625; SAP: SWP 1625



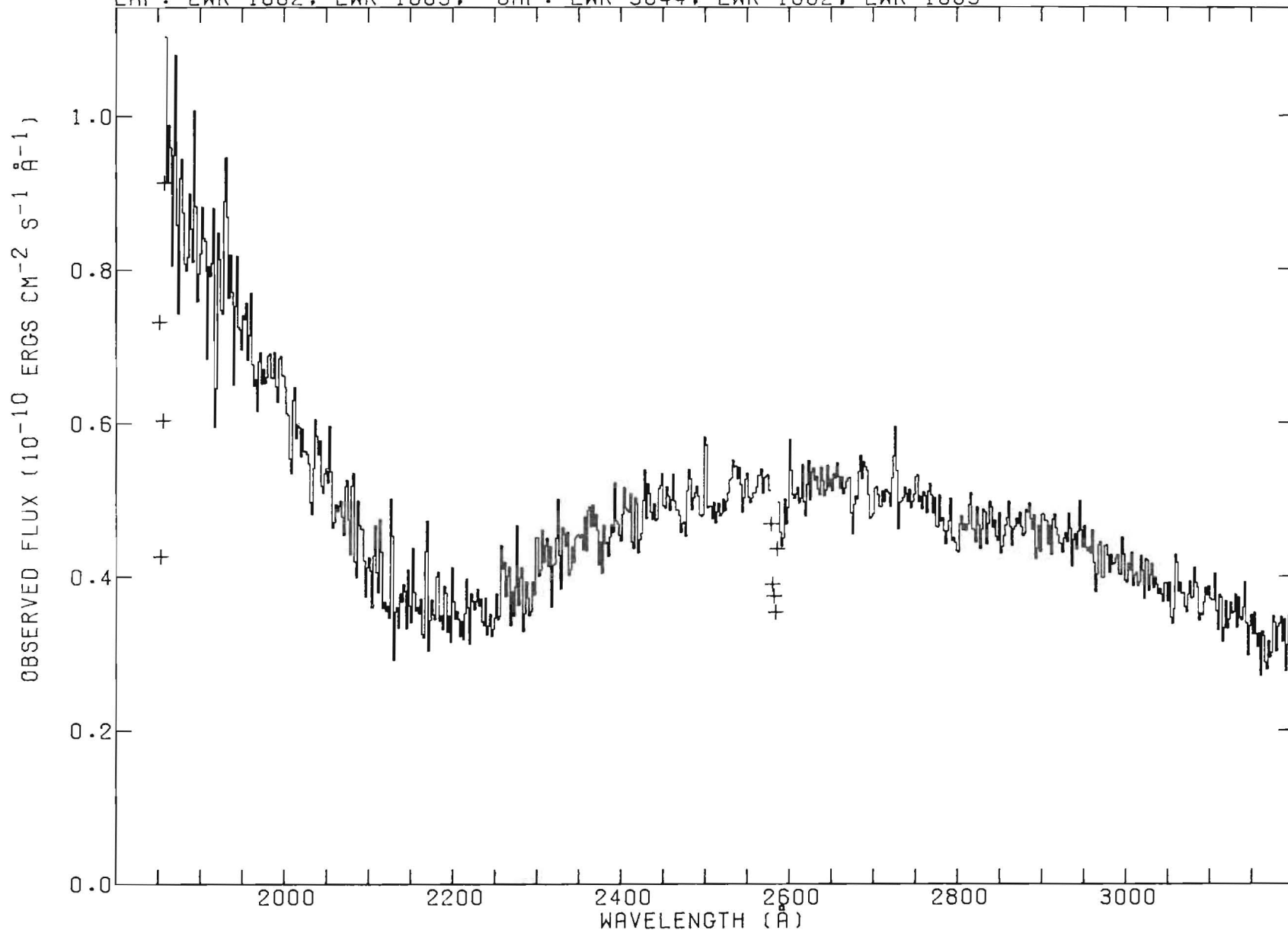
HD 152408 08 I F V=5.77 (B-V)=0.15 E(B-V)=0.44
LAP: LWR 11182; SAP: LWR 11110, LWR 11182



HD 188001 08 I F V=6.23 (B-V)=0.01 E(B-V)=0.30
LAP: SWP 1602; SAP: SWP 3466, SWP 1602

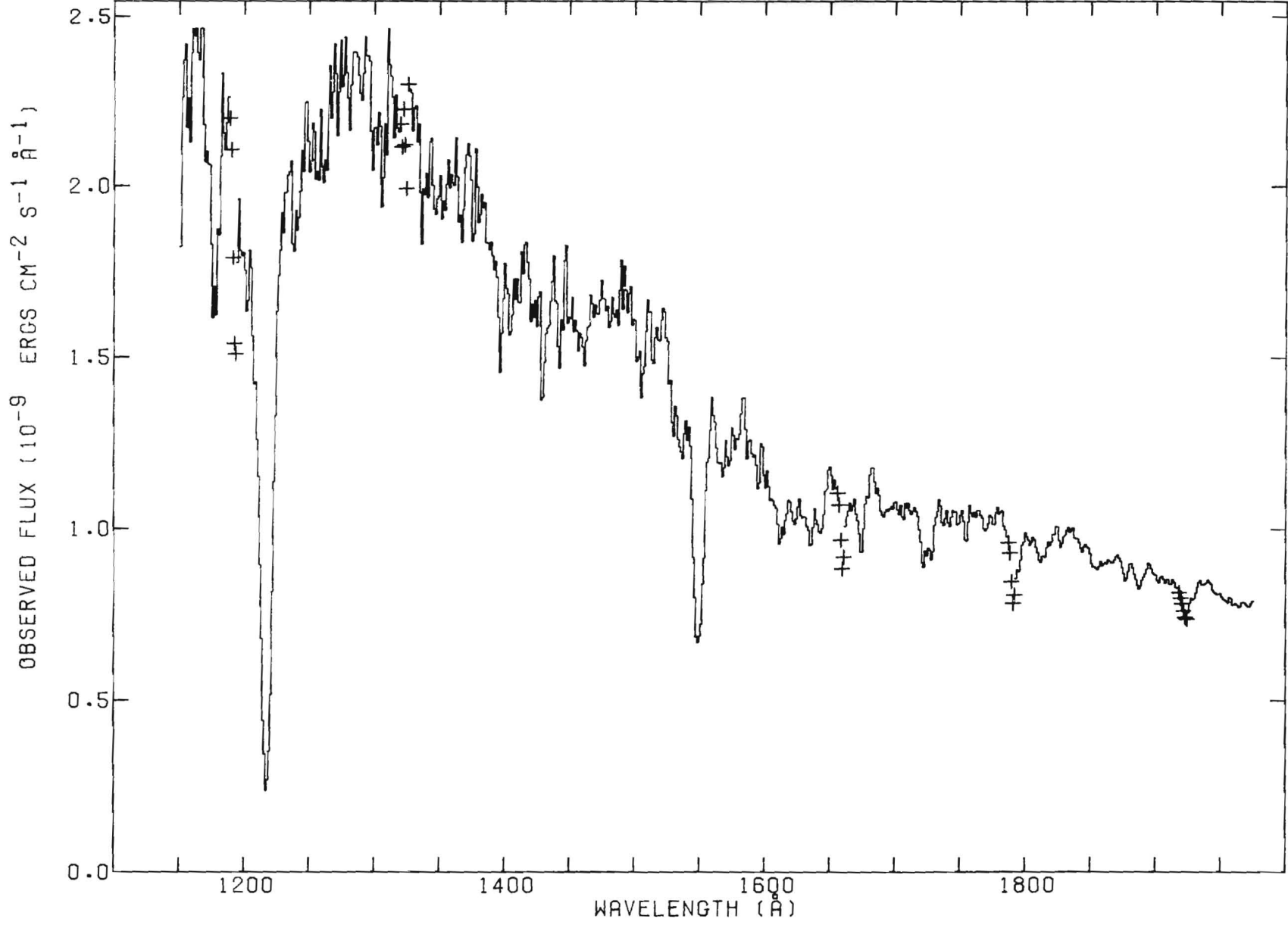


HD 188001 08 I F V=6.23 (B-V)=0.01 E(B-V)=0.30
LAP: LWR 1682, LWR 1683; SAP: LWR 3044, LWR 1682, LWR 1683



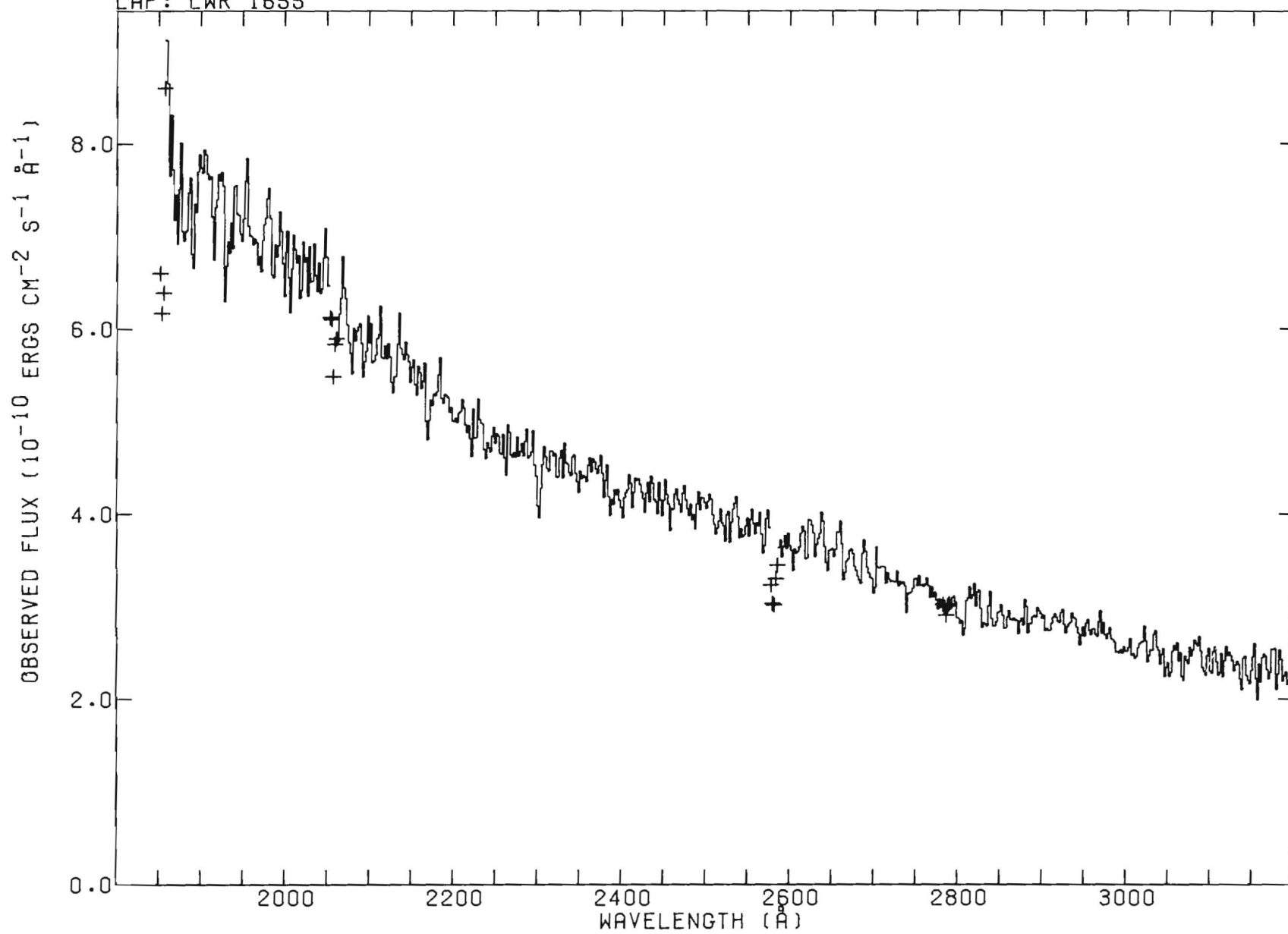
HD 214680 09 V
LAP: SWP 1764

V=4.88 (B-V)=-0.20 E(B-V)=0.11



HD 214680 09 V
LAP: LWR 1655

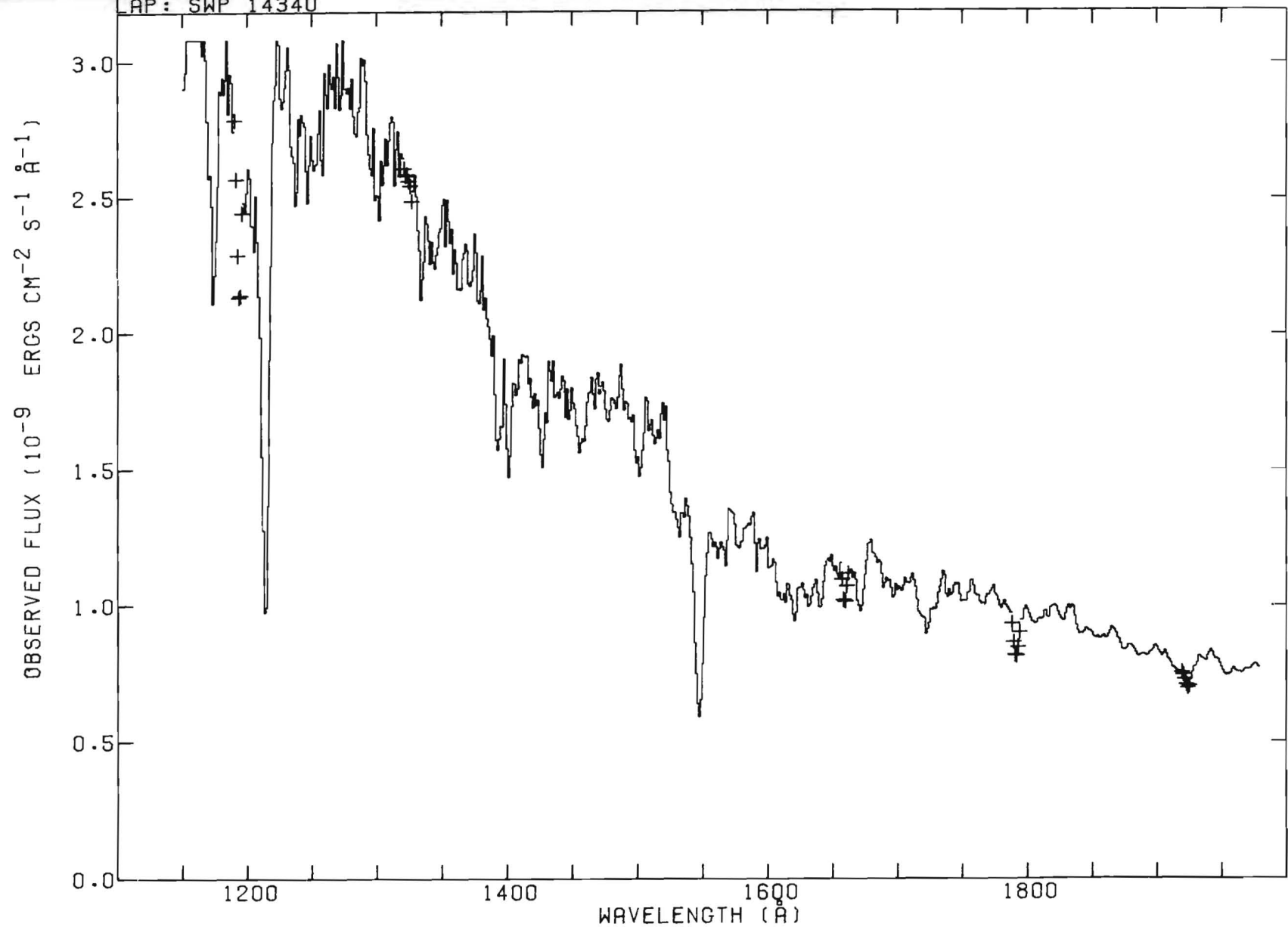
V=4.88 (B-V)=-0.20 E(B-V)=0.11



HD 38666
LAP: SWP 14340

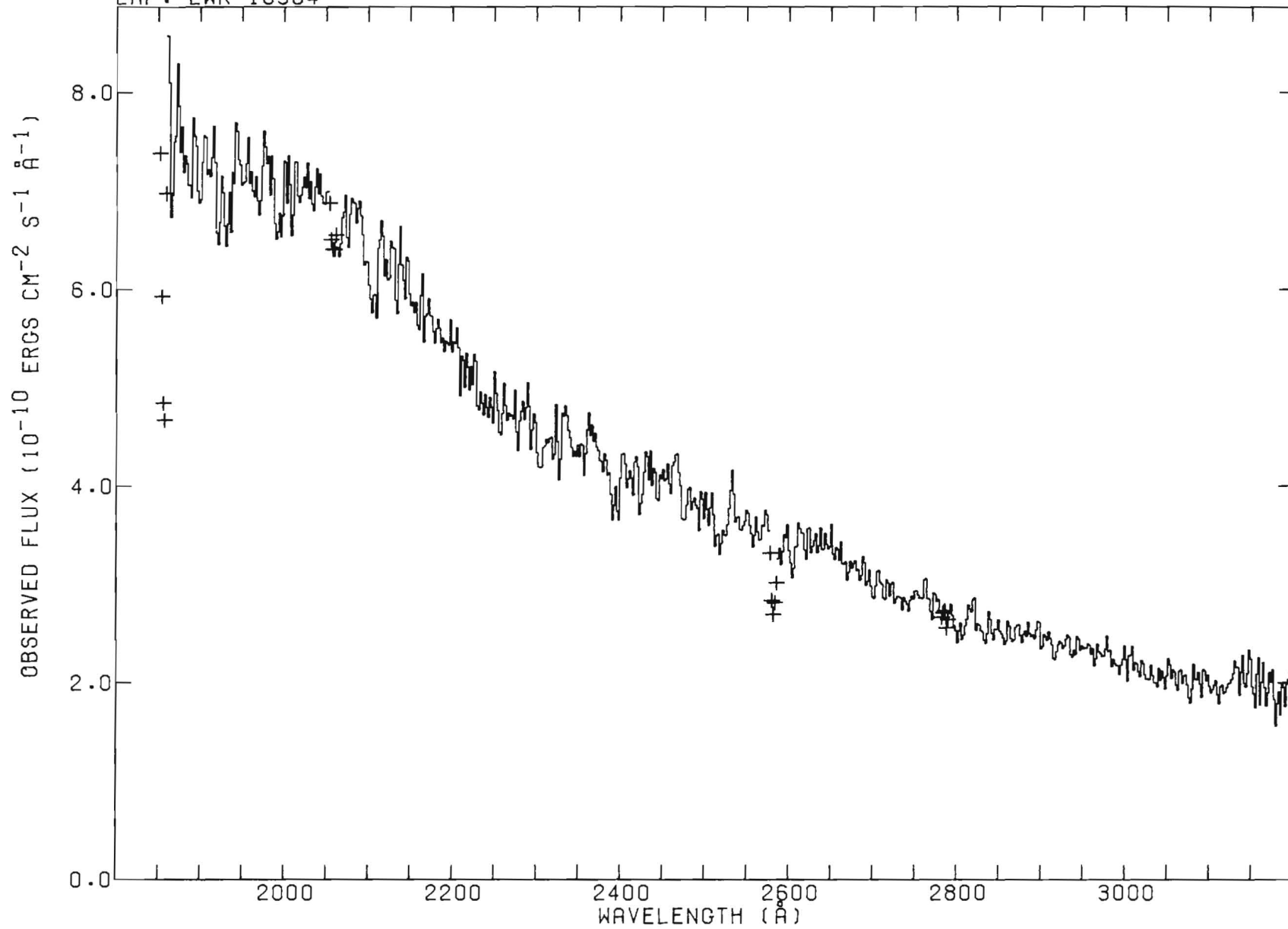
09.5 IV

V=5.17 (B-V)=-0.28 E(B-V)=0.02



HD 38666 09.5 IV
LAP: LWR 10954

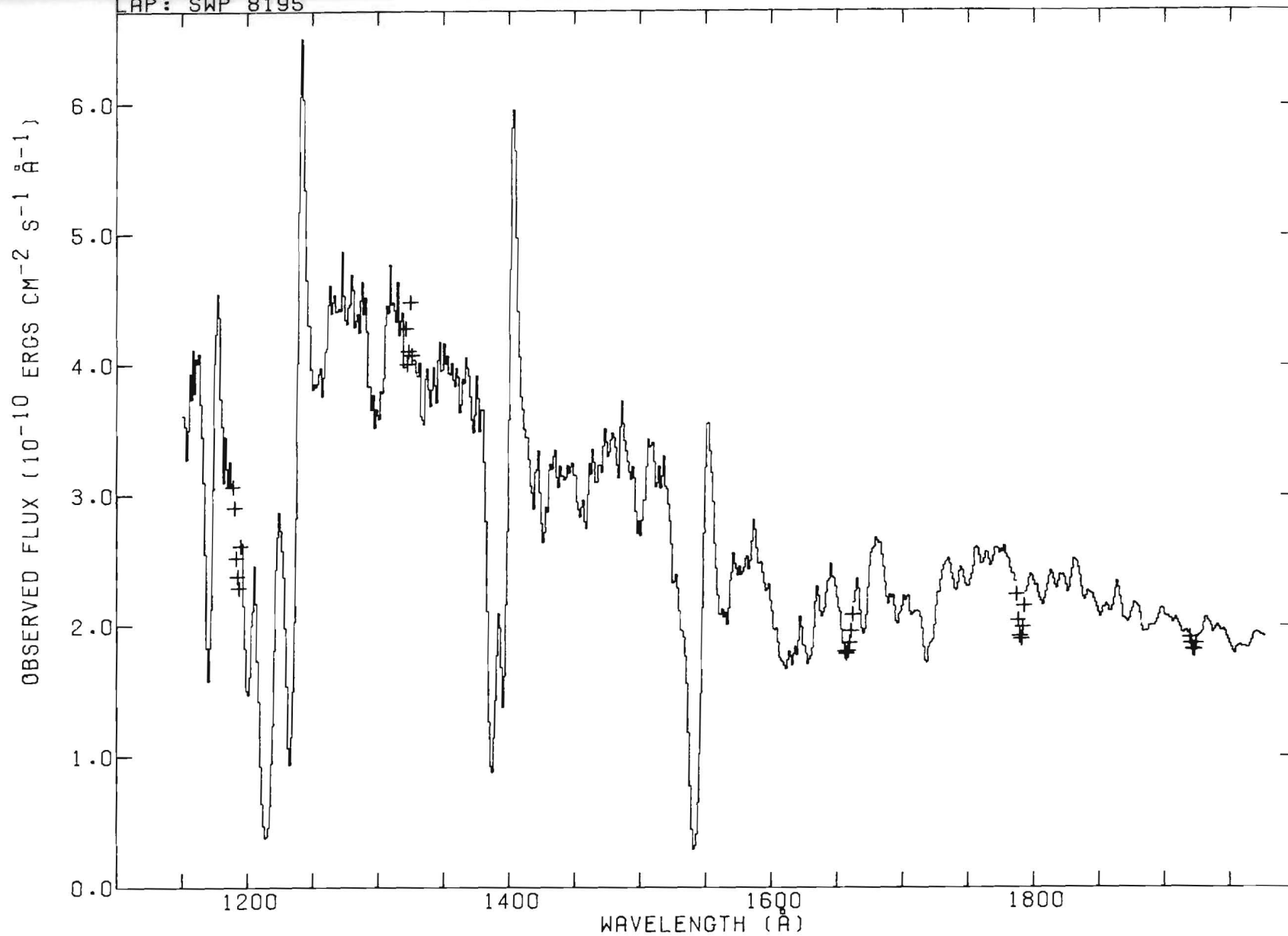
V=5.17 (B-V)=-0.28 E(B-V)=0.02



HD 188209
LAP: SWP 8195

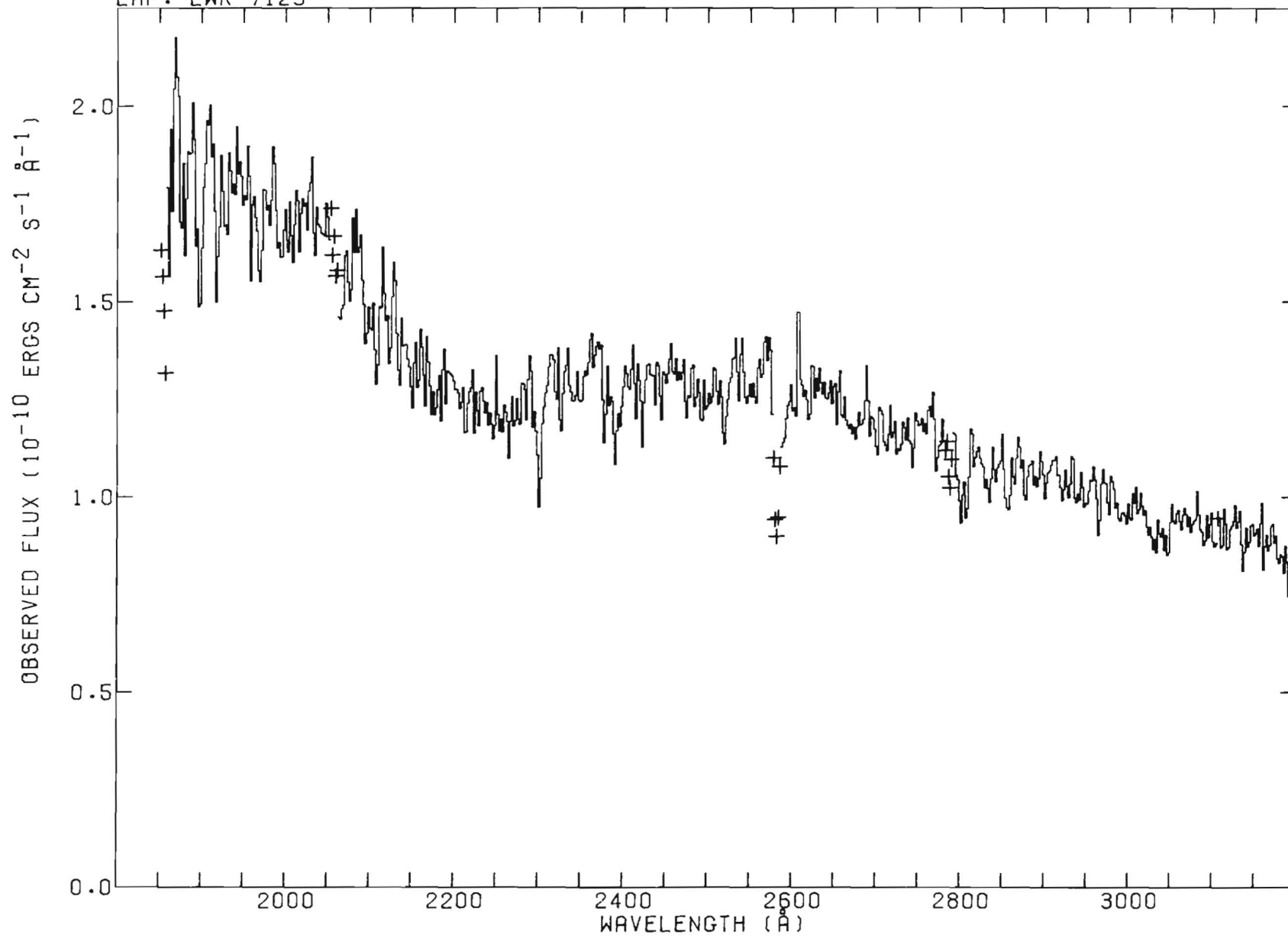
09.5 IA

V=5.62 (B-V)=-0.07 E(B-V)=0.20



HD 188209 09.5 IA
LAP: LWR 7123

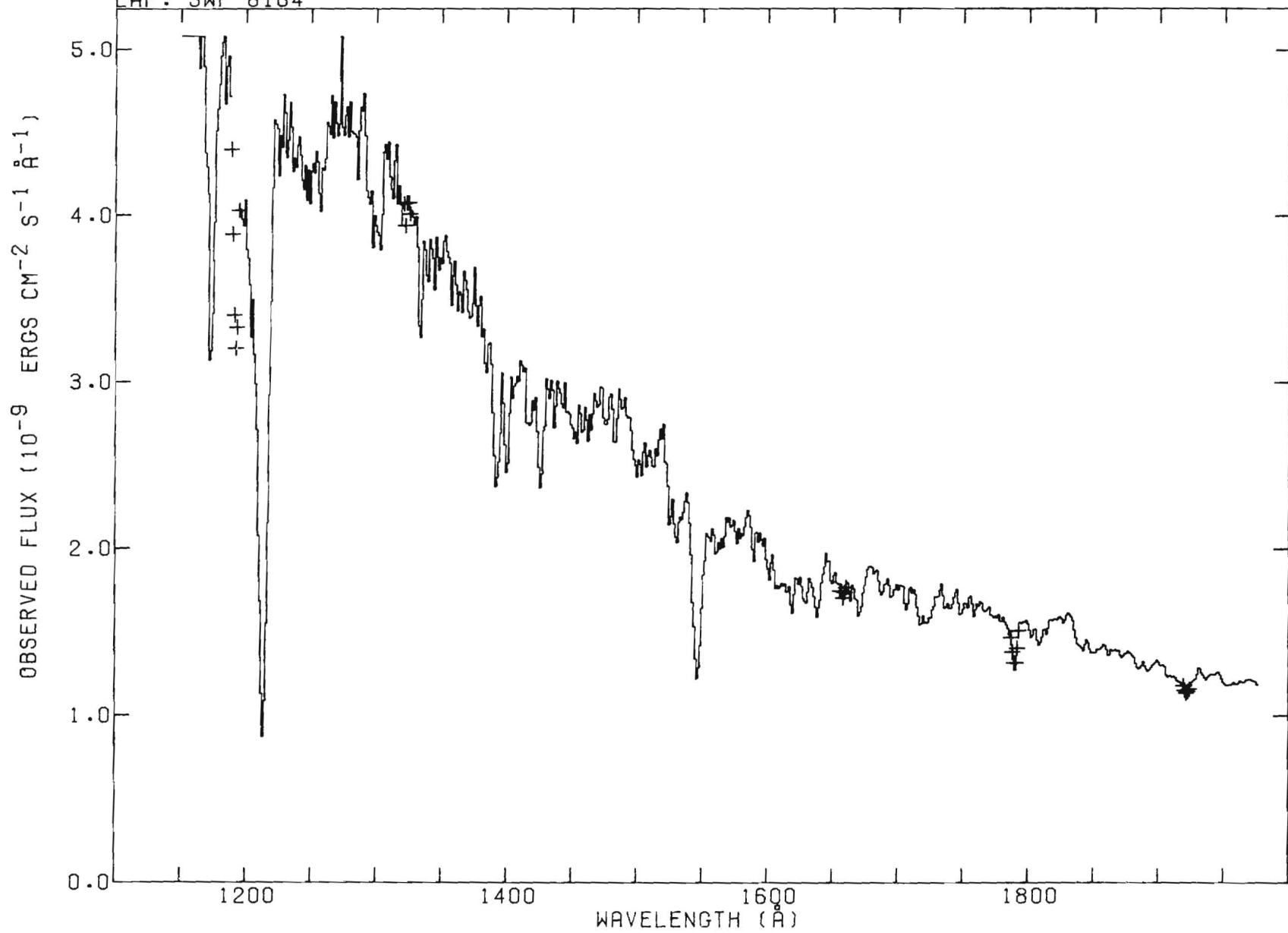
V=5.62 (B-V)=-0.07 E(B-V)=0.20



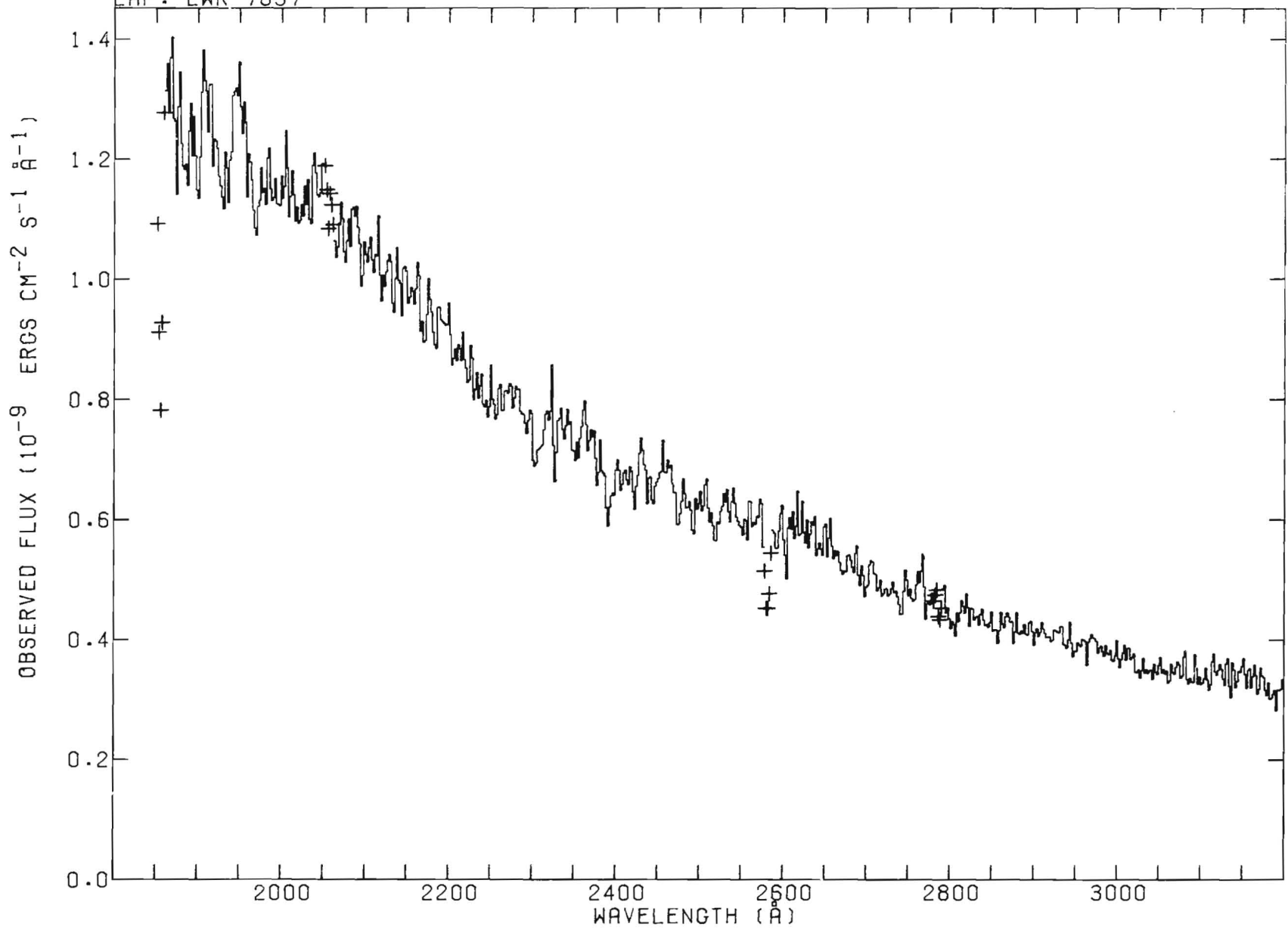
HD 36512
LAP: SWP 8164

B0 V †

V=4.62 (B-V)=-0.26 E(B-V)=0.04



HD 36512 B0 V + V=4.62 (B-V)=-0.26 E(B-V)=0.04
LAP: LWR 7097

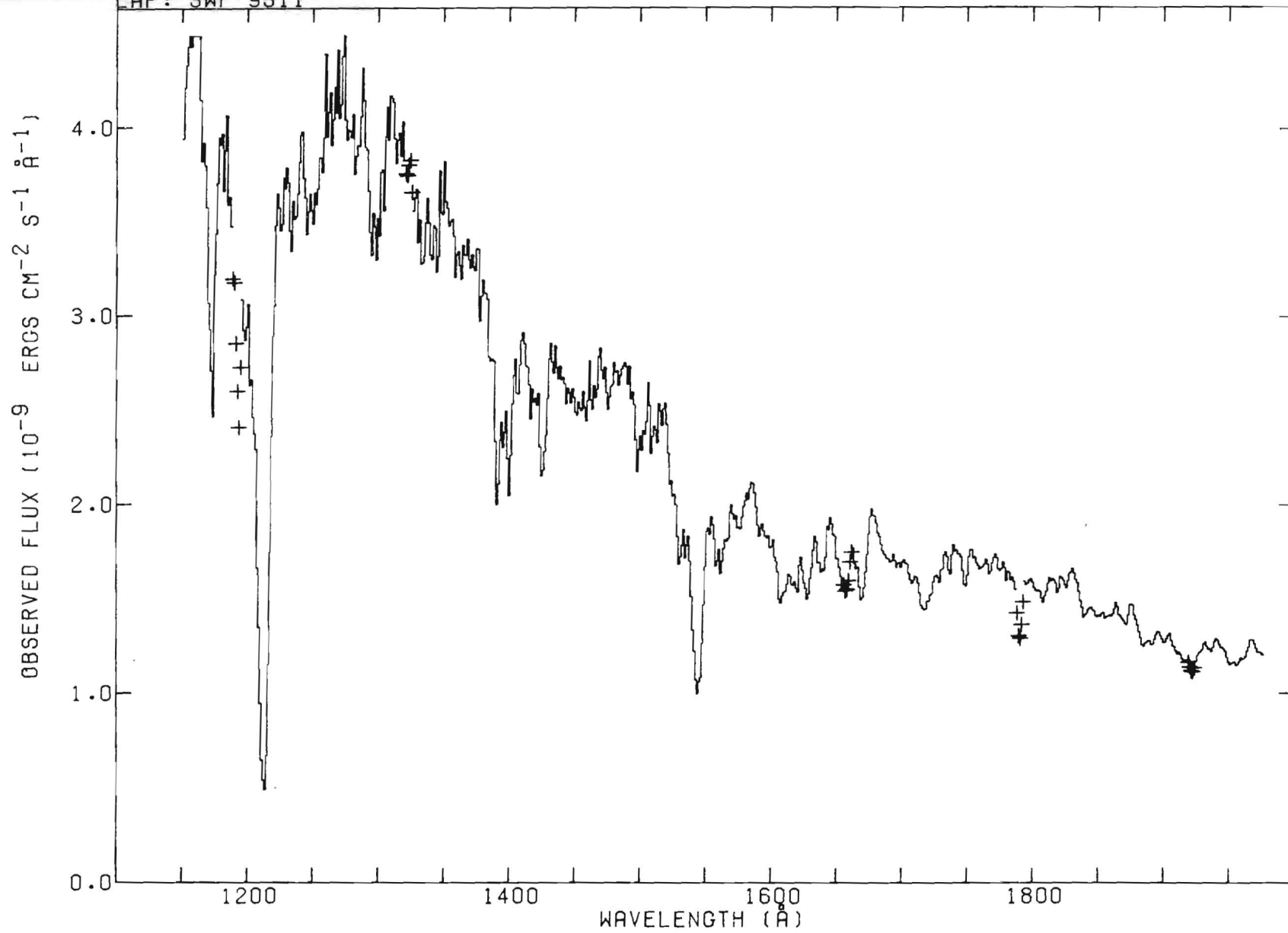


HD 63922

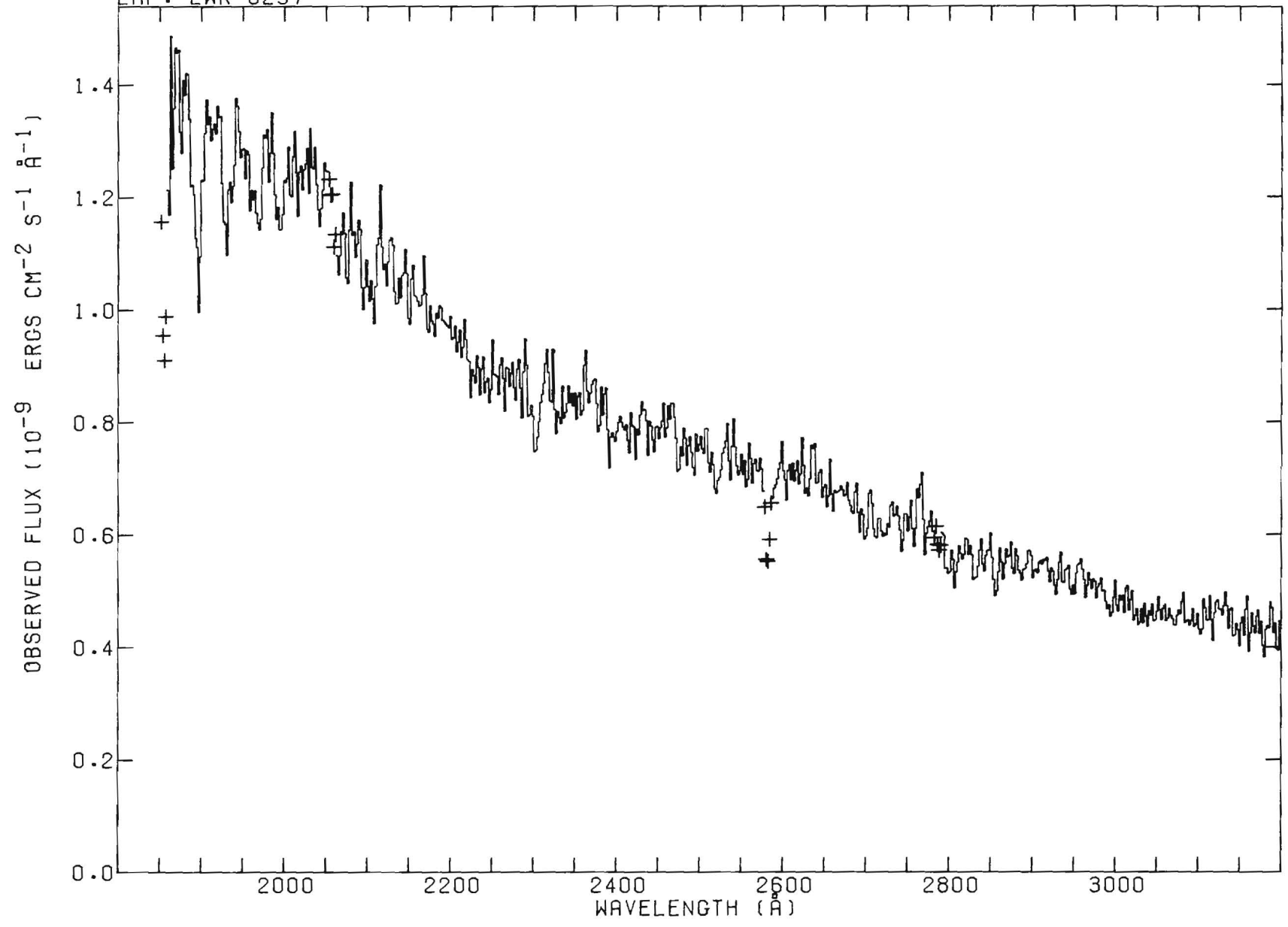
B0 III

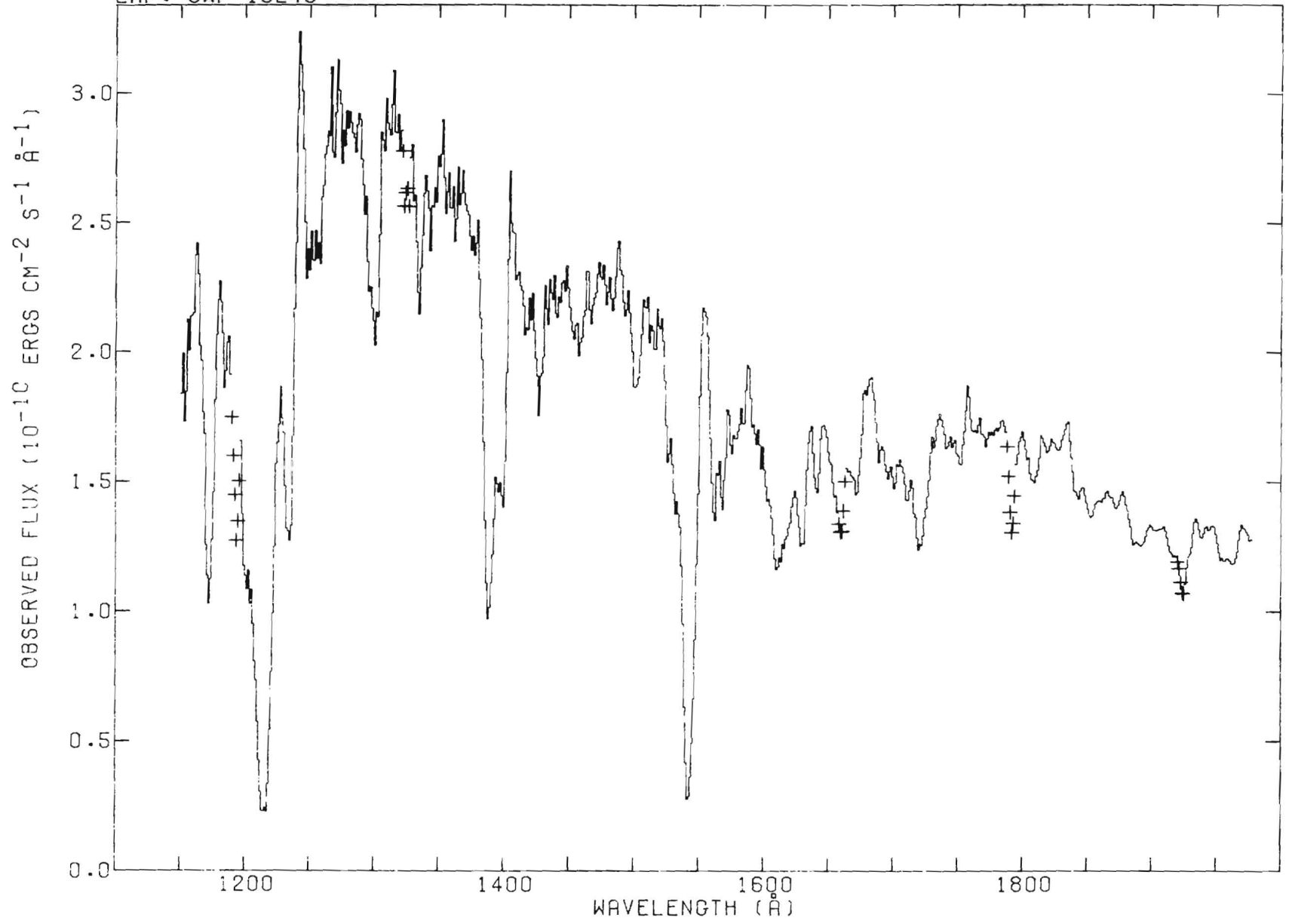
V=4.11 (B-V)=-0.18 E(B-V)=0.12

AP: SWP 9511



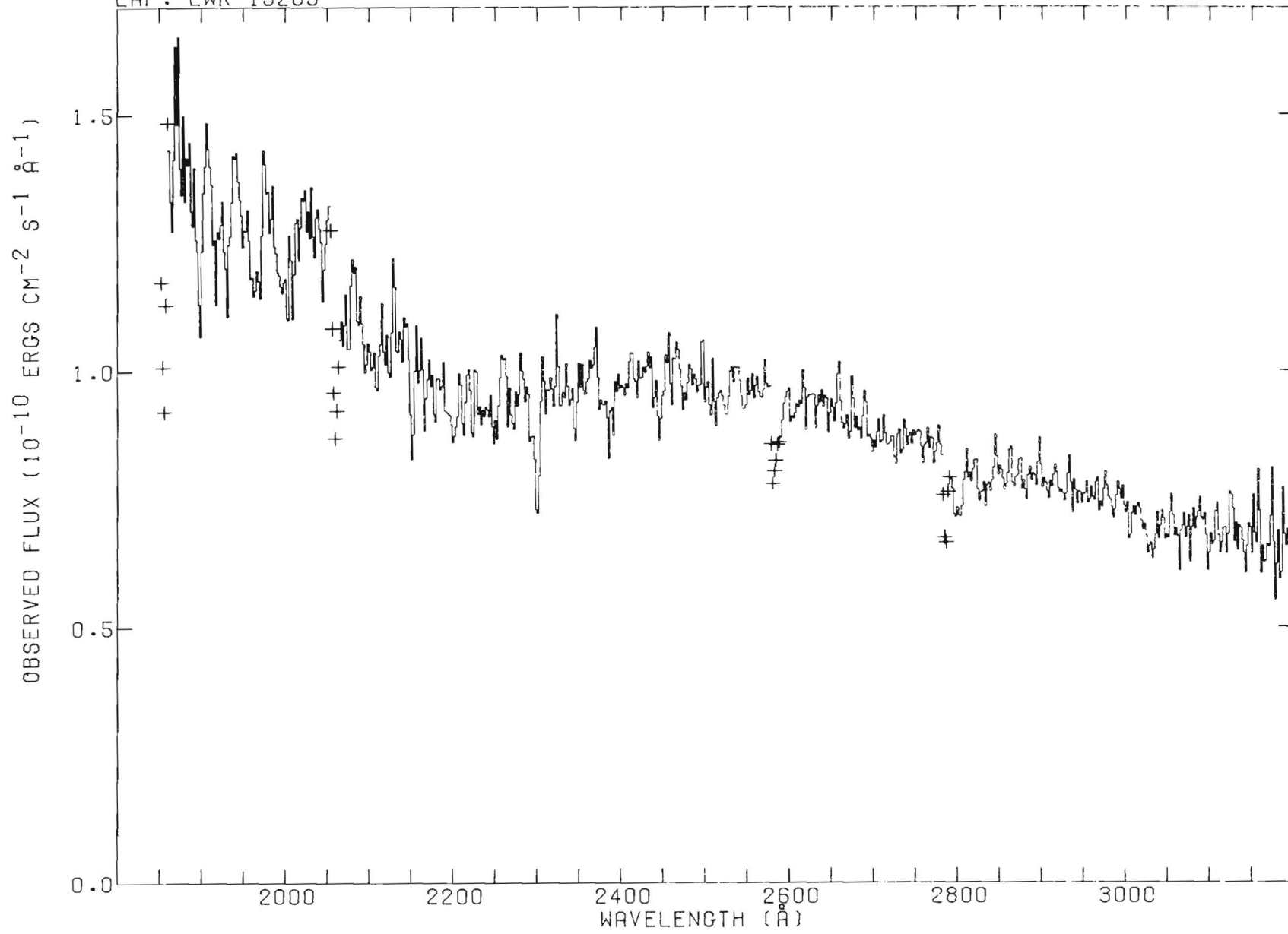
HD 63922 BO III V=4.11 (B-V)=-0.18 E(B-V)=0.12
LAP: LWR 8237





HD 204172 BO IB
LAP: LWR 15285

V=5.94 (B-V)=-0.08 E(B-V)=0.16

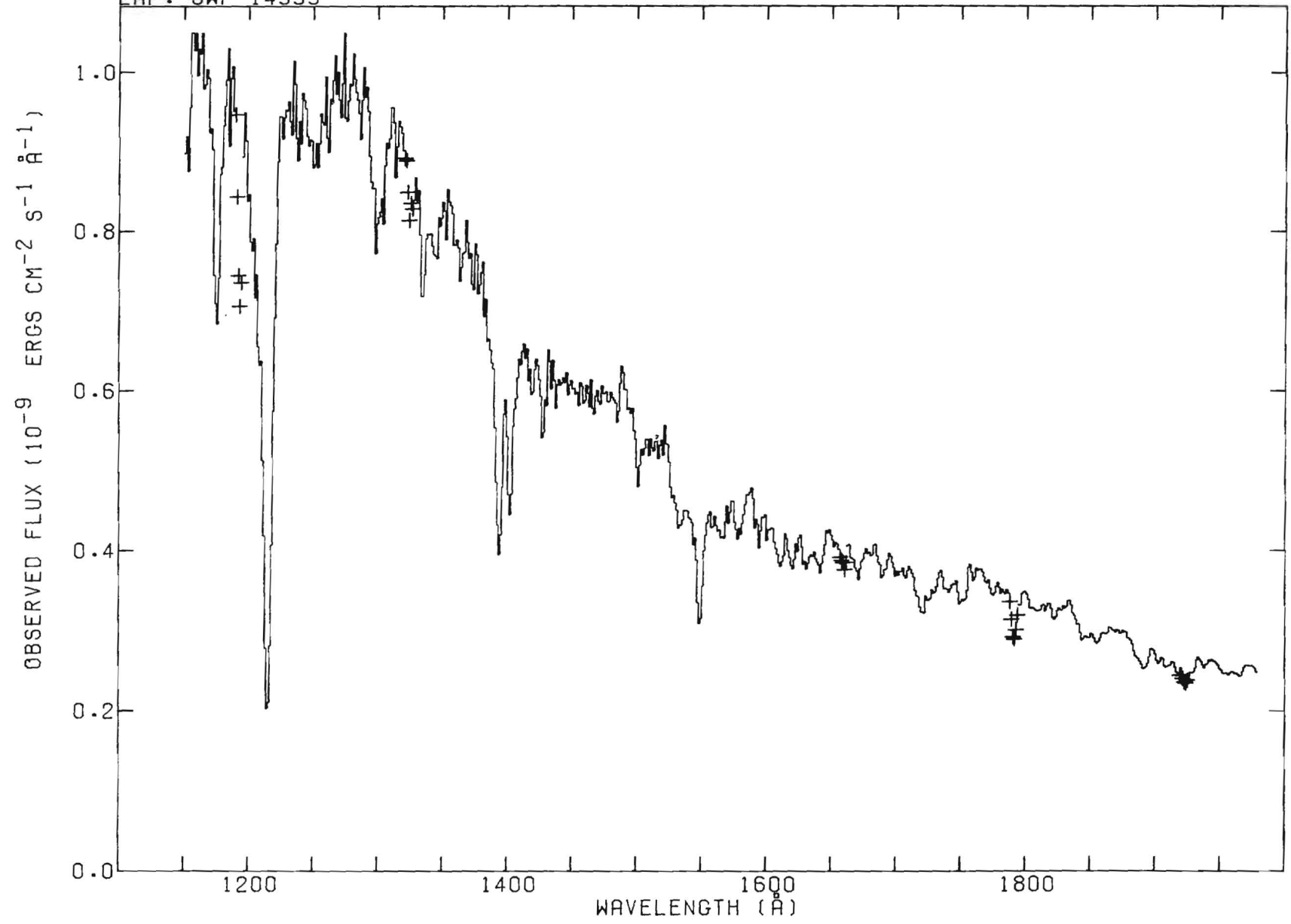


HD 55857

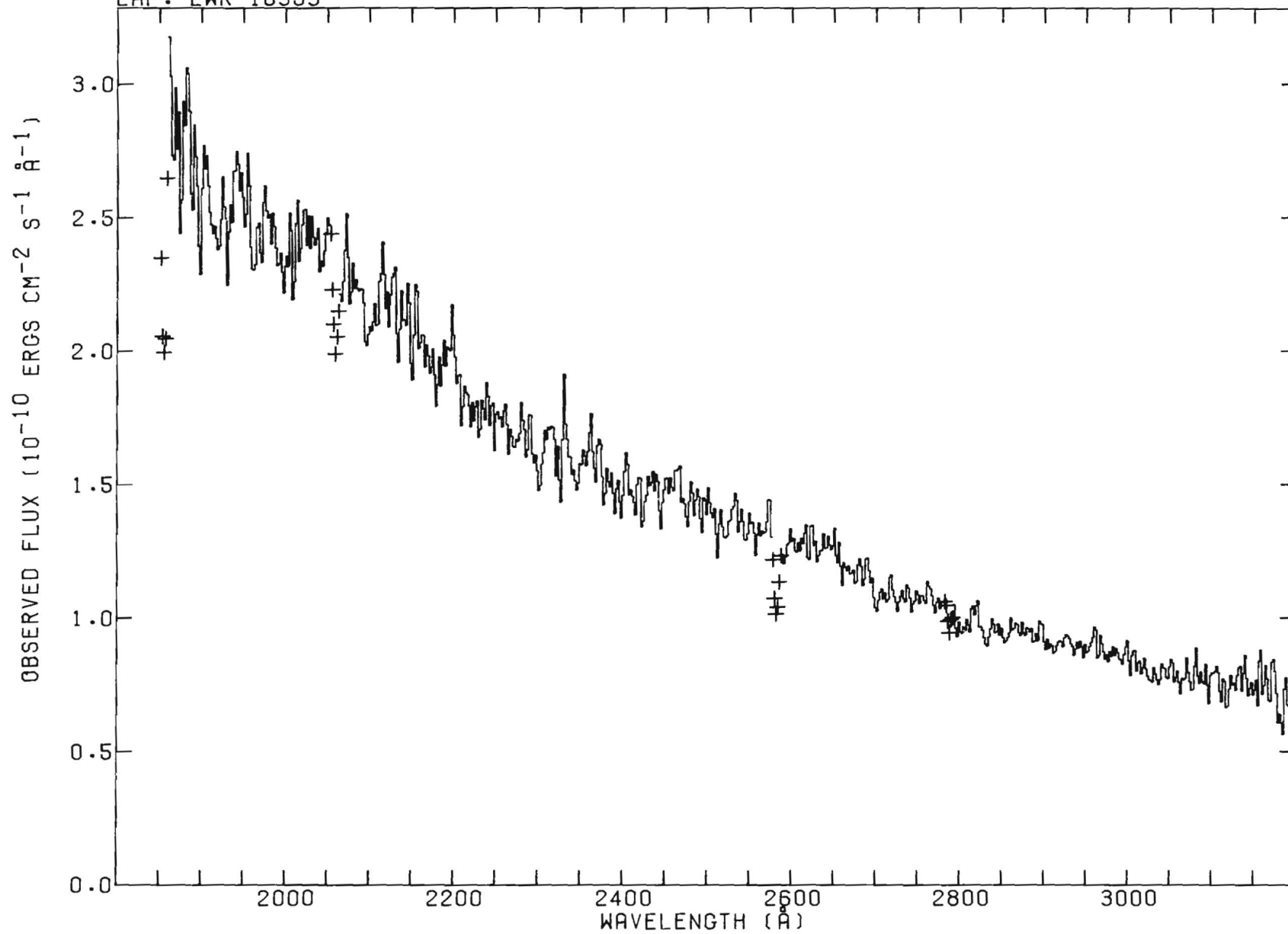
B0.5 V

V=6.11 (B-V)=-0.26 E(B-V)=0.02

LAP: SWP 14339



HD 55857 B0.5 V V=6.11 (B-V)=-0.26 E(B-V)=0.02
LAP: LWR 10953

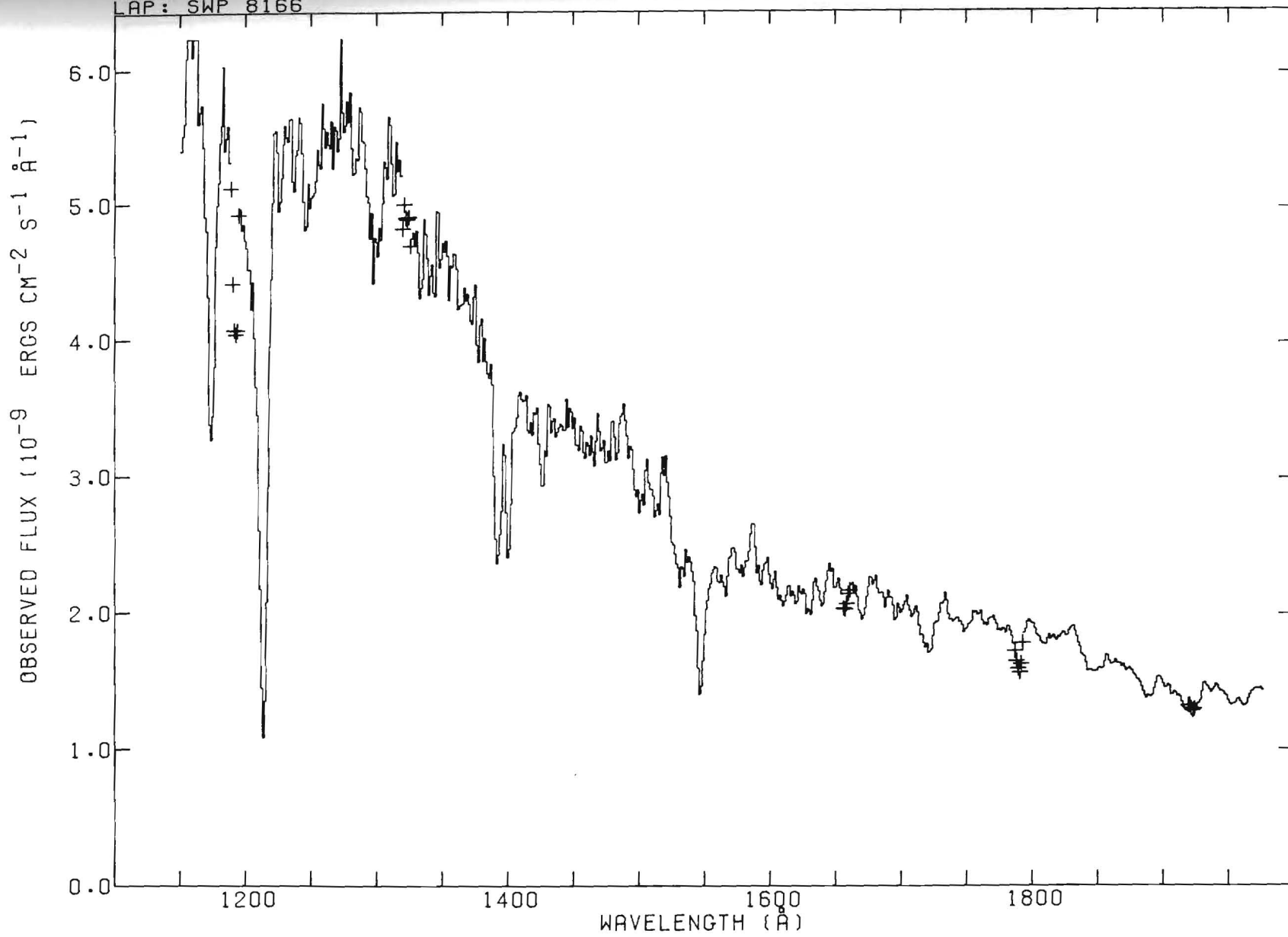


HD 34816

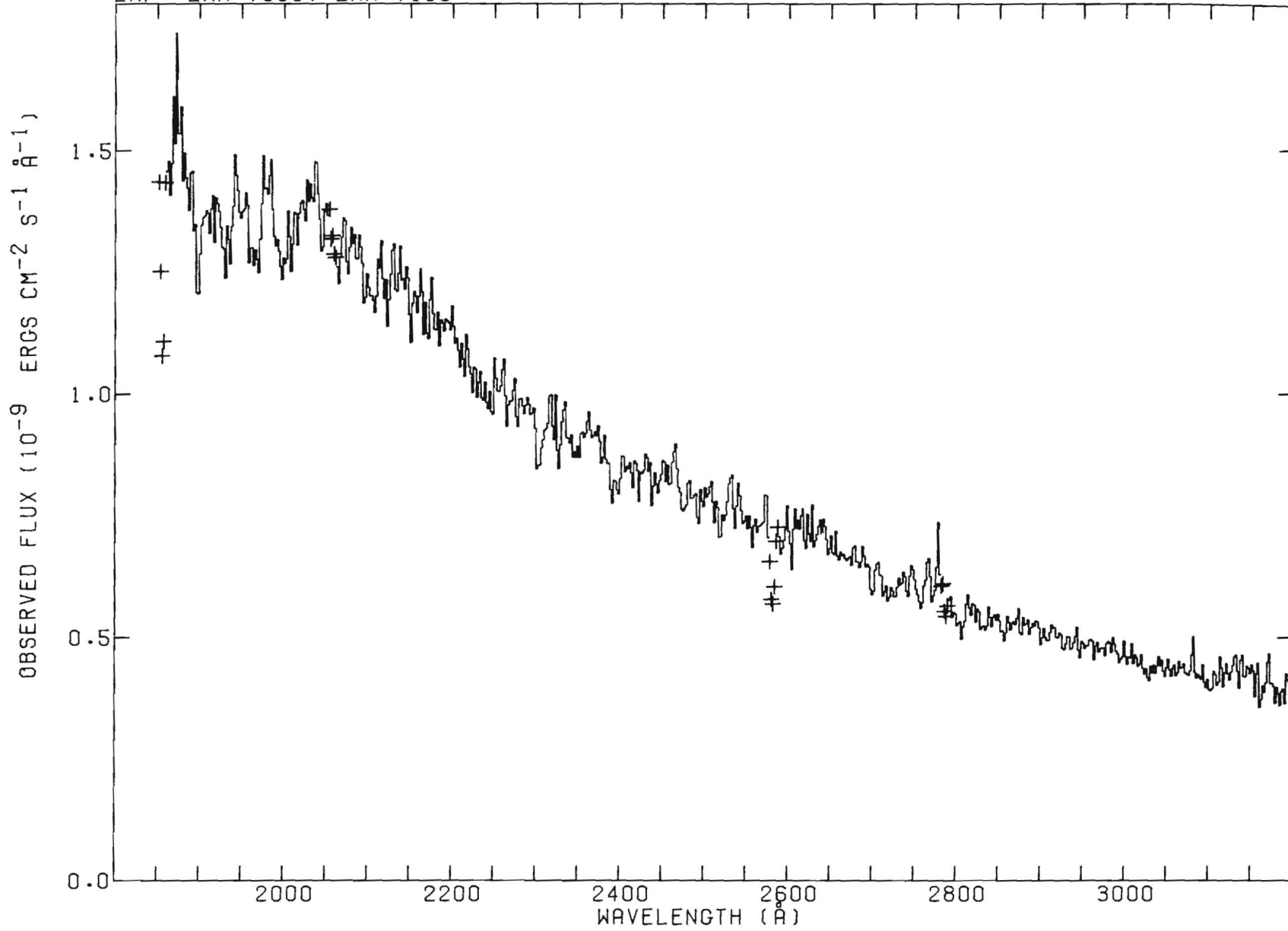
B0.5 IV

V=4.29 (B-V)=-0.26 E(B-V)=0.02

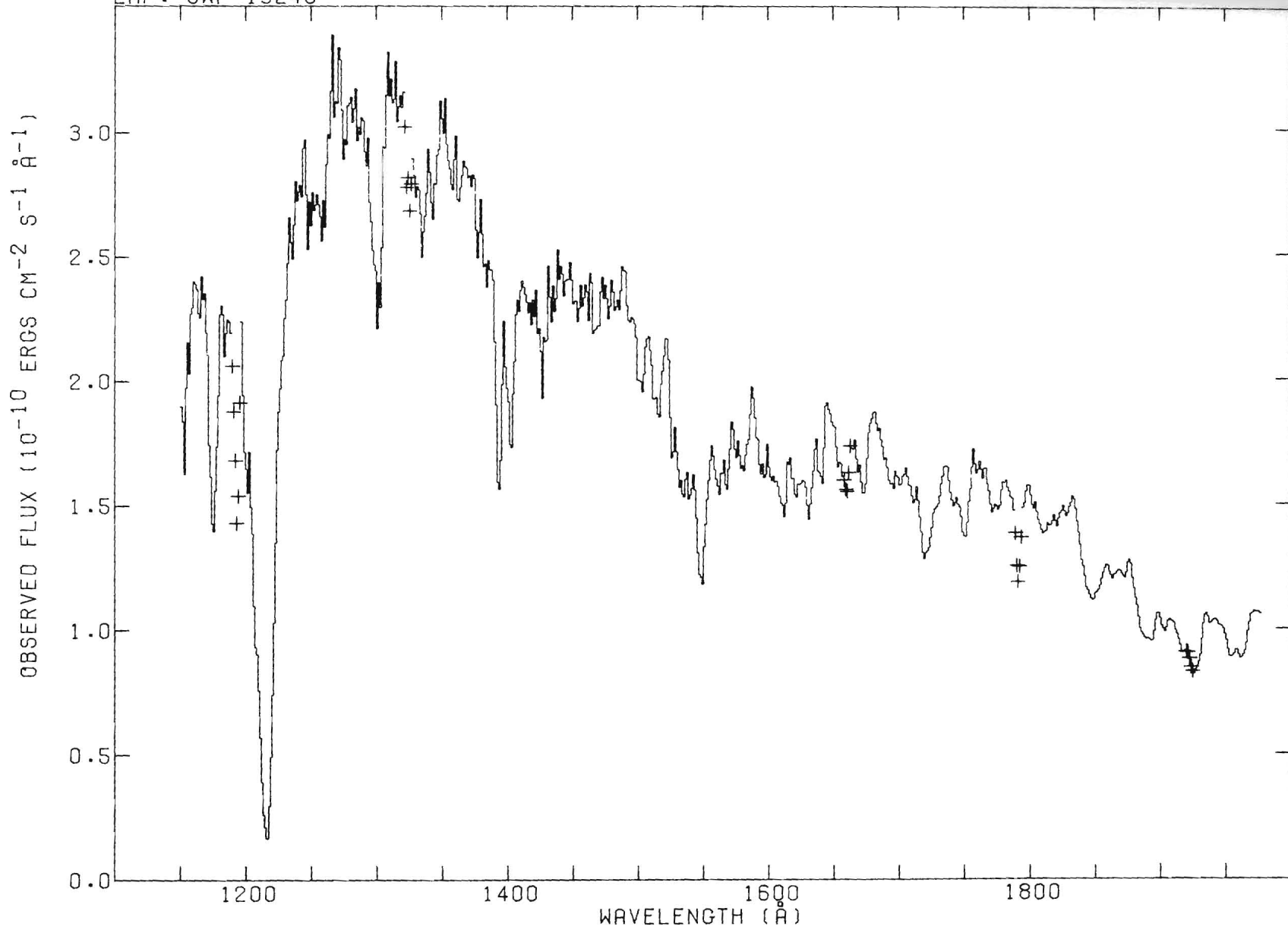
LAP: SWP 8166



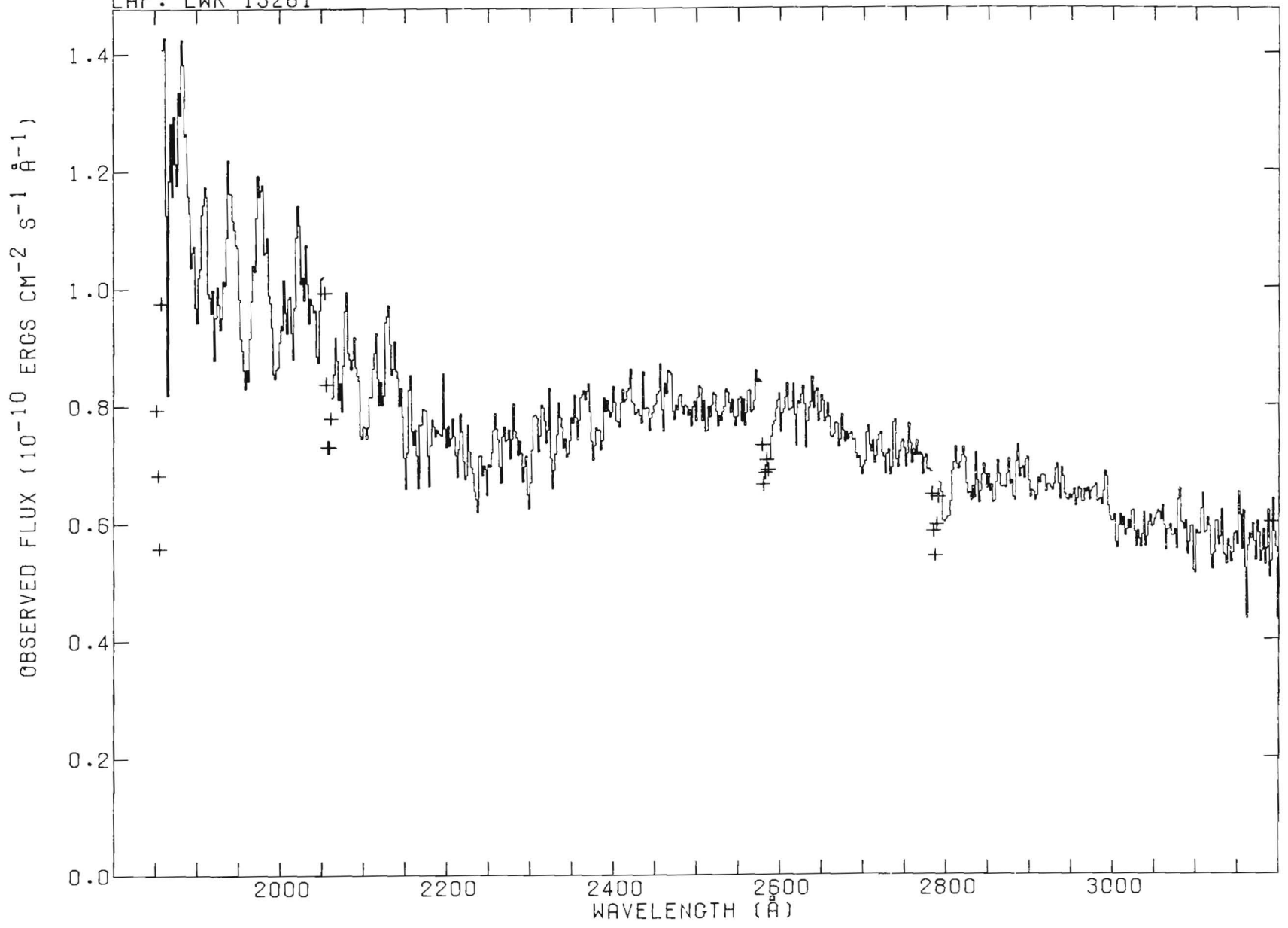
HD 34816 B0.5 IV V=4.29 (B-V)=-0.26 E(B-V)=0.02
LAP: LWR 7099, LWR 7100



HD 119159 B0.5 III V=6.00 (B-V)=-0.08 E(B-V)=0.20
LAP: SWP 19245

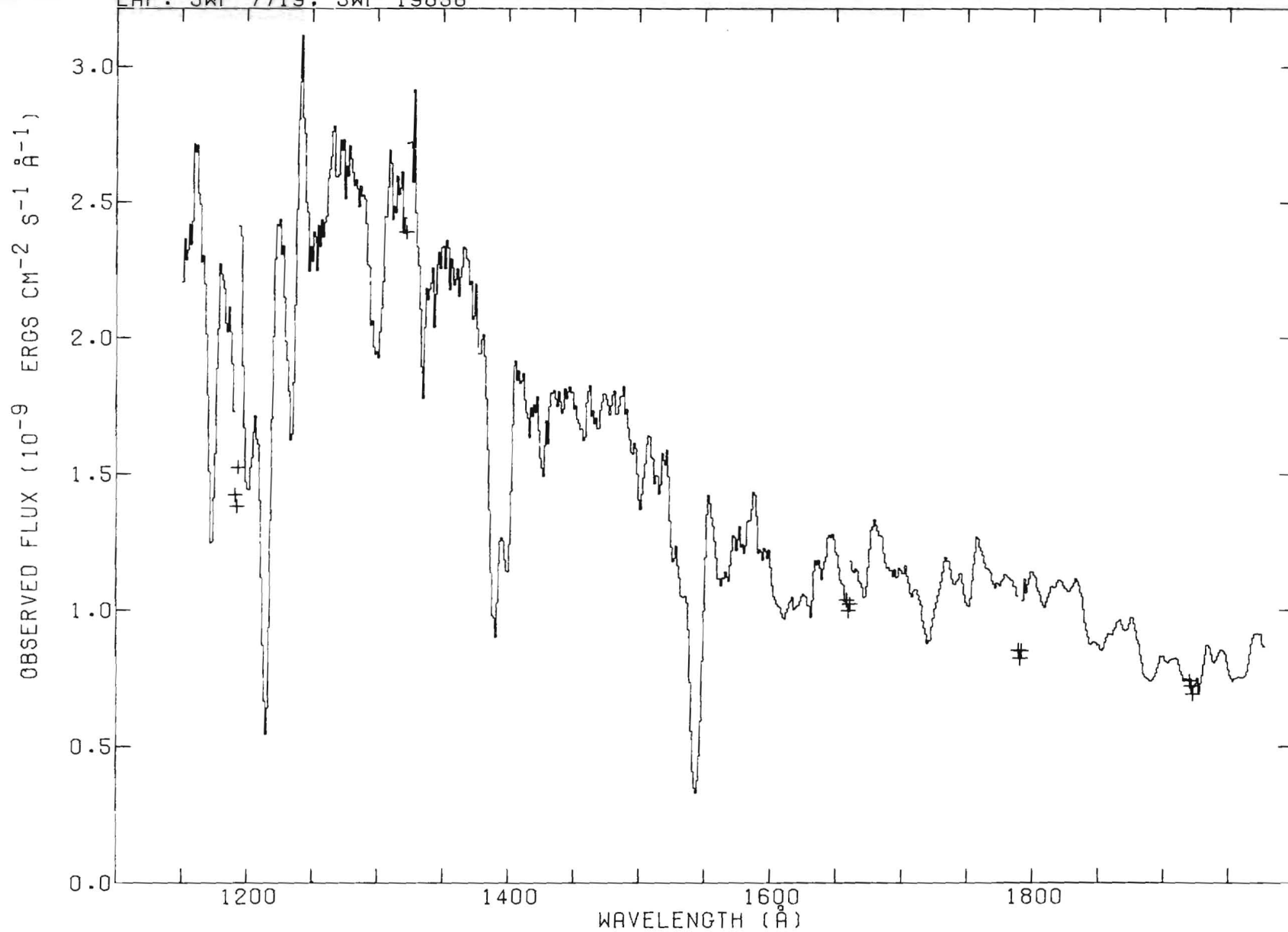


HD 119159 B0.5 III V=6.00 (B-V)=-0.08 E(B-V)=0.20
LAP: LWR 15281

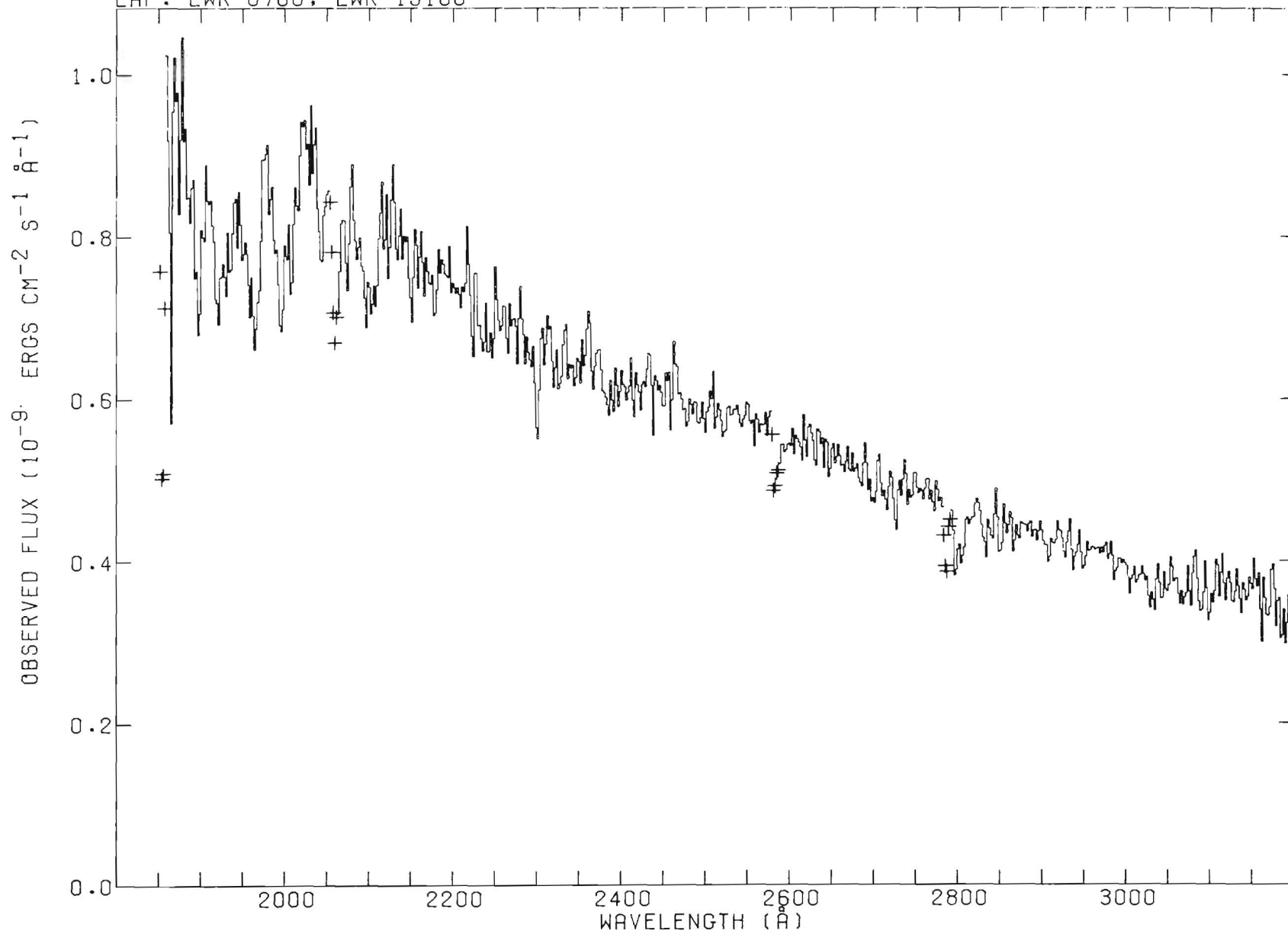


HD 64760 BO.5 IB
LAP: SWP 7719, SWP 19056

V=4.24 (B-V)=-0.14 E(B-V)=0.08

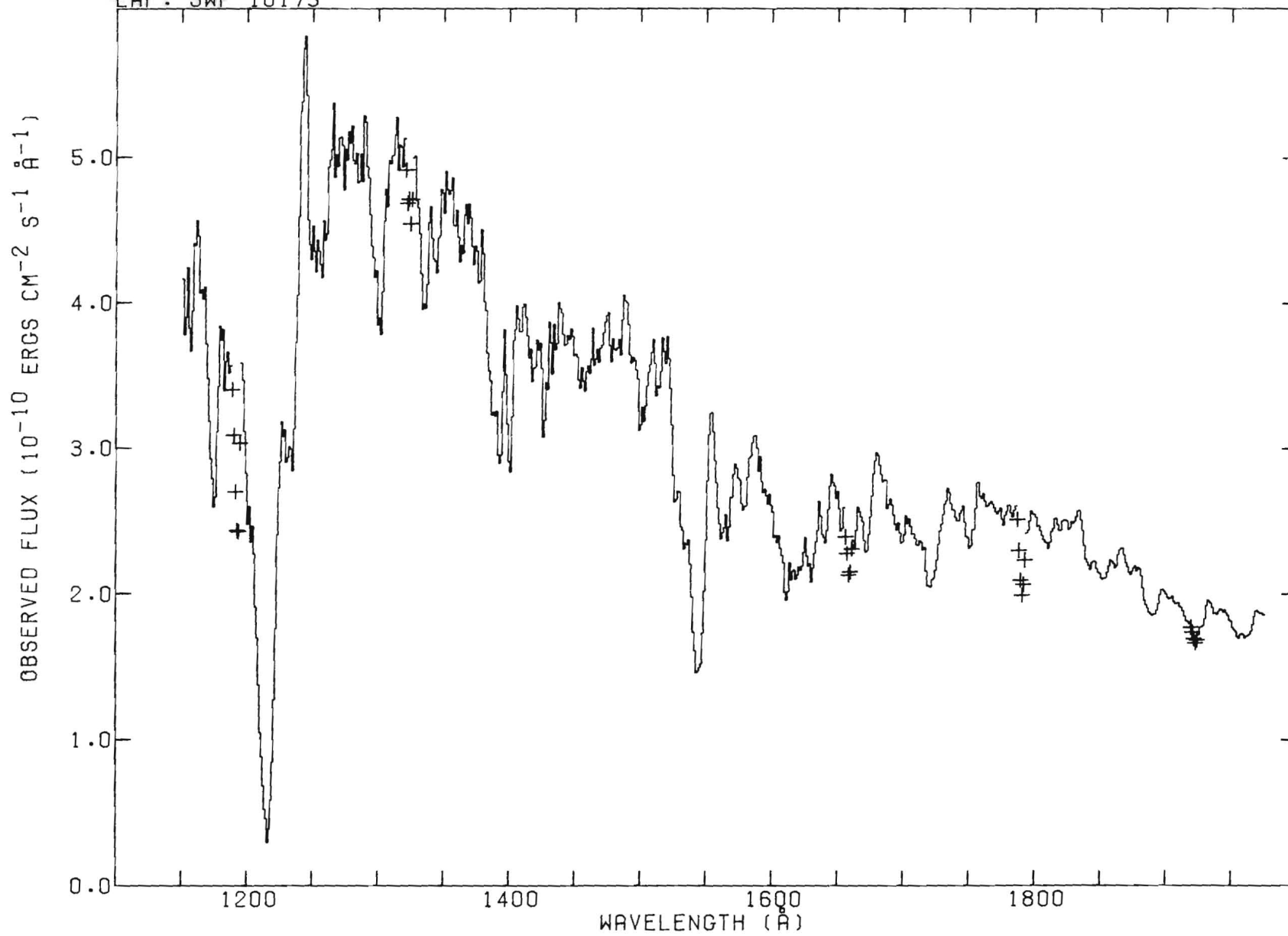


HD 64760 B0.5 IB V=4.24 (B-V)=-0.14 E(B-V)=0.08
LAP: LWR 6706, LWR 15100



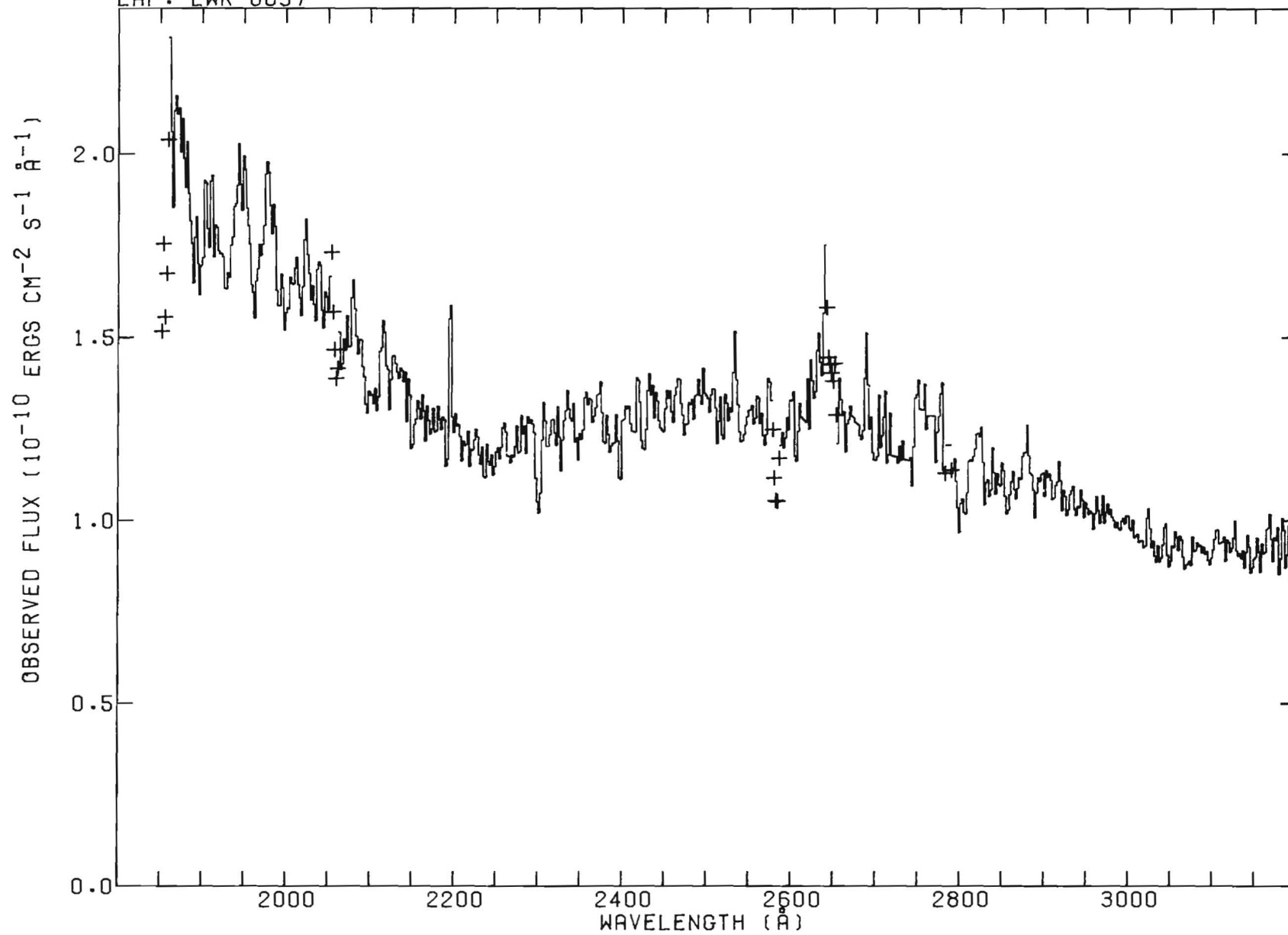
HD 150898 BO.5 IA
LAP: SWP 10173

V=5.58 (B-V)=-0.08 E(B-V)=0.14



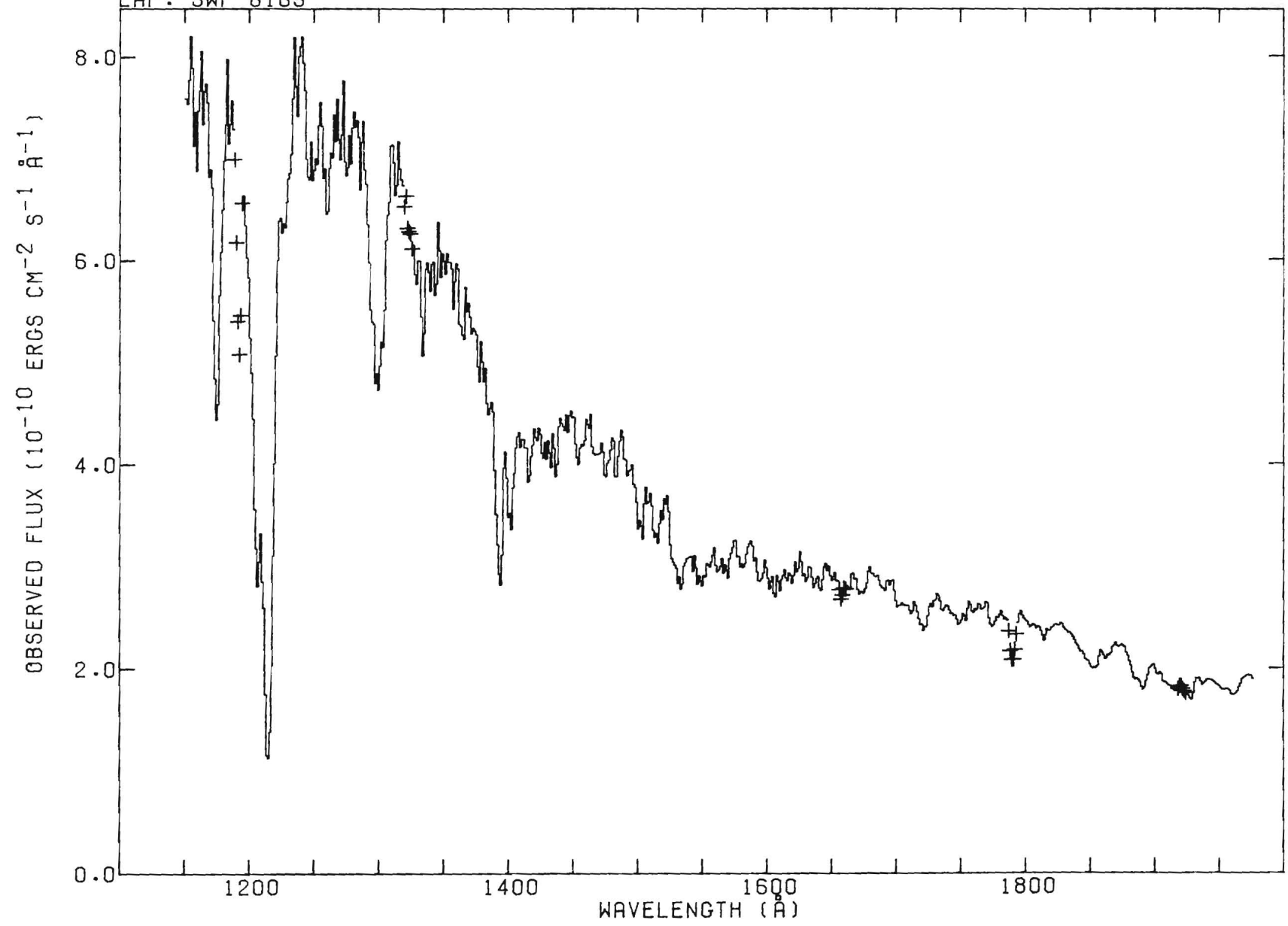
HD 150898 B0.5 IA
LAP: LWR 8837

V=5.58 (B-V)=-0.08 E(B-V)=0.14



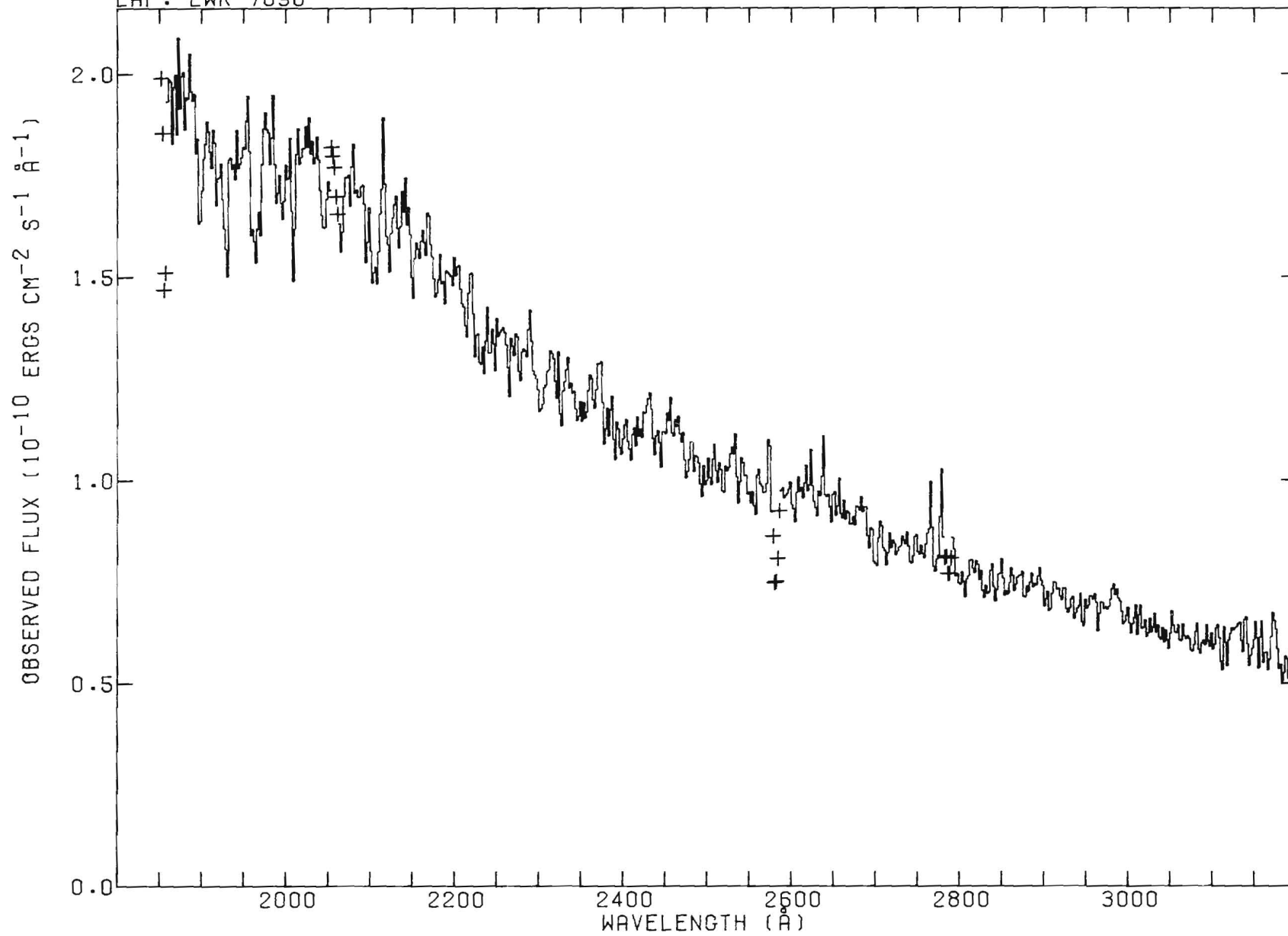
HD 31726 B1 V
LAP: SWP 8165

V=6.15 (B-V)=-0.21 E(B-V)=0.05



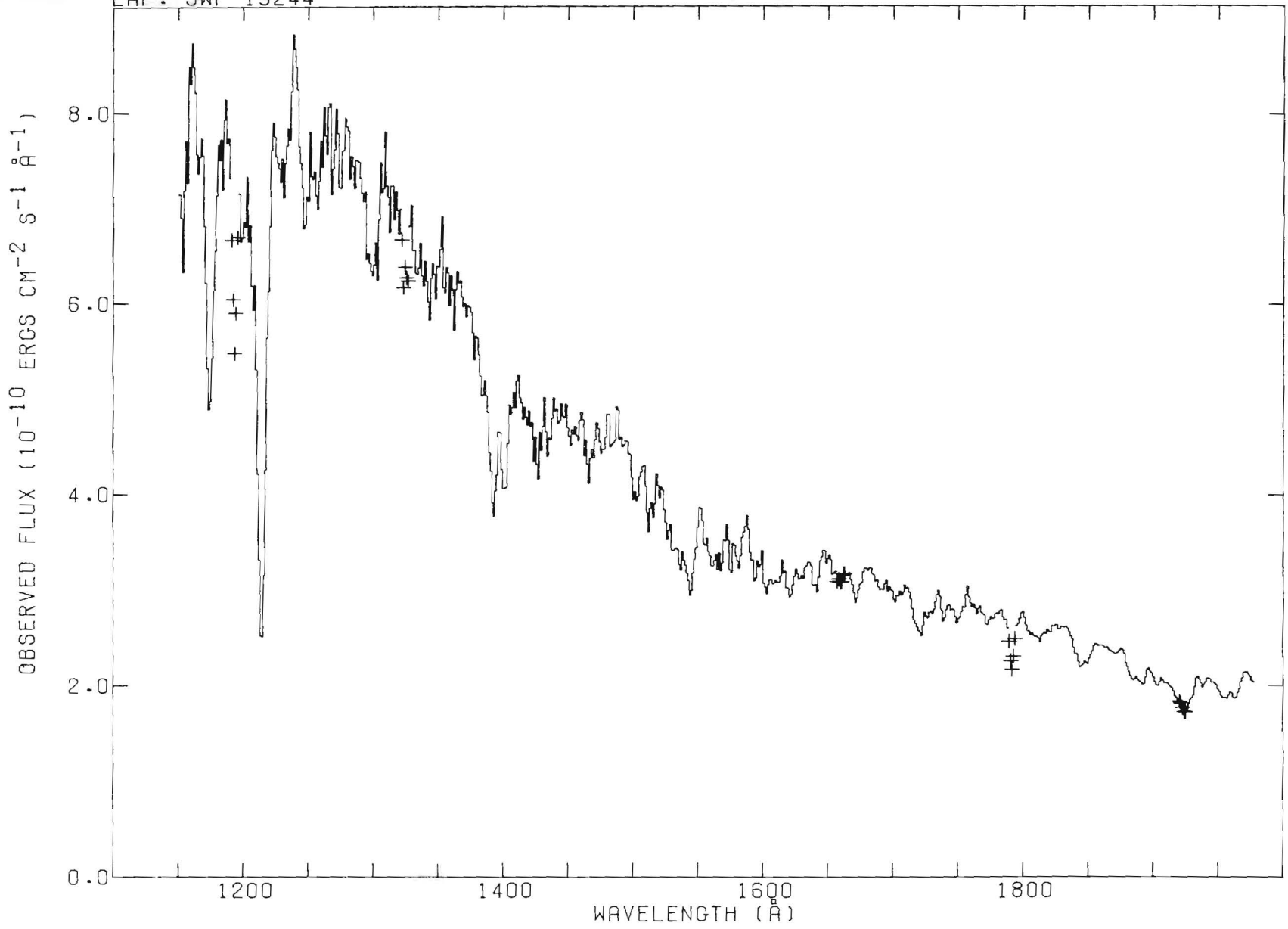
HD 31726 B1 V
LAP: LWR 7098

V=6.15 (B-V)=-0.21 E(B-V)=0.05



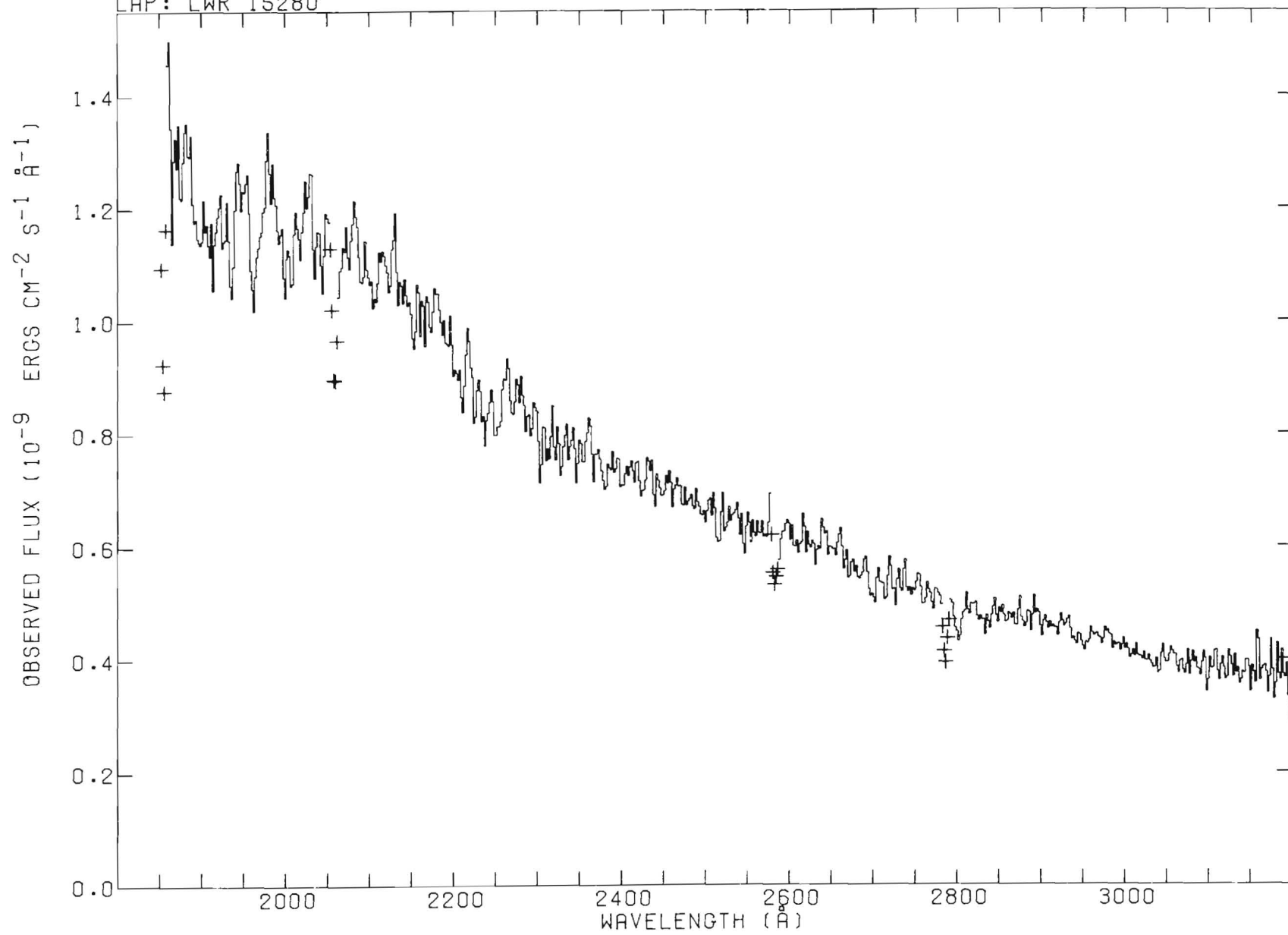
HD 46328 B1 III
LAP: SWP 19244

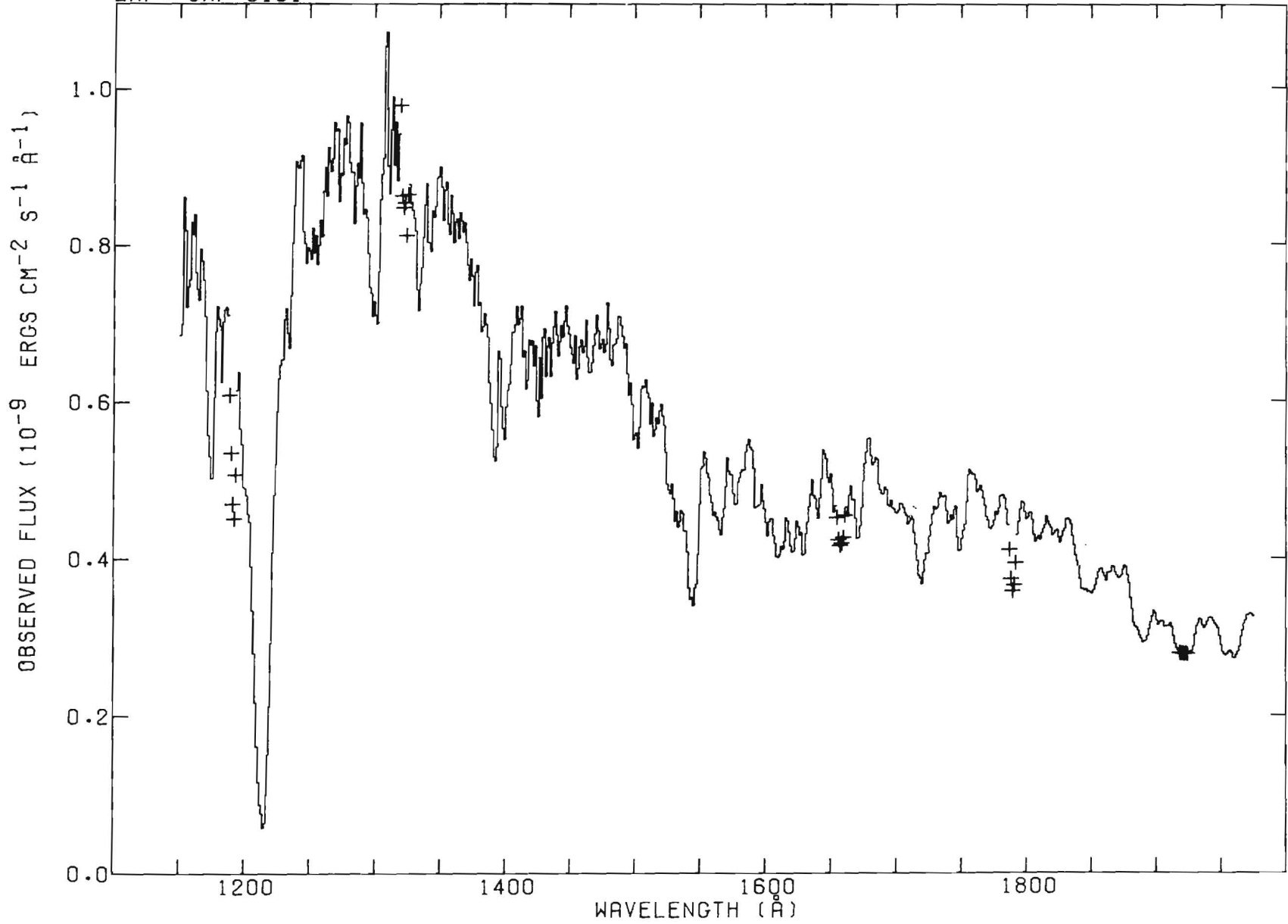
V=4.34 (B-V)=-0.25 E(B-V)=0.01



HD 46328 B1 III
LAP: LWR 15280

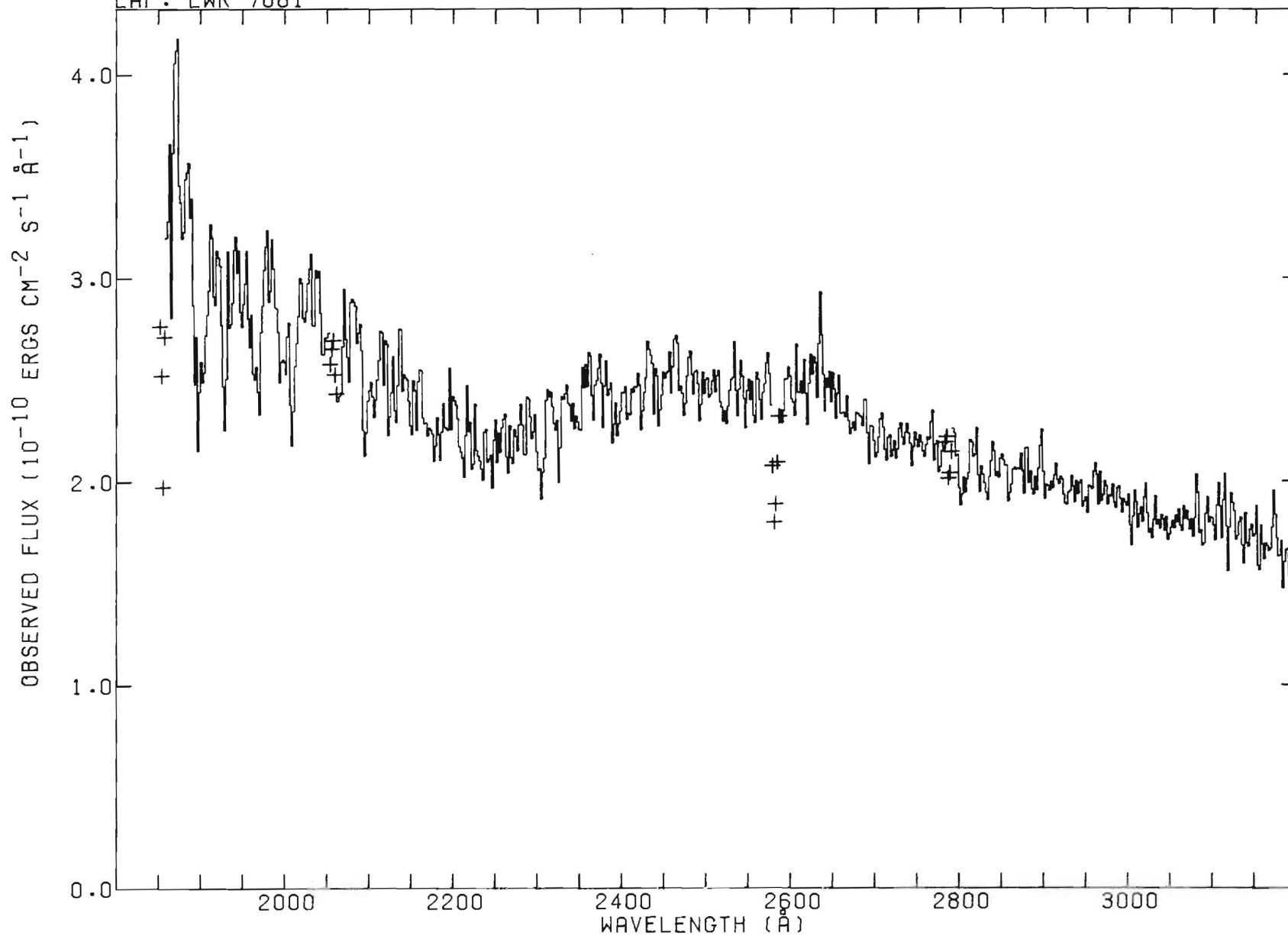
V=4.34 (B-V)=-0.25 E(B-V)=0.01

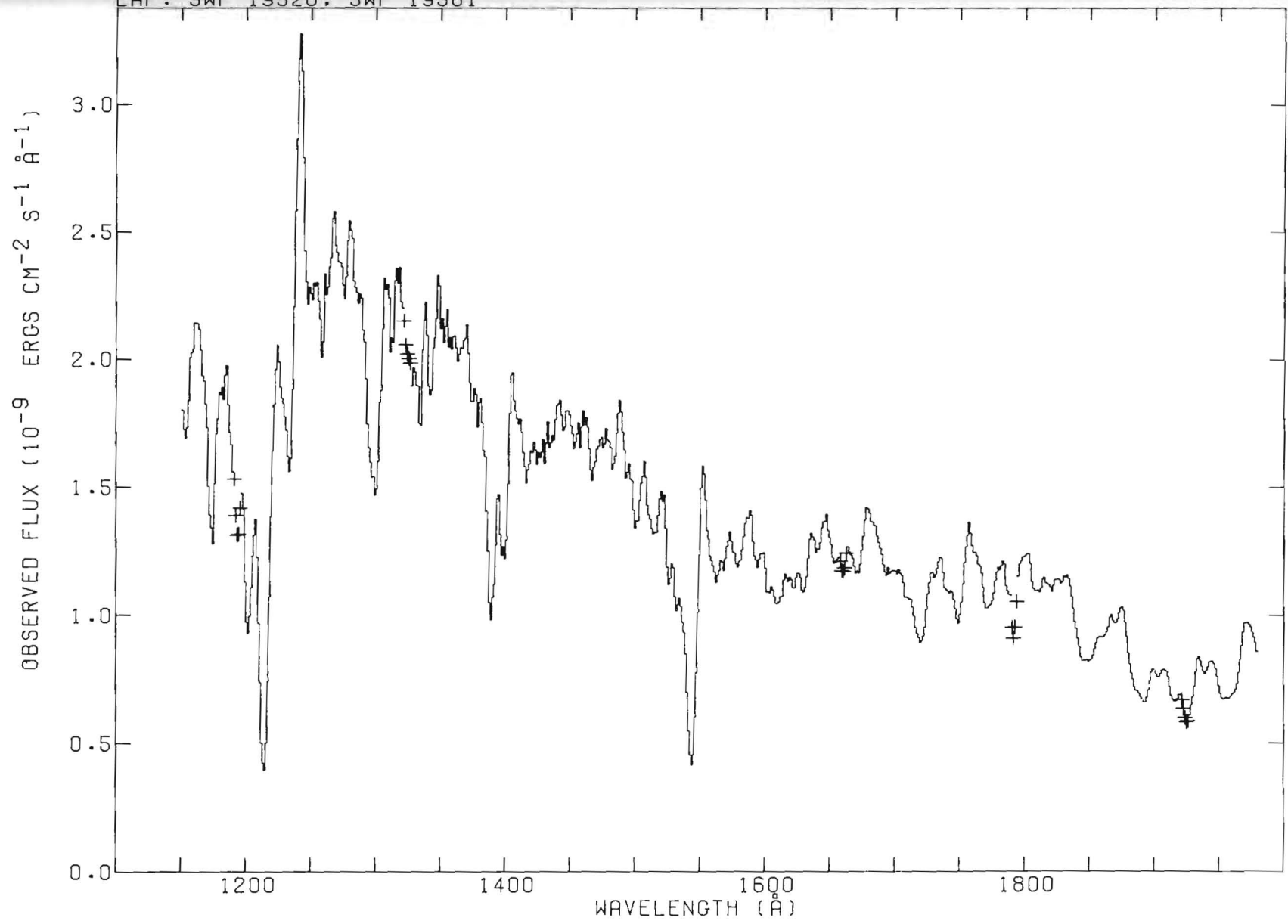




HD 40111 B1 IB
LAP: LWR 7081

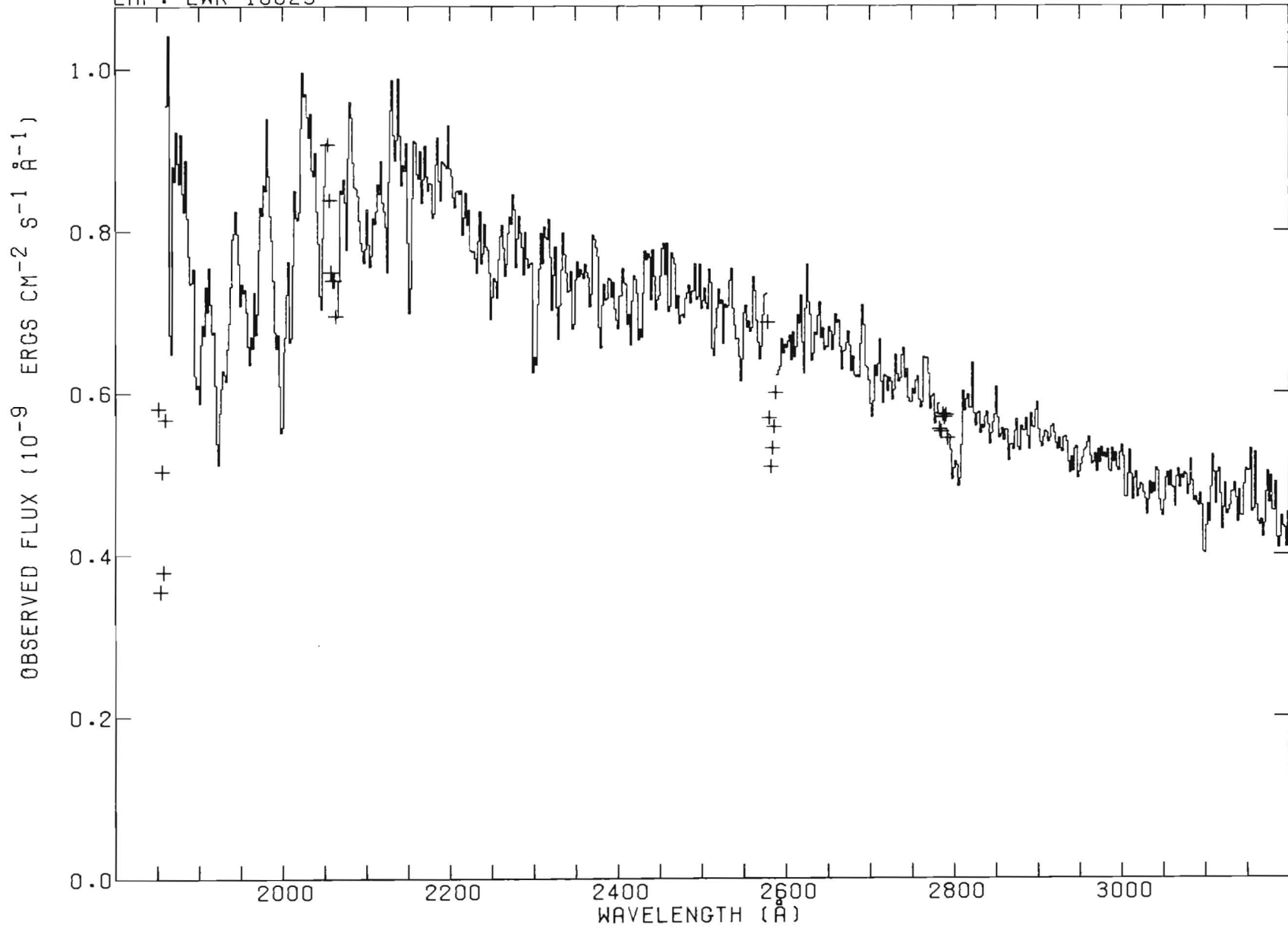
V=4.82 (B-V)=-0.06 E(B-V)=0.13





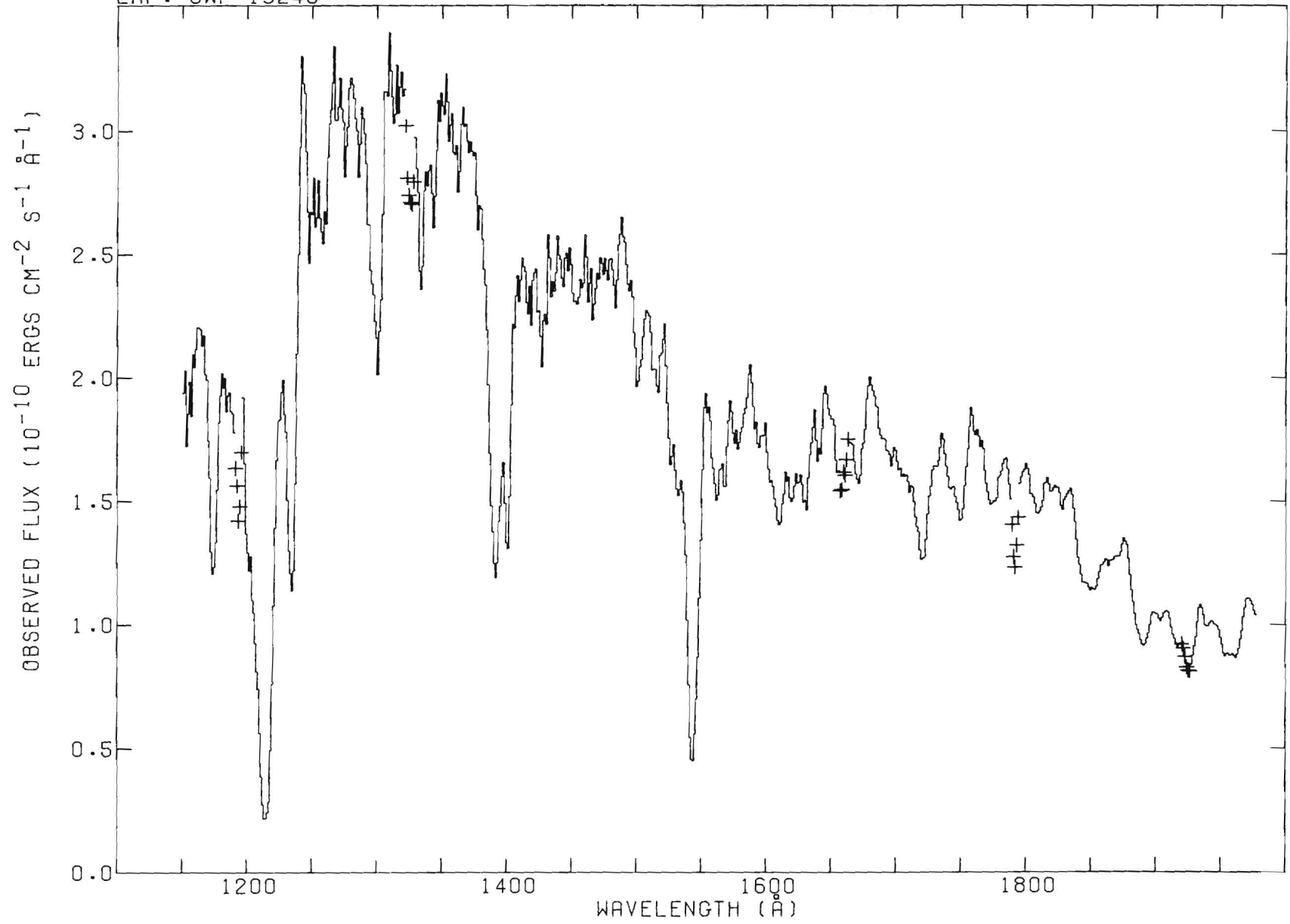
HD 91316 B1 IAB
LAP: LWR 15529

V=3.85 (B-V)=-0.14 E(B-V)=0.05



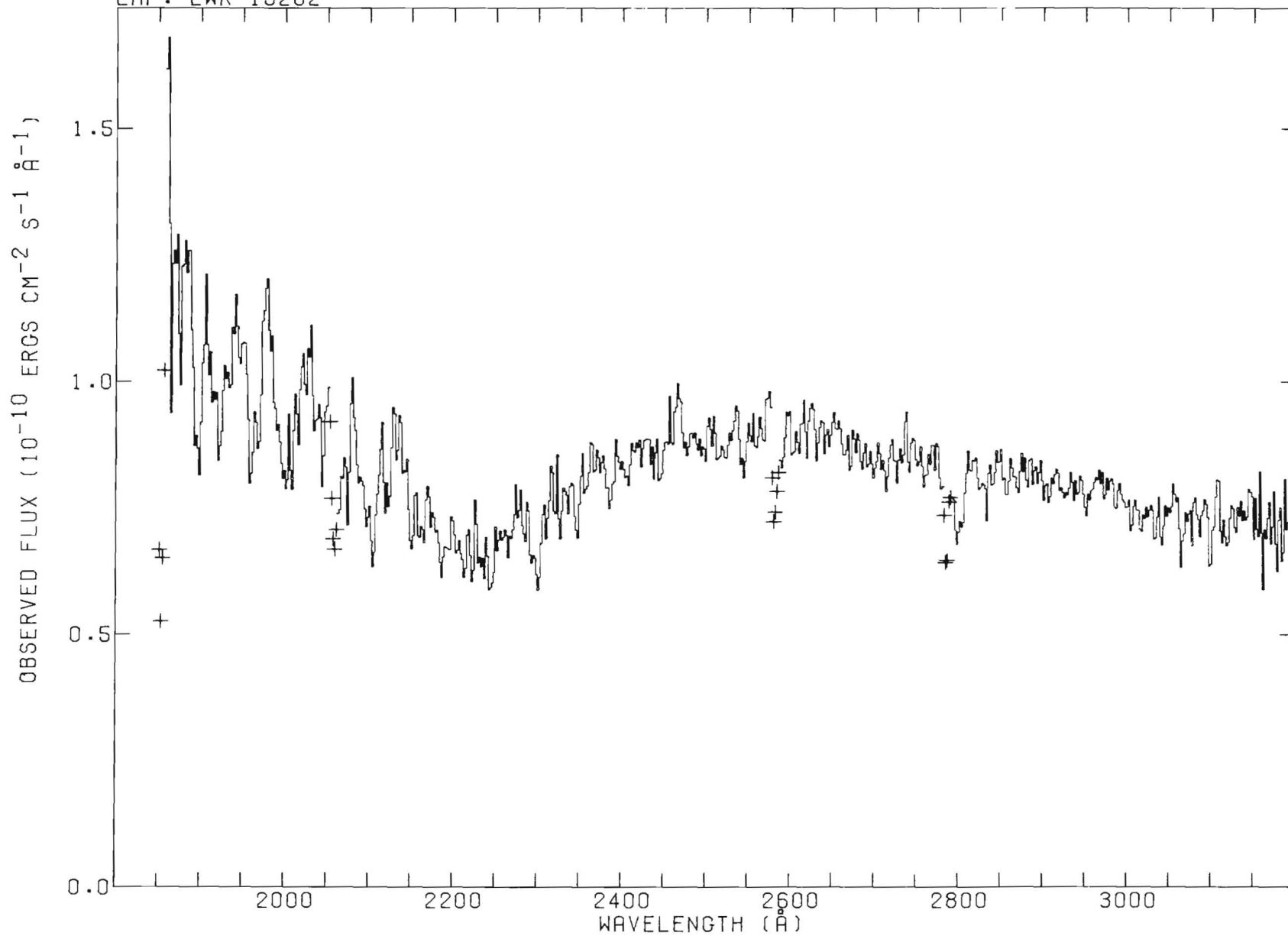
HD 150168 B1 IA
LAP: SWP 19246

V=5.65 (B-V)=-0.03 E(B-V)=0.16



HD 150168 B1 IA
LAP: LWR 15282

V=5.65 (B-V)=-0.03 E(B-V)=0.16



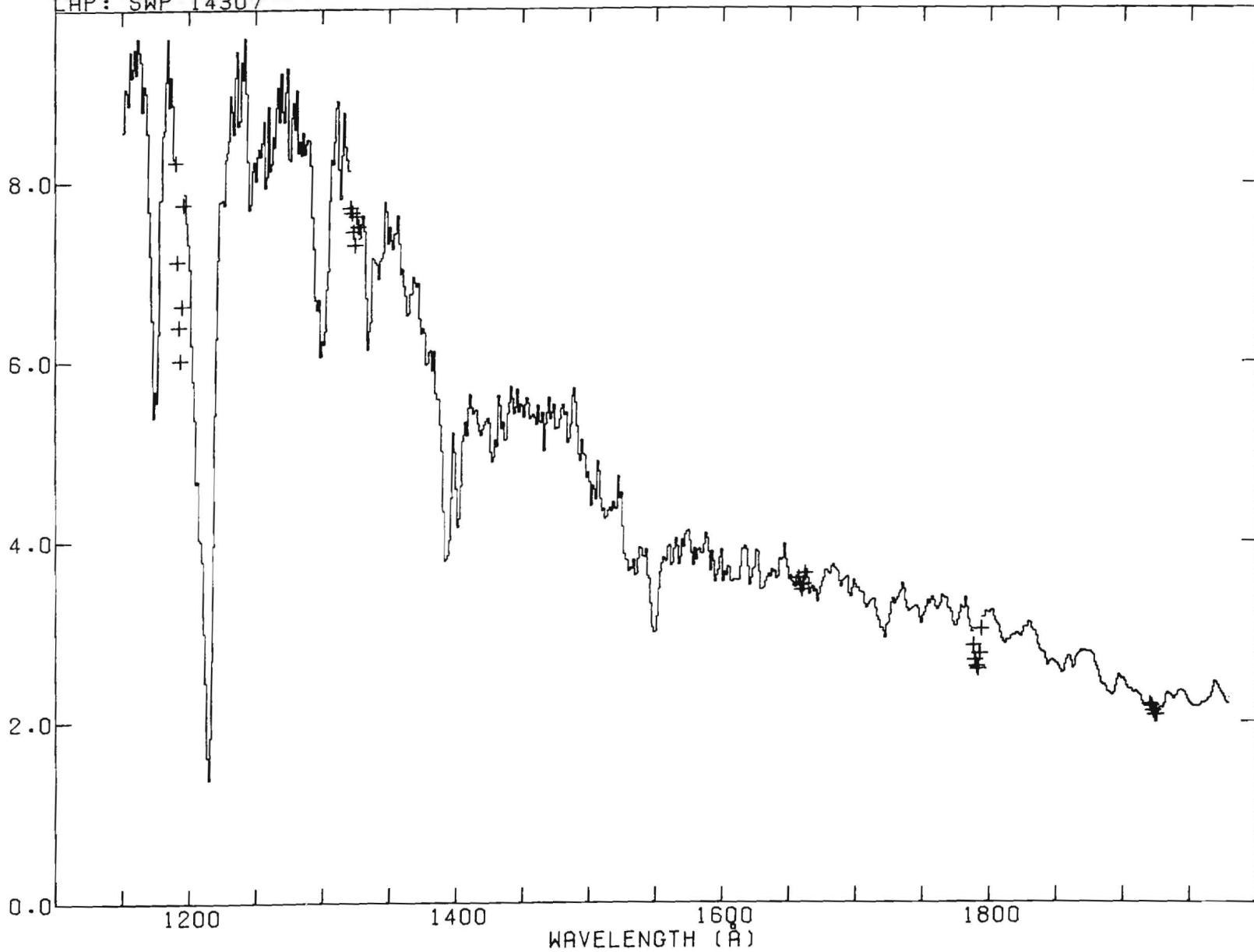
HD 74273

B1.5 V

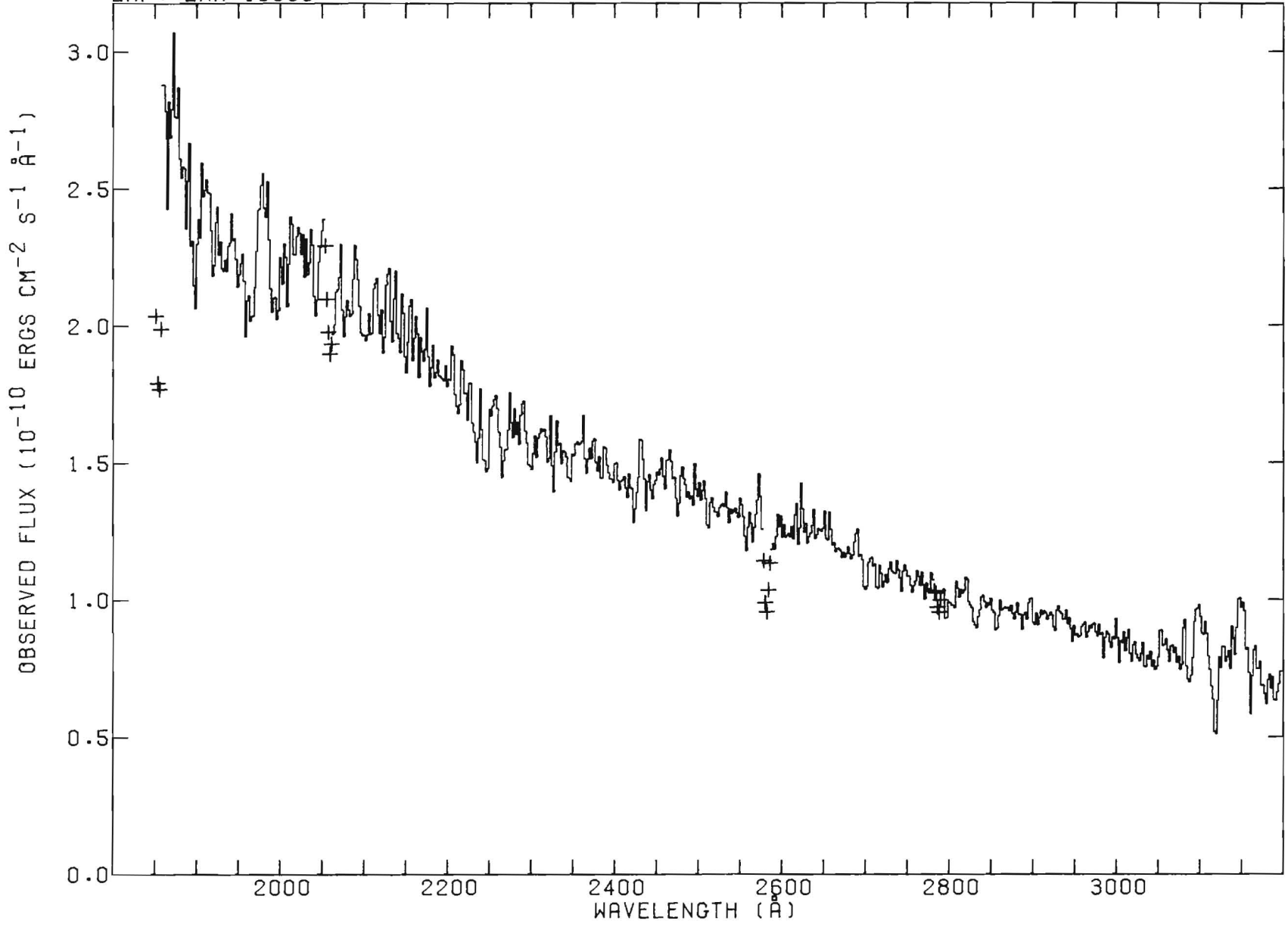
V=5.90 (B-V)=-0.21 E(B-V)=0.04

LAP: SWP 14307

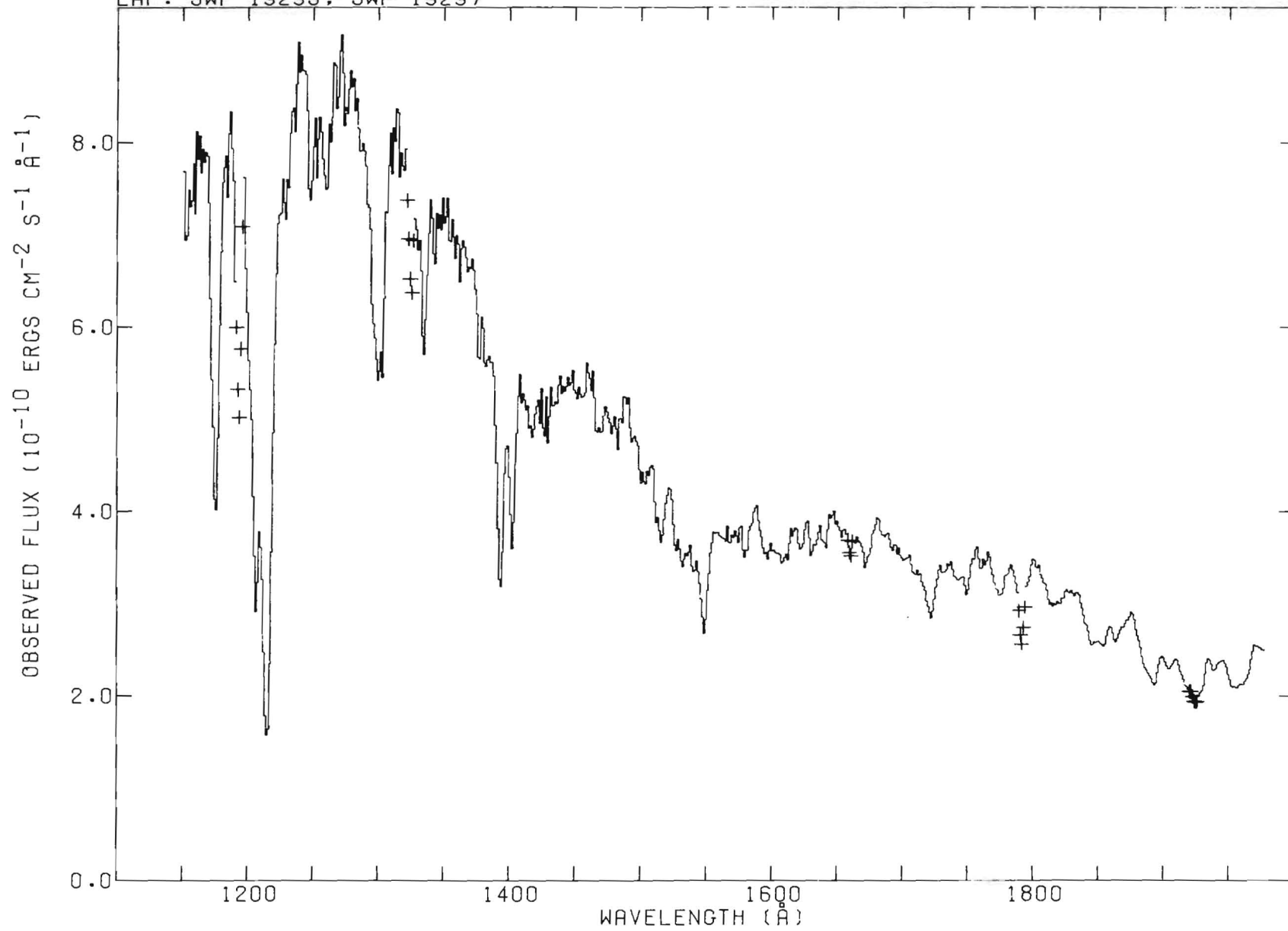
OBSERVED FLUX (10^{-10} ERGS CM^{-2} S^{-1} \AA^{-1})



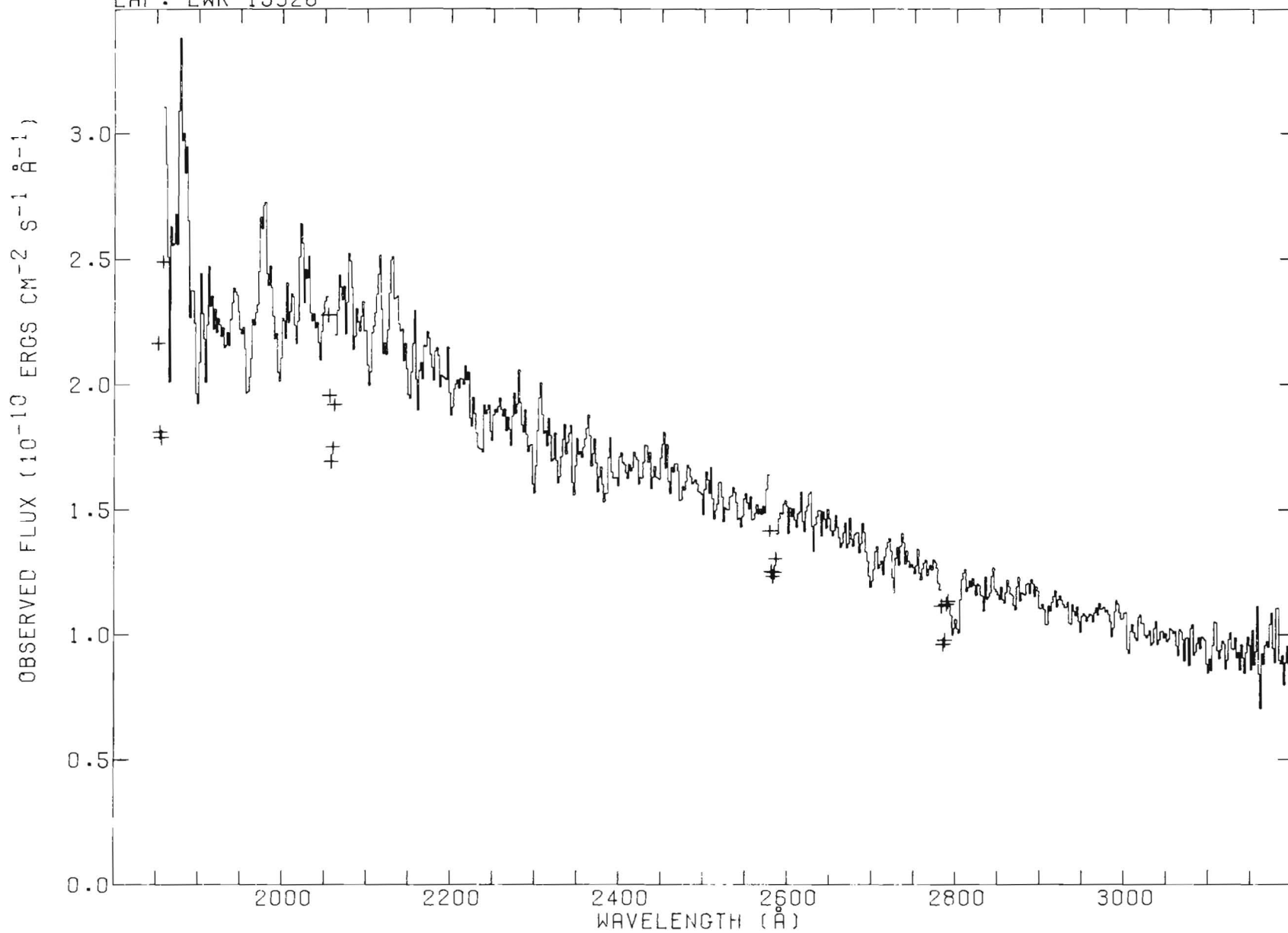
HD 74273 B1.5 V V=5.90 (B-V)=-0.21 E(B-V)=0.04
LAP: LWR 10938



HD 62747 B1.5 III V=5.62 (B-V)=-0.19 E(B-V)=0.06
LAP: SWP 19295, SWP 19297

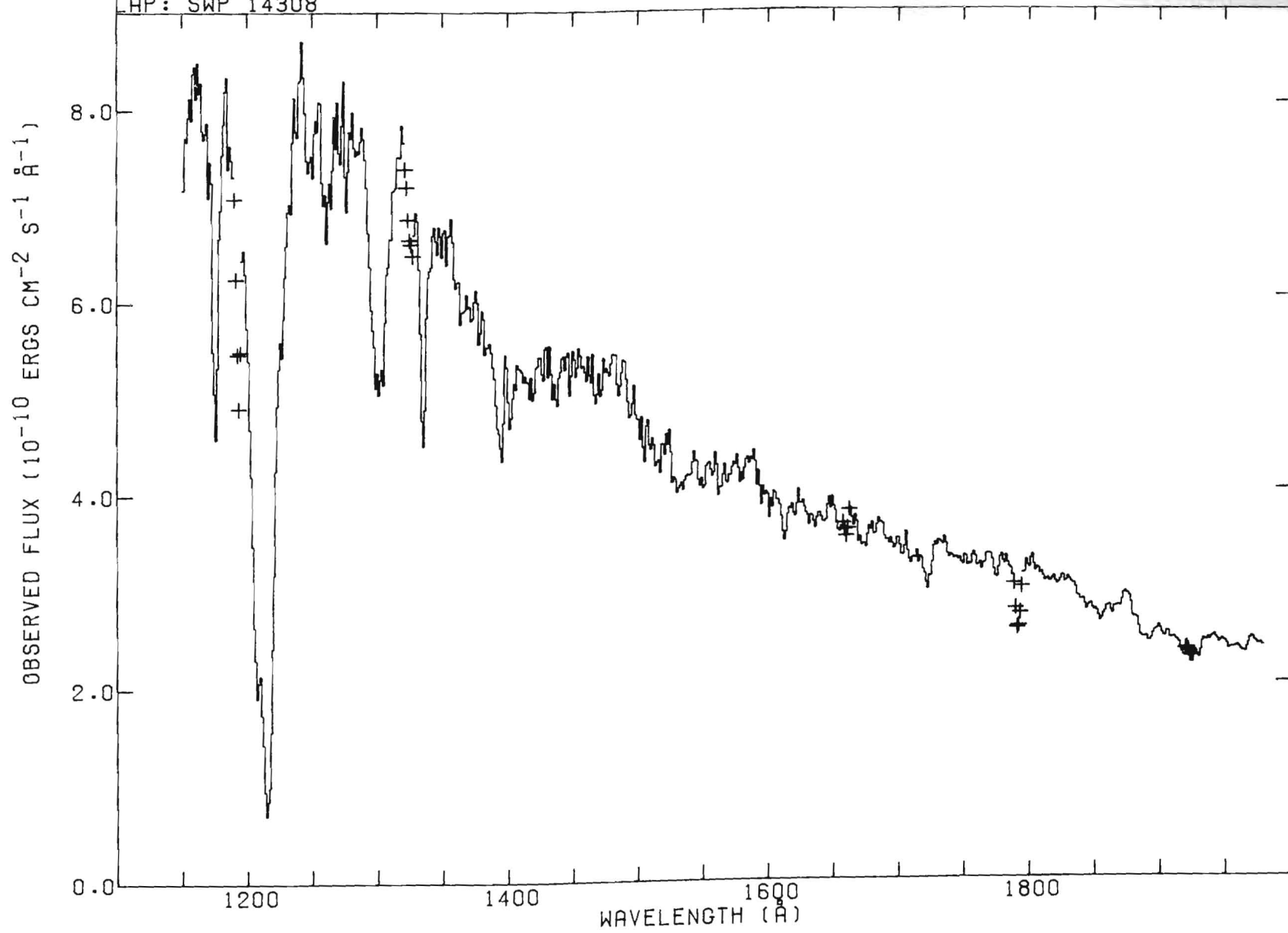


HD 62747 B1.5 III V=5.62 (B-V)=-0.19 E(B-V)=0.06
LAP: LWR 15328



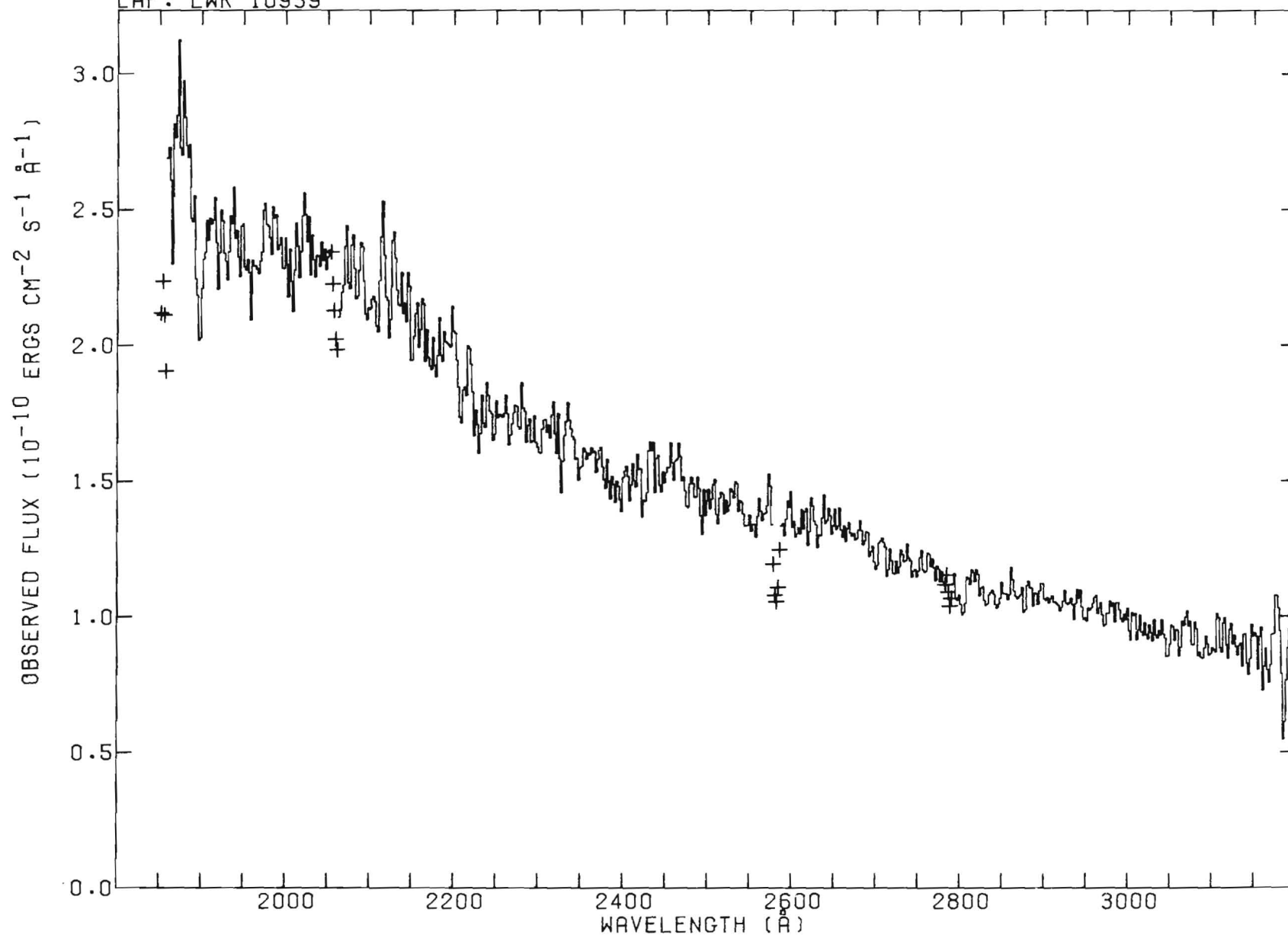
HD 64802 B2 V
AP: SWP 14308

V=5.49 (B-V)=-0.19 E(B-V)=0.05

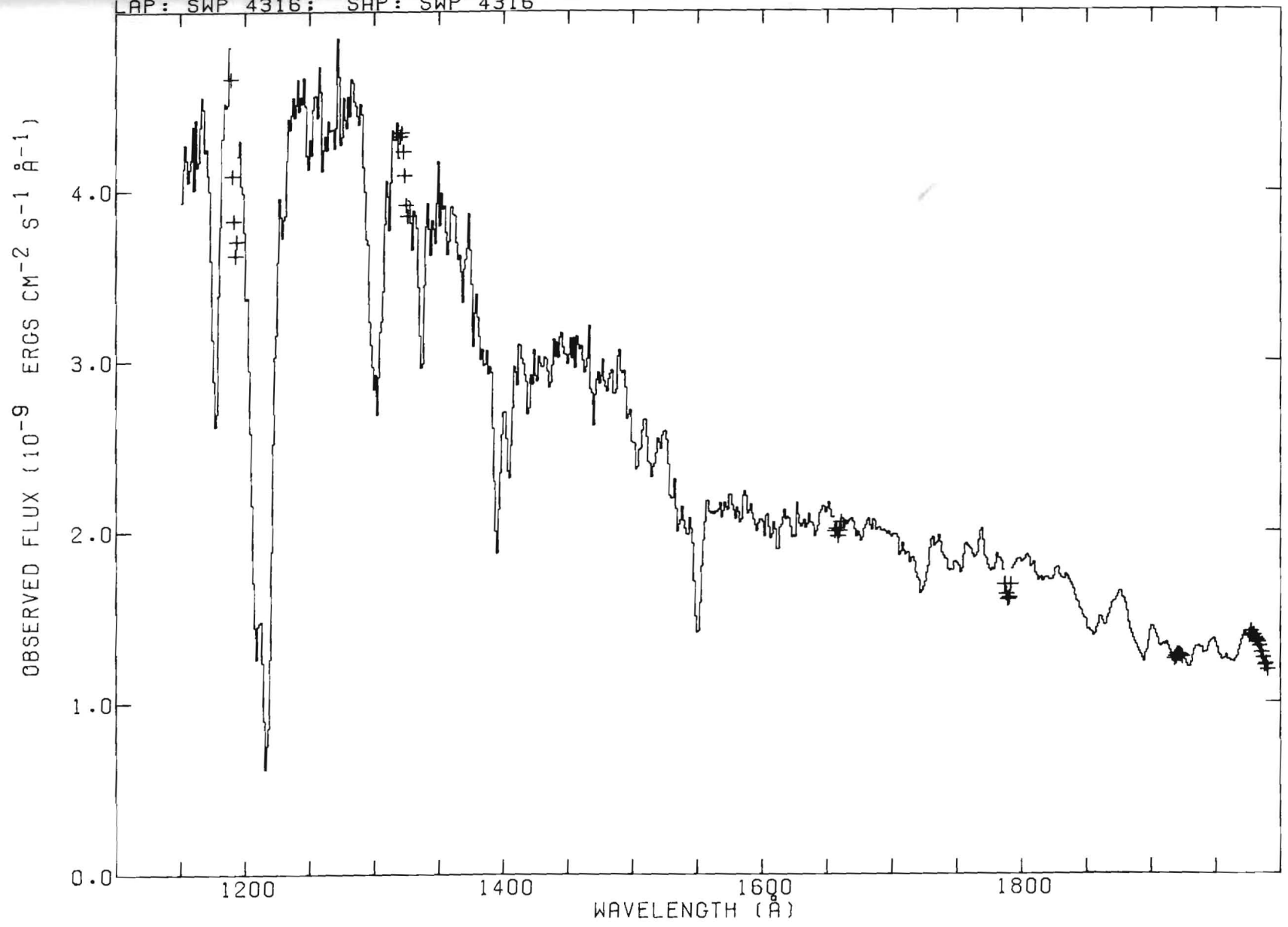


HD 64802 B2 V
LAP: LWR 10939

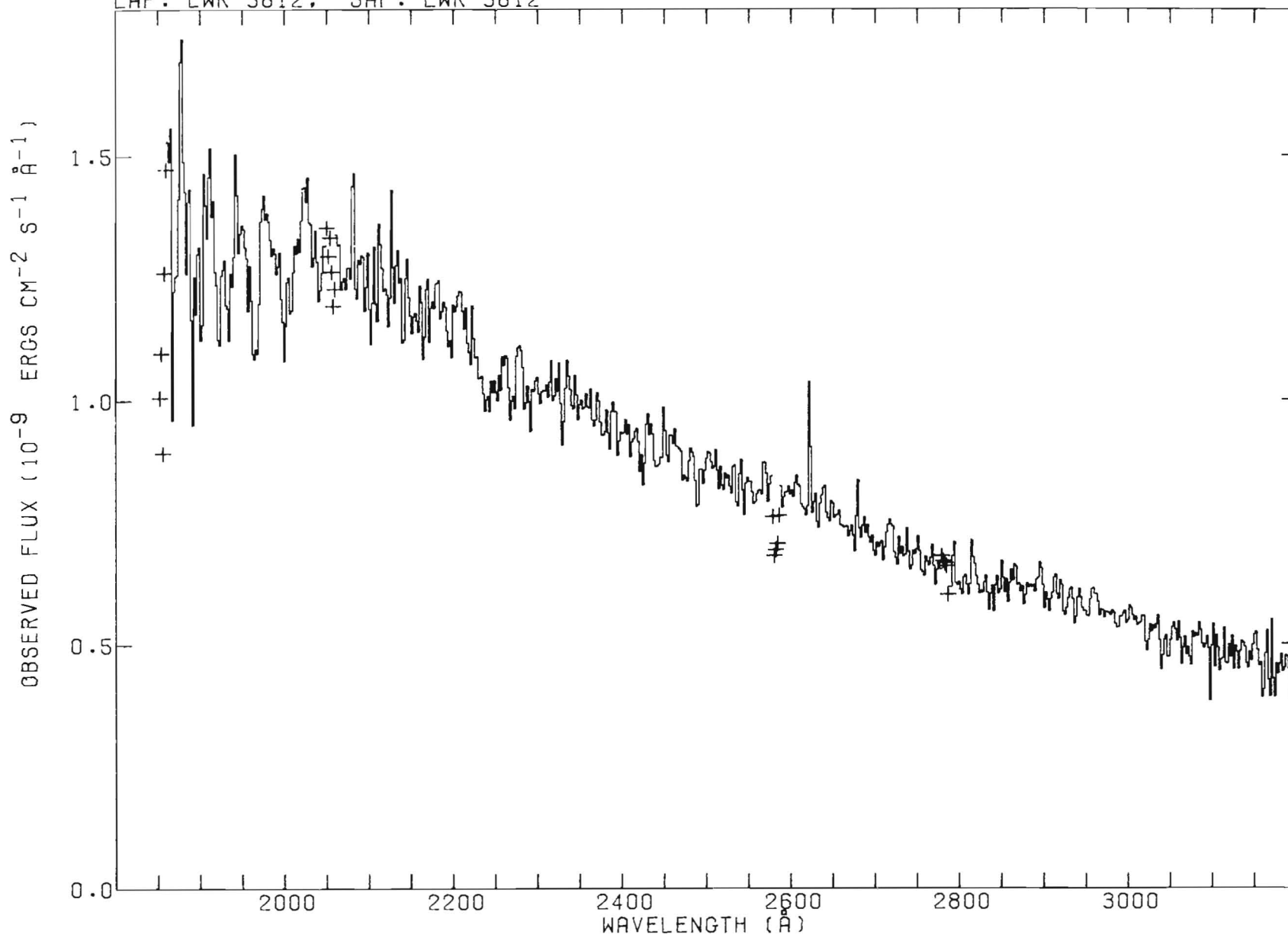
V=5.49 (B-V)=-0.19 E(B-V)=0.05



HD 3360 B2 IV V=3.66 (B-V)=-0.20 E(B-V)=0.04
LAP: SWP 4316; SAP: SWP 4316



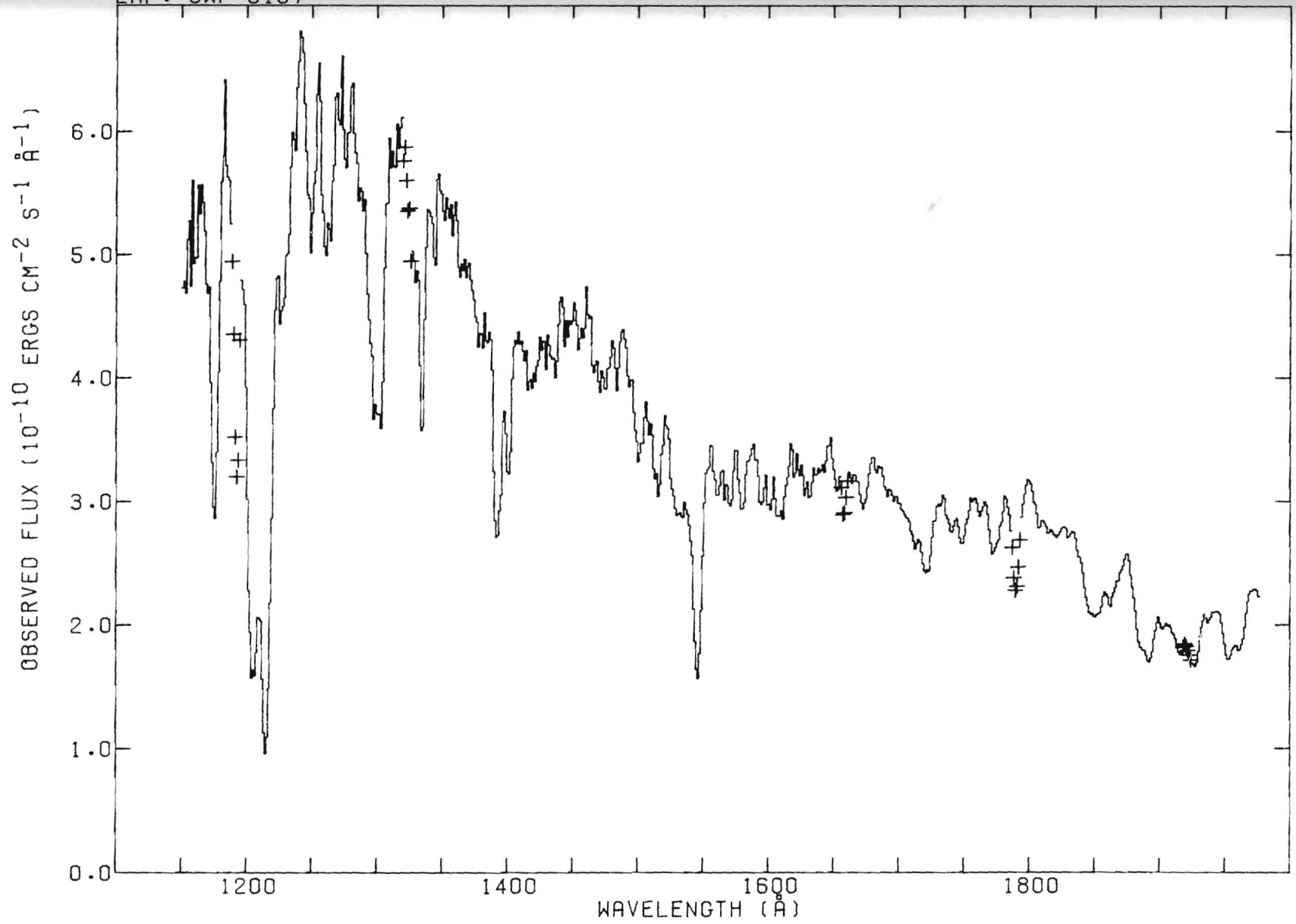
HD 3360 B2 IV V=3.66 (B-V)=-0.20 E(B-V)=0.04
LAP: LWR 3812; SAP: LWR 3812



HD 51283
LAP: SWP 8167

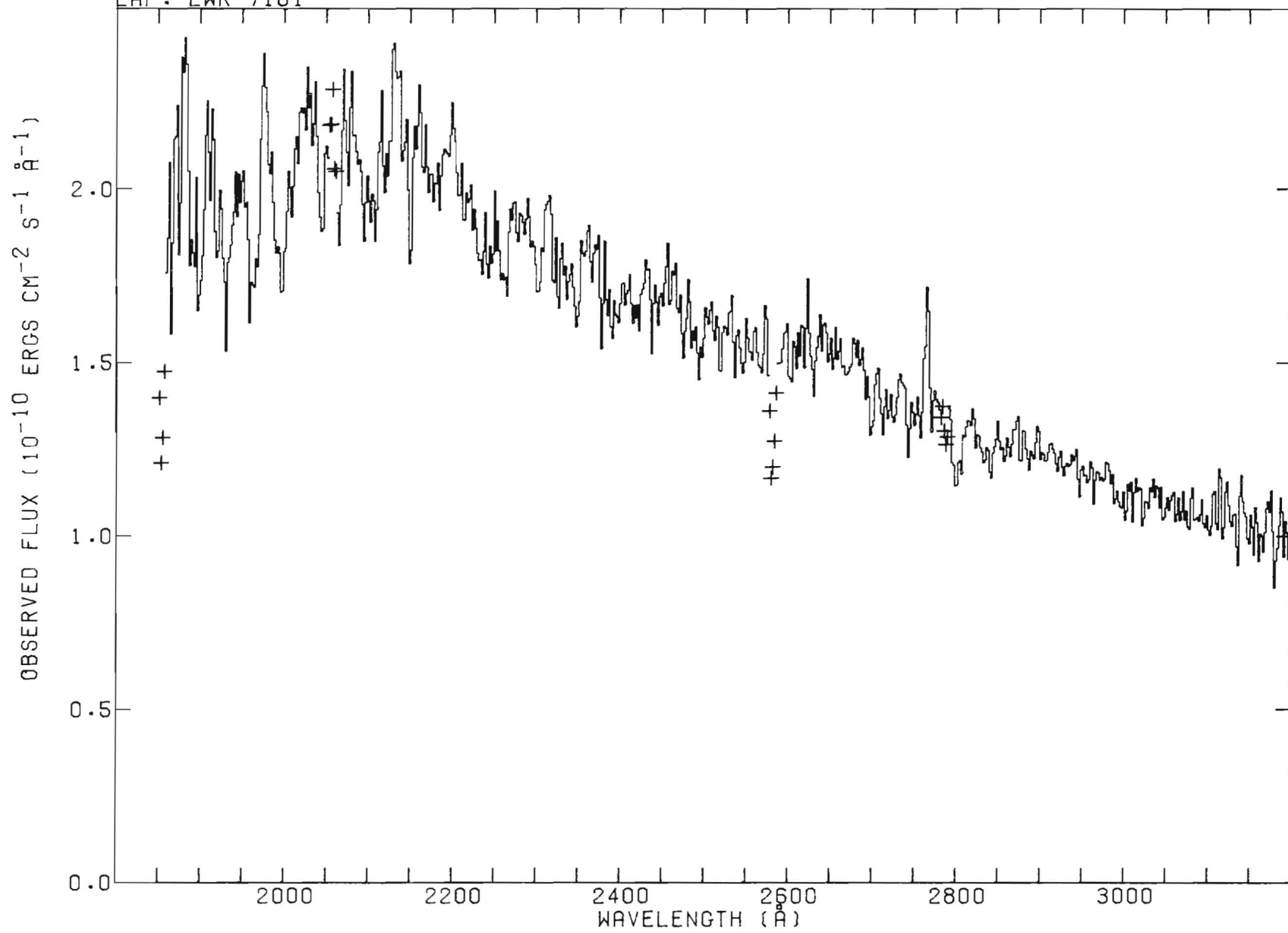
B2 III

V=5.28 (B-V)=-0.19 E(B-V)=0.05



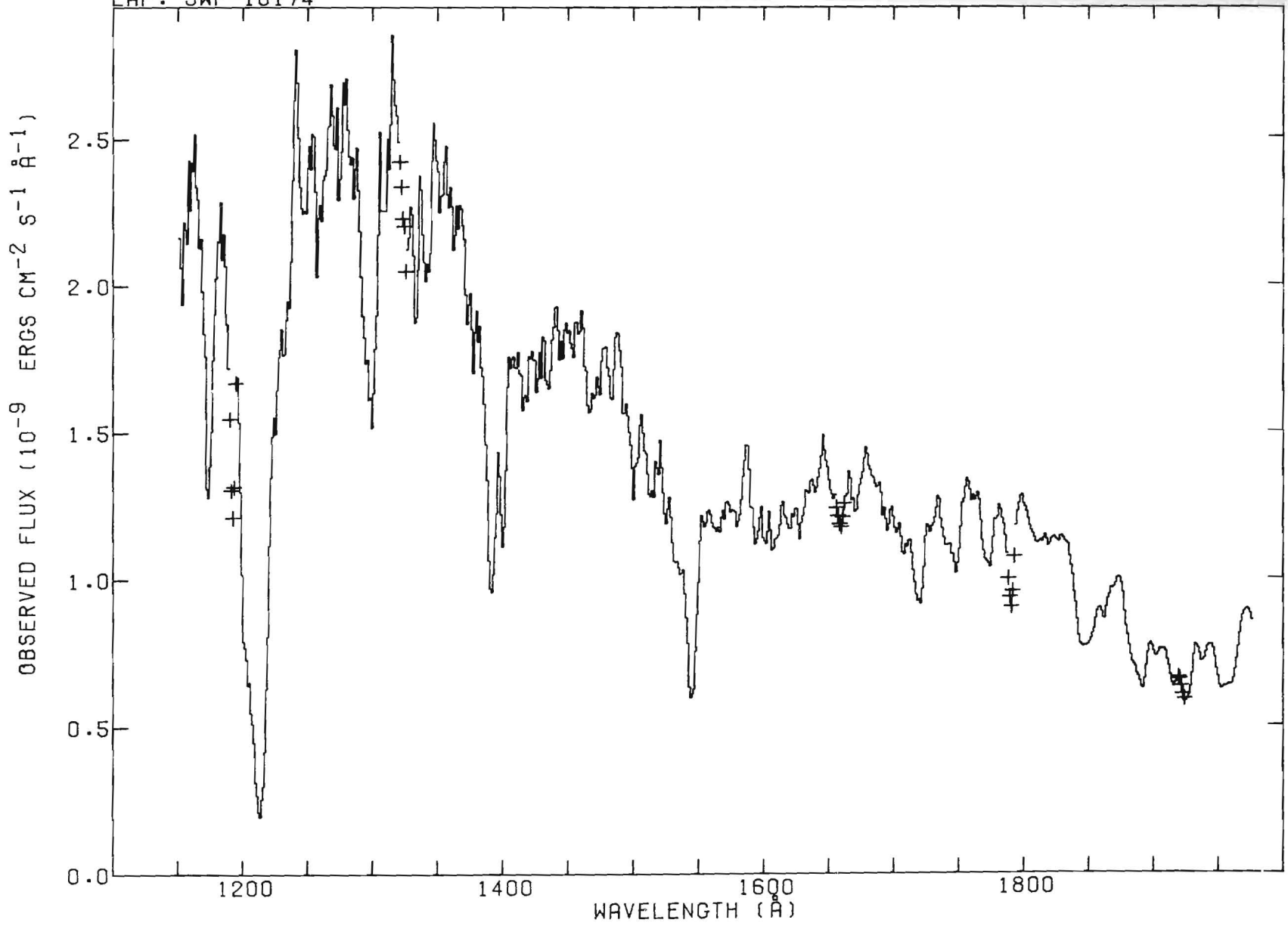
HD 51283 B2 III
LAP: LWR 7101

V=5.28 (B-V)=-0.19 E(B-V)=0.05



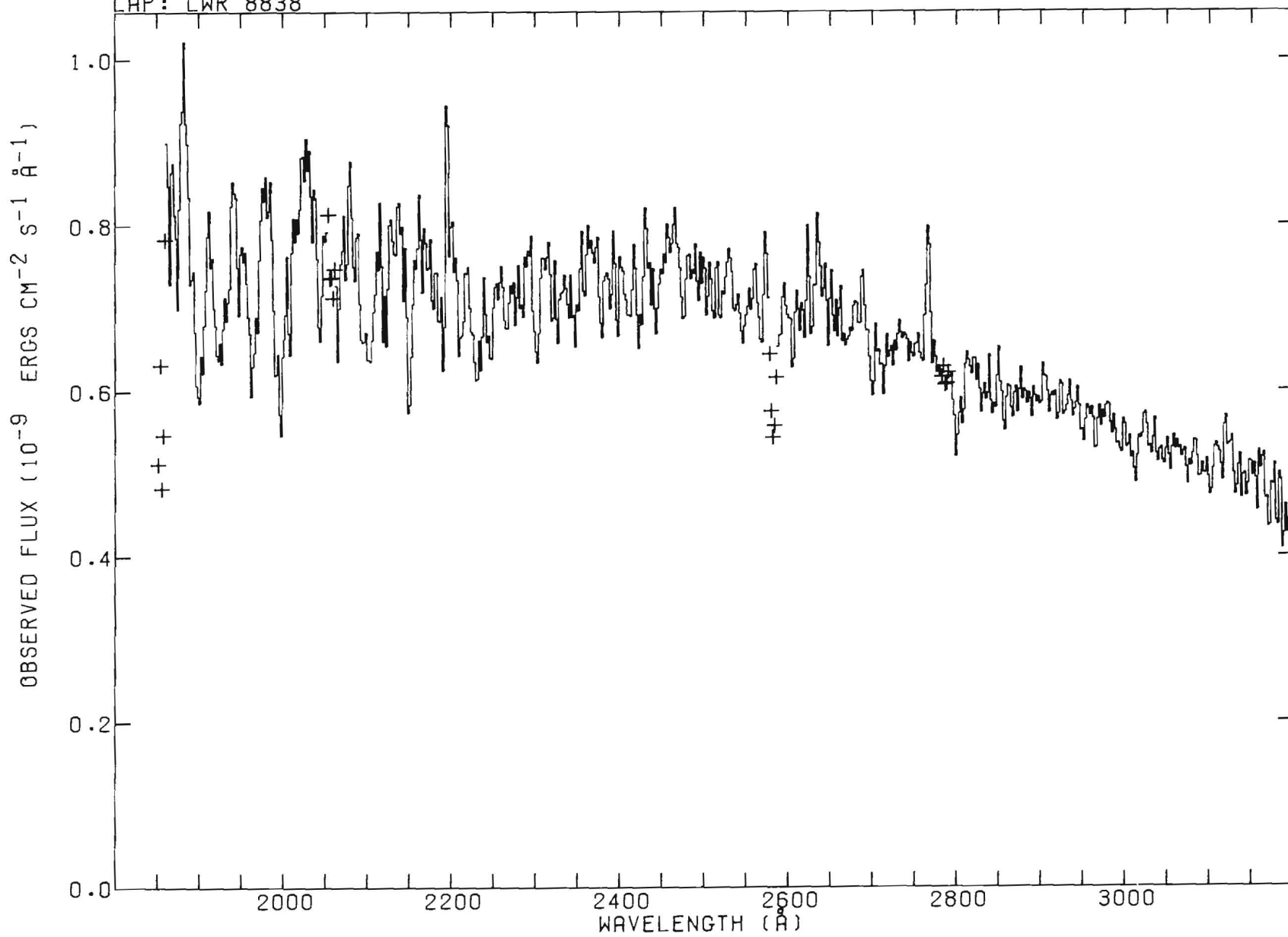
HD 165024 B2 IB
AP: SWP 10174

V=3.66 (B-V)=-0.08 E(B-V)=0.08



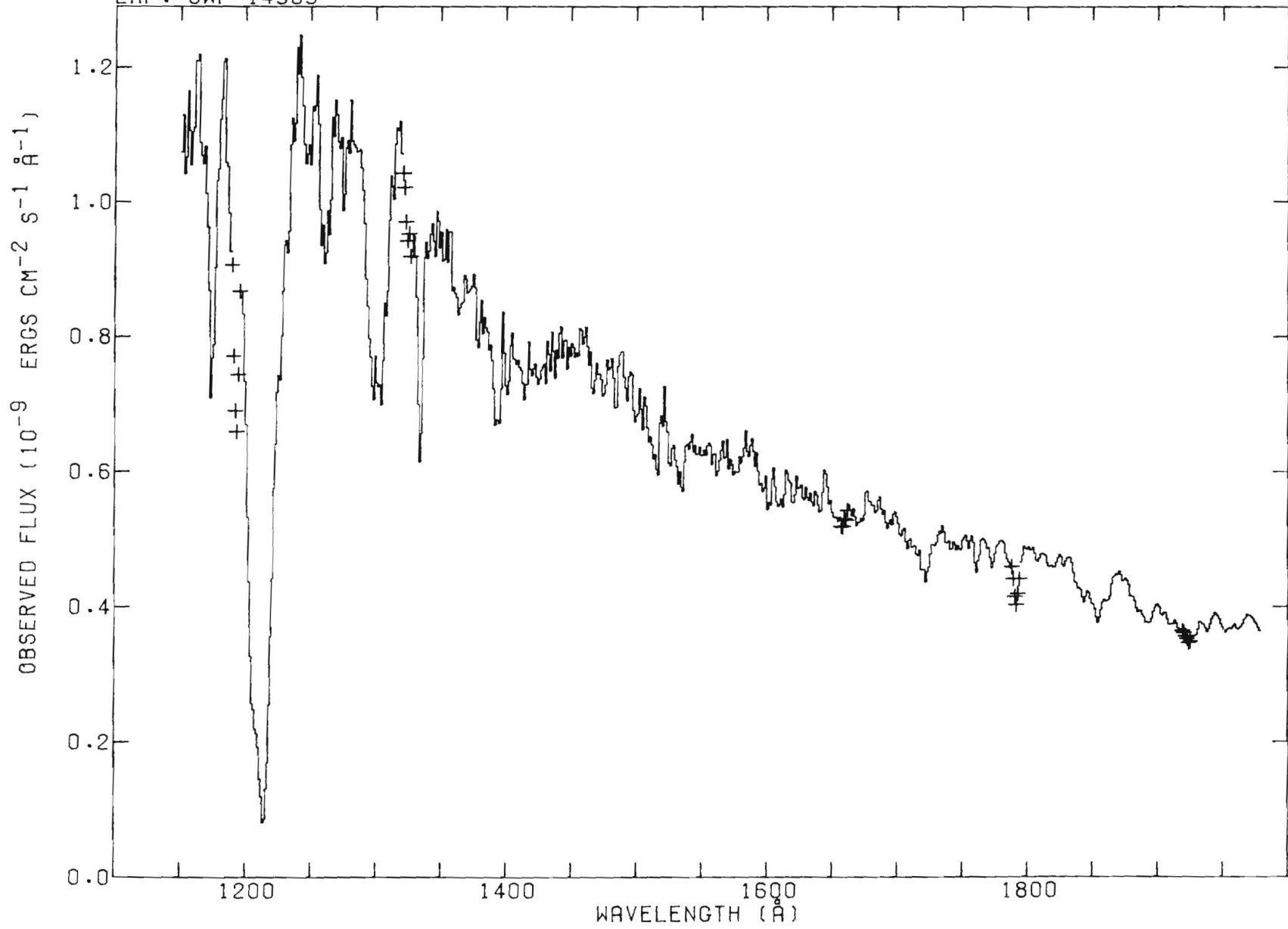
HD 165024 B2 IB
LAP: LWR 8838

V=3.66 (B-V)=-0.08 E(B-V)=0.08



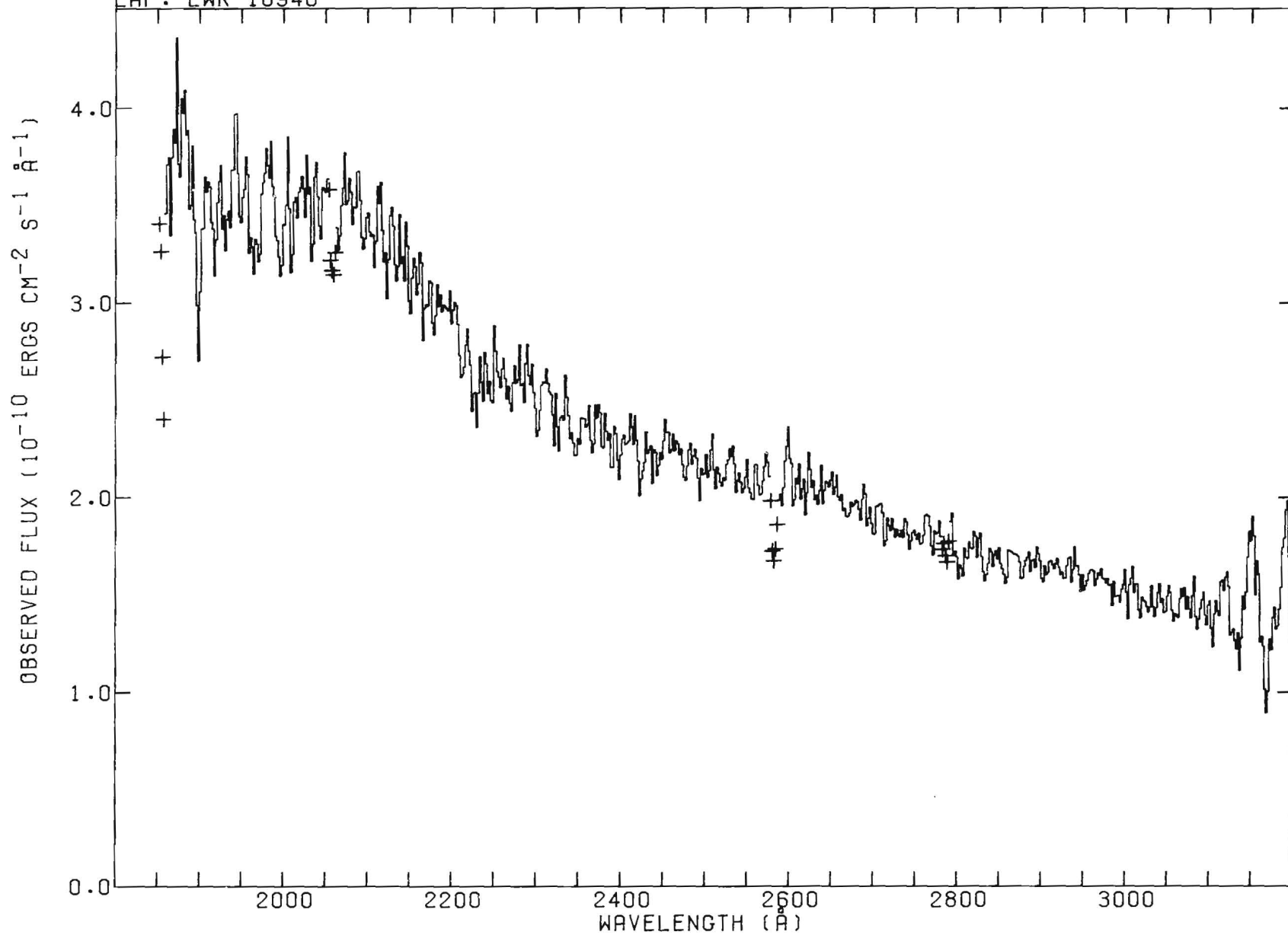
HD 61831 B2.5 V
LAP: SWP 14309

V=4.84 (B-V)=-0.20 E(B-V)=0.02



HD 61831 B2.5 V
LAP: LWR 10940

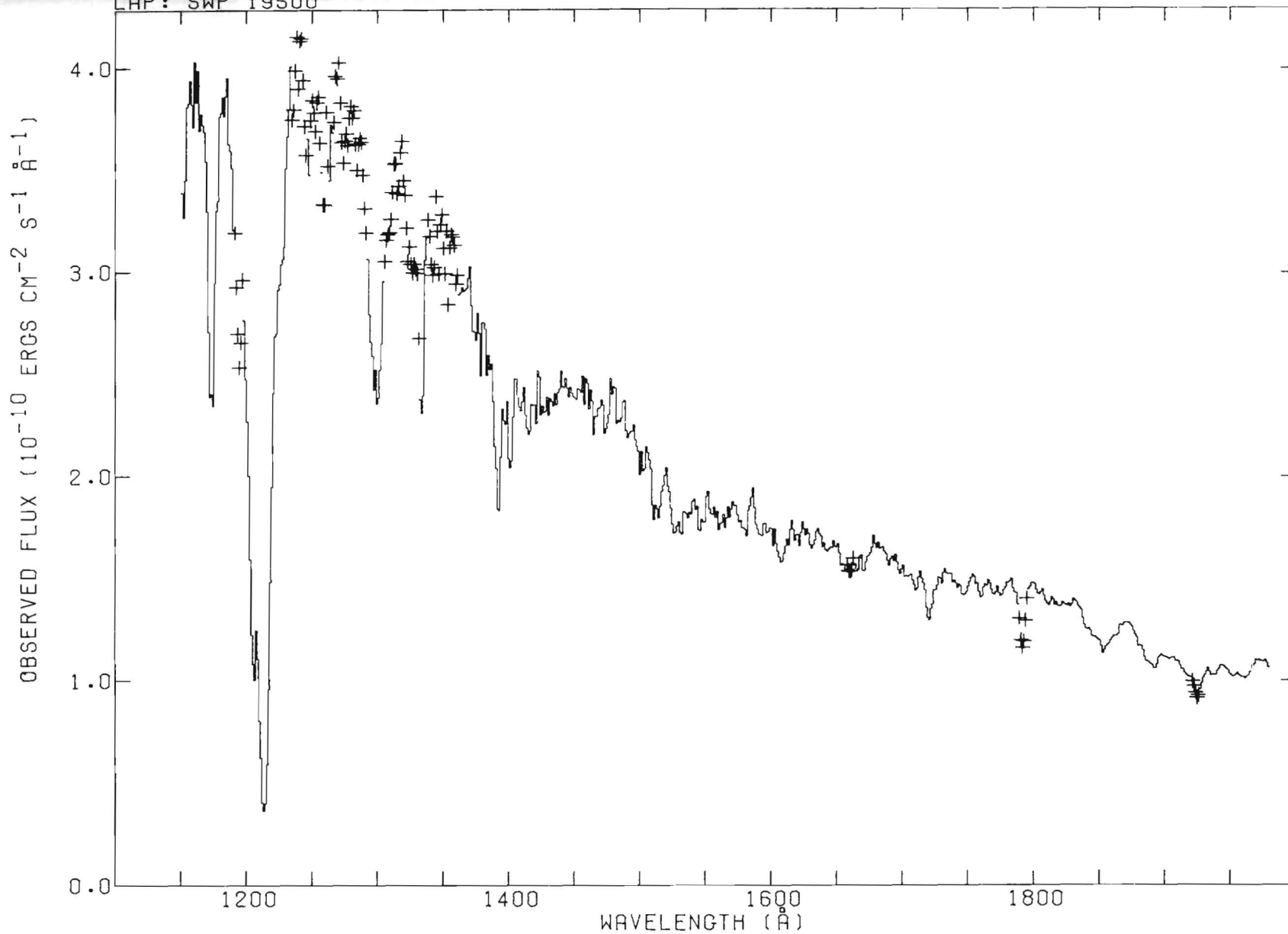
V=4.84 (B-V)=-0.20 E(B-V)=0.02



HD 32612
LAP: SWP 19500

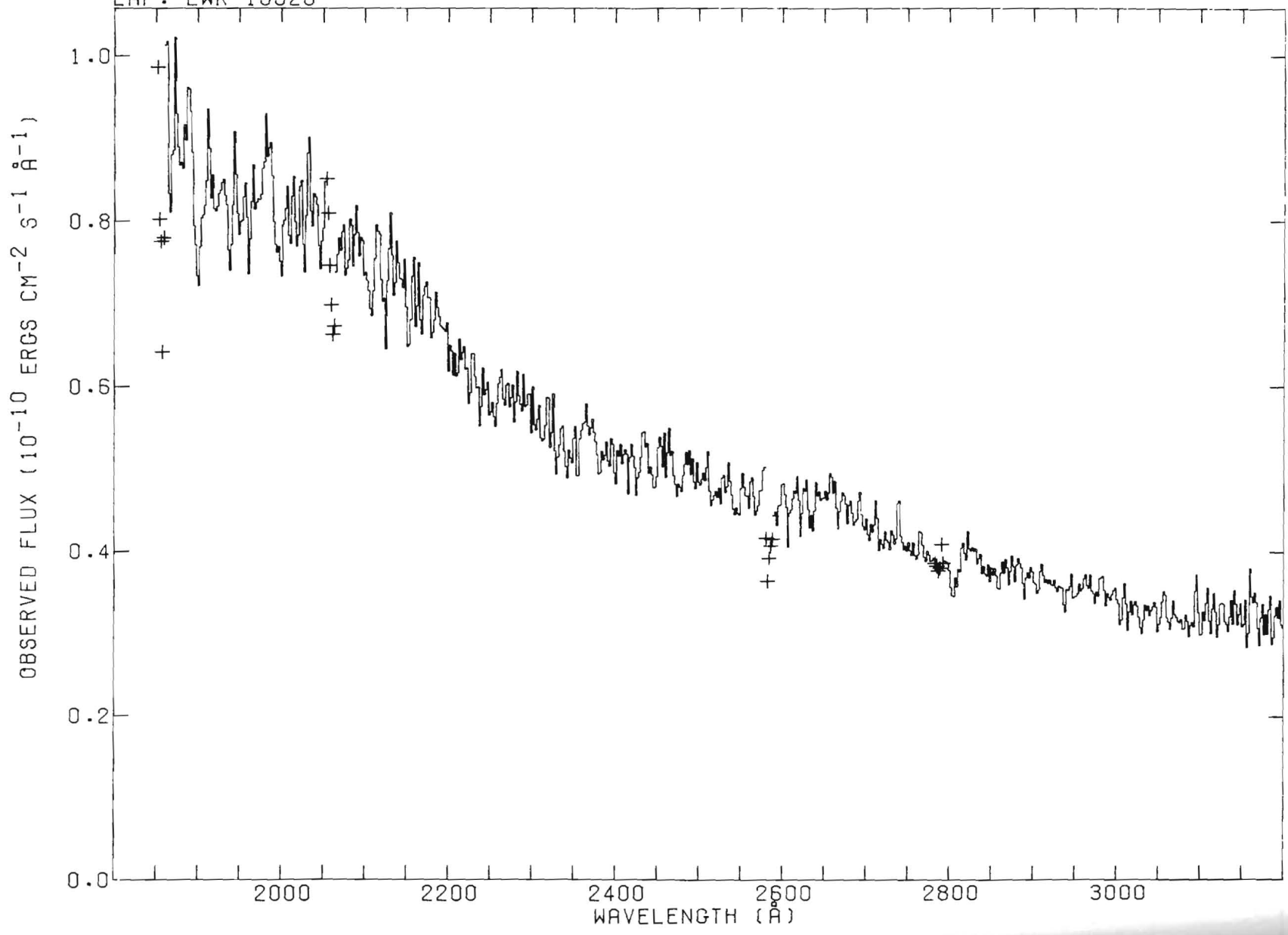
B2.5 IV

V=6.41 (B-V)=-0.18 E(B-V)=0.04



HD 32612 B2.5 IV
LAP: LWR 15528

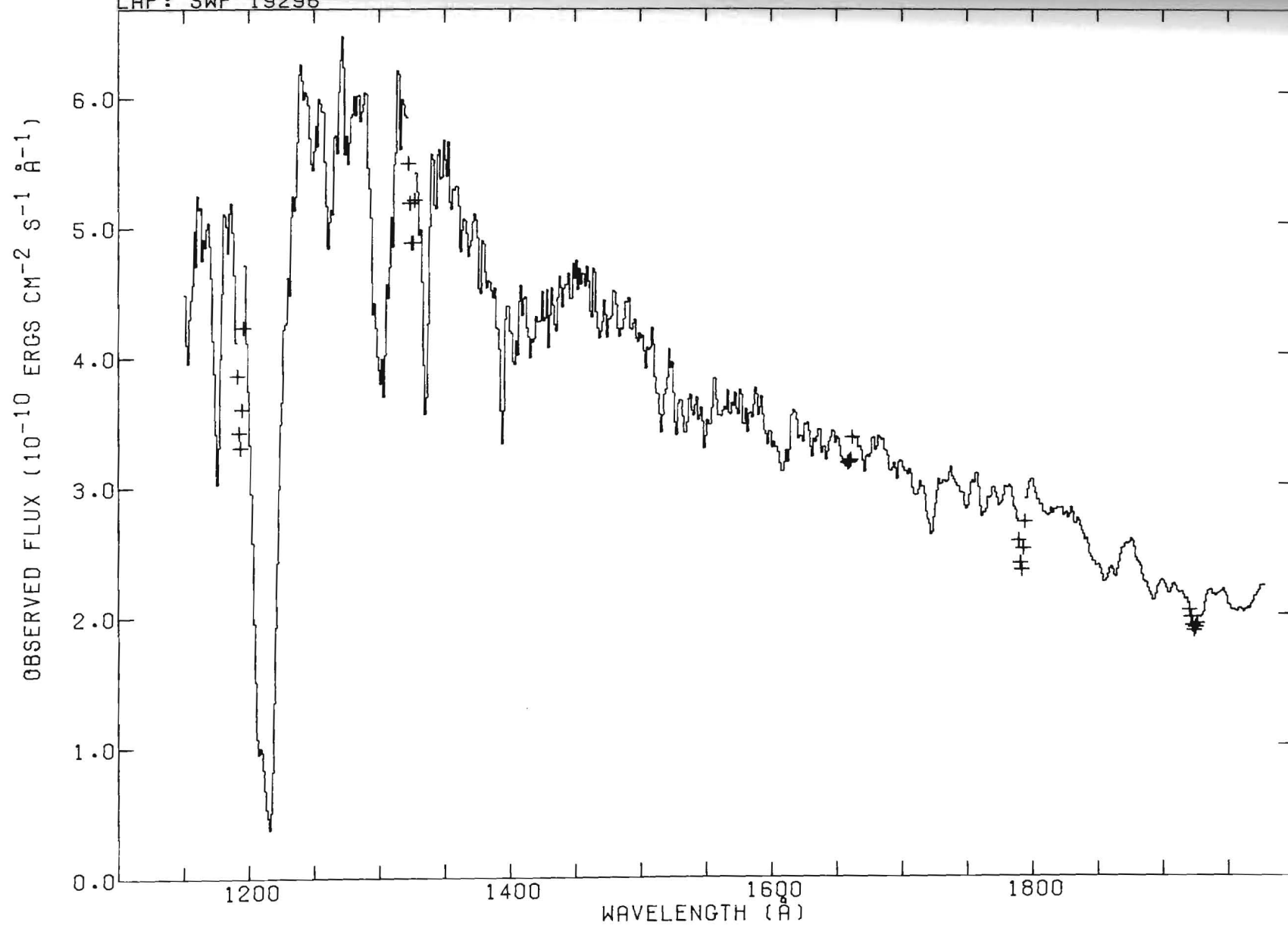
V=6.41 (B-V)=-0.18 E(B-V)=0.04



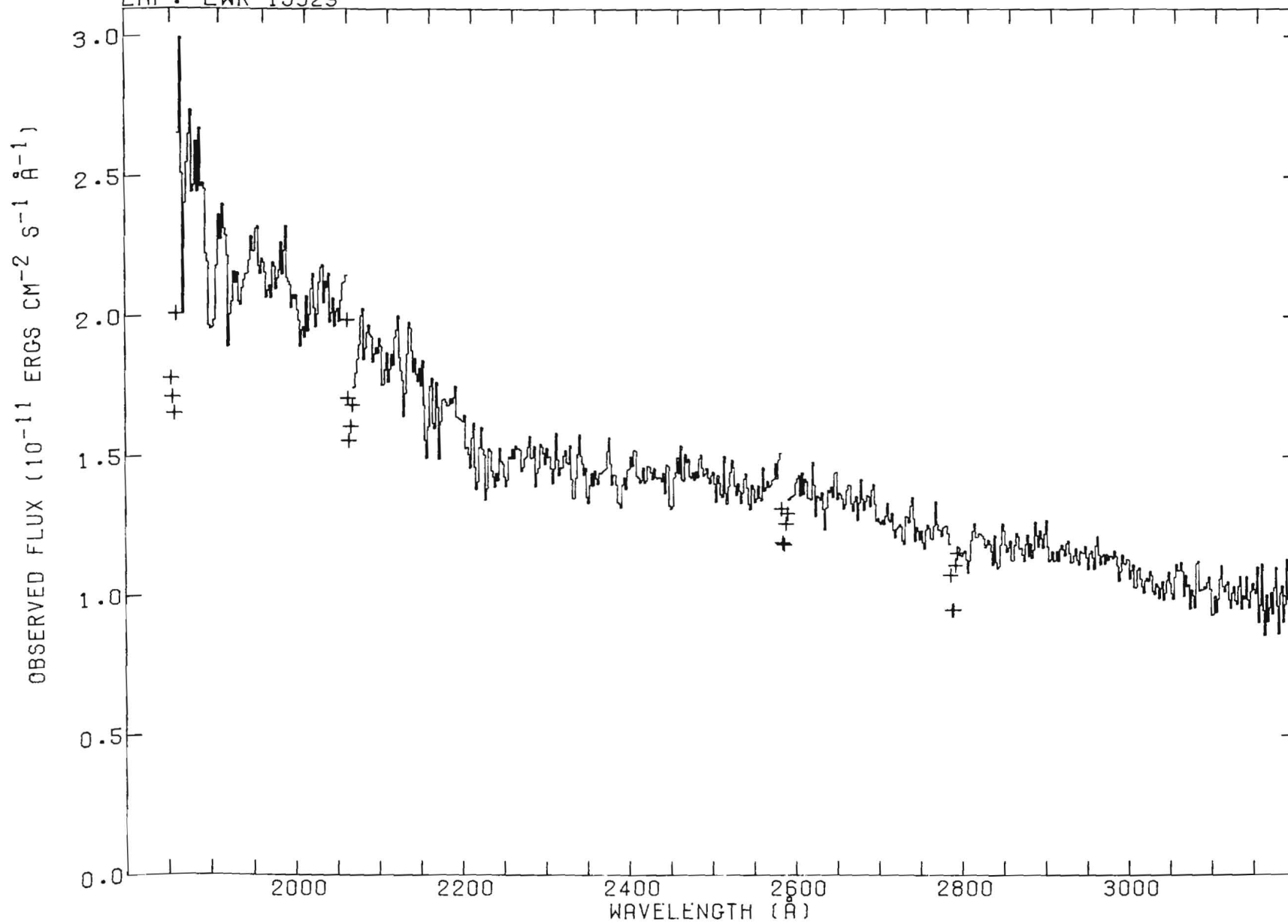
HD 63465
LAP: SWP 19296

B2.5 III

V=5.08 (B-V)=-0.10 E(B-V)=0.12



HD 63465 B2.5 III V=5.08 (B-V)=-0.10 E(B-V)=0.12
LAP: LWR 15329

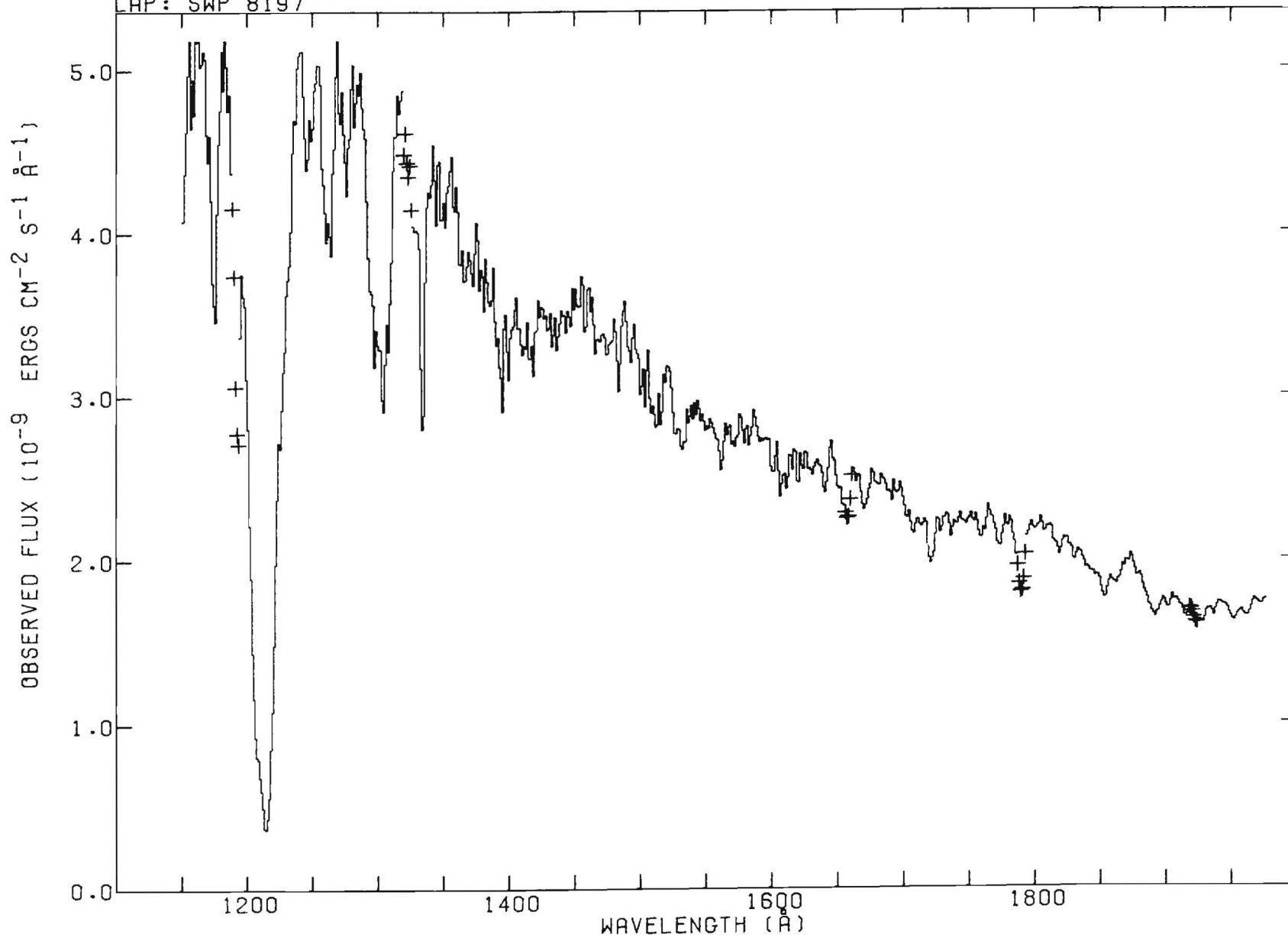


HD 32630

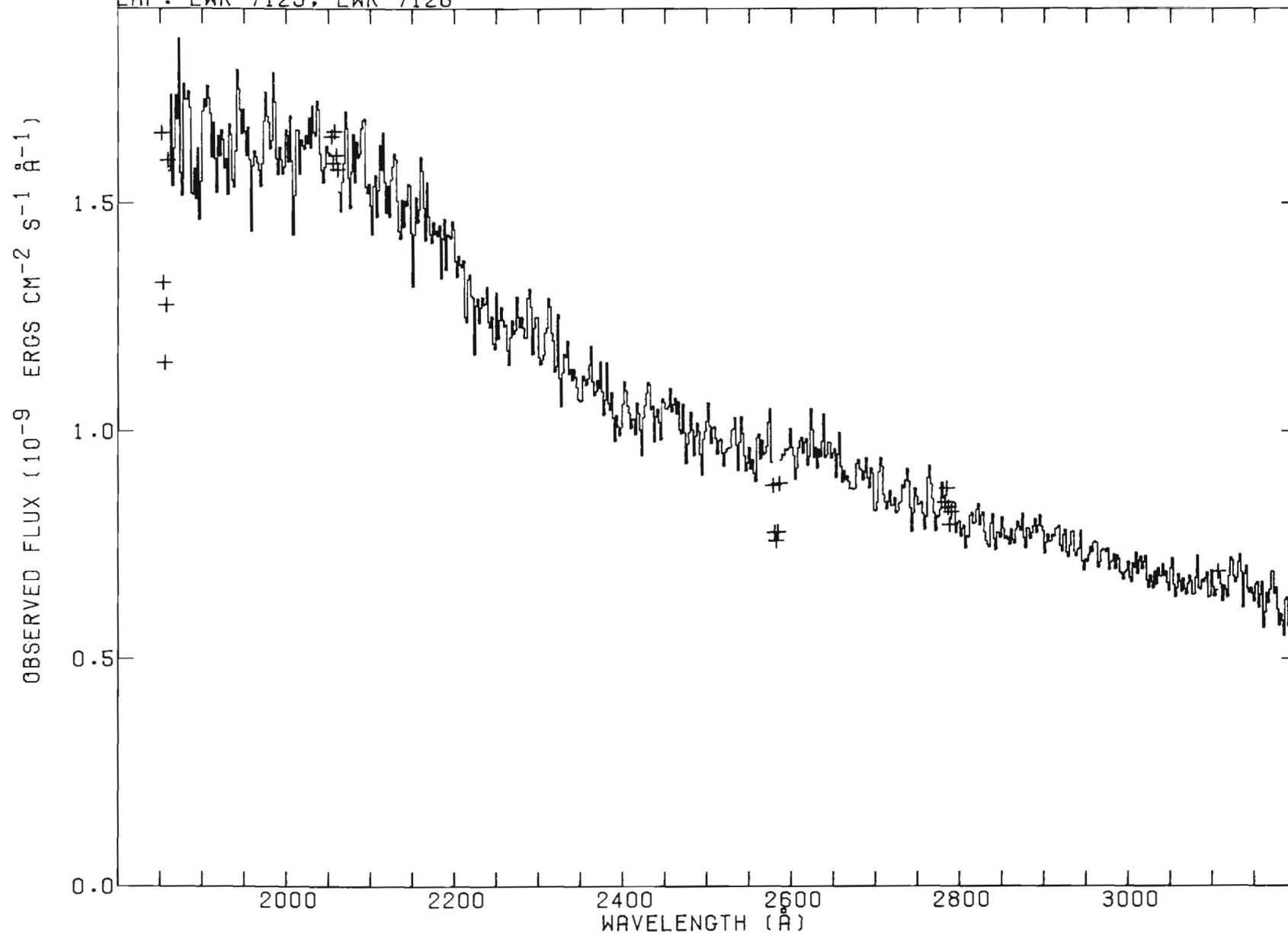
B3 V +

V=3.17 (B-V)=-0.18 E(B-V)=0.02

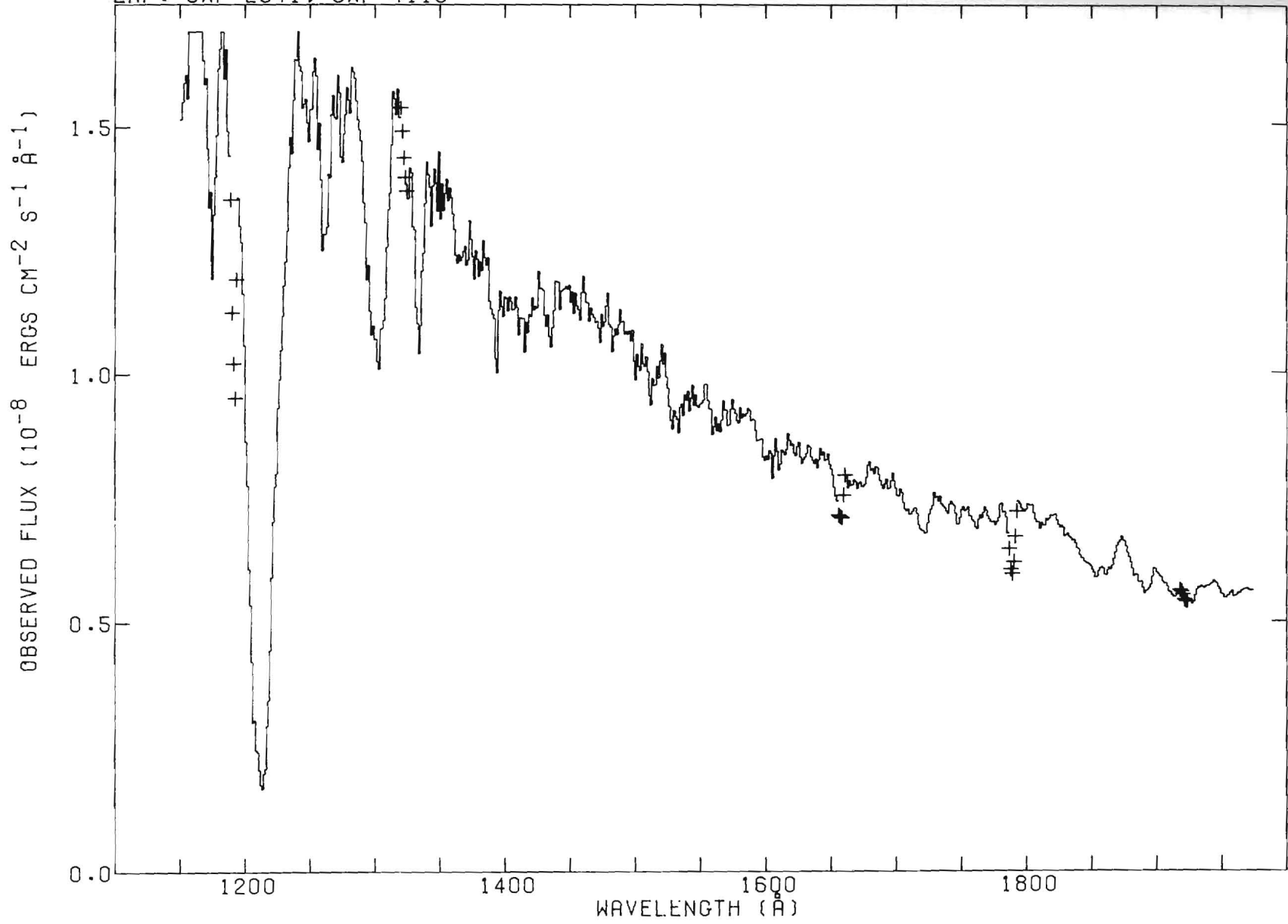
LAP: SWP 8197



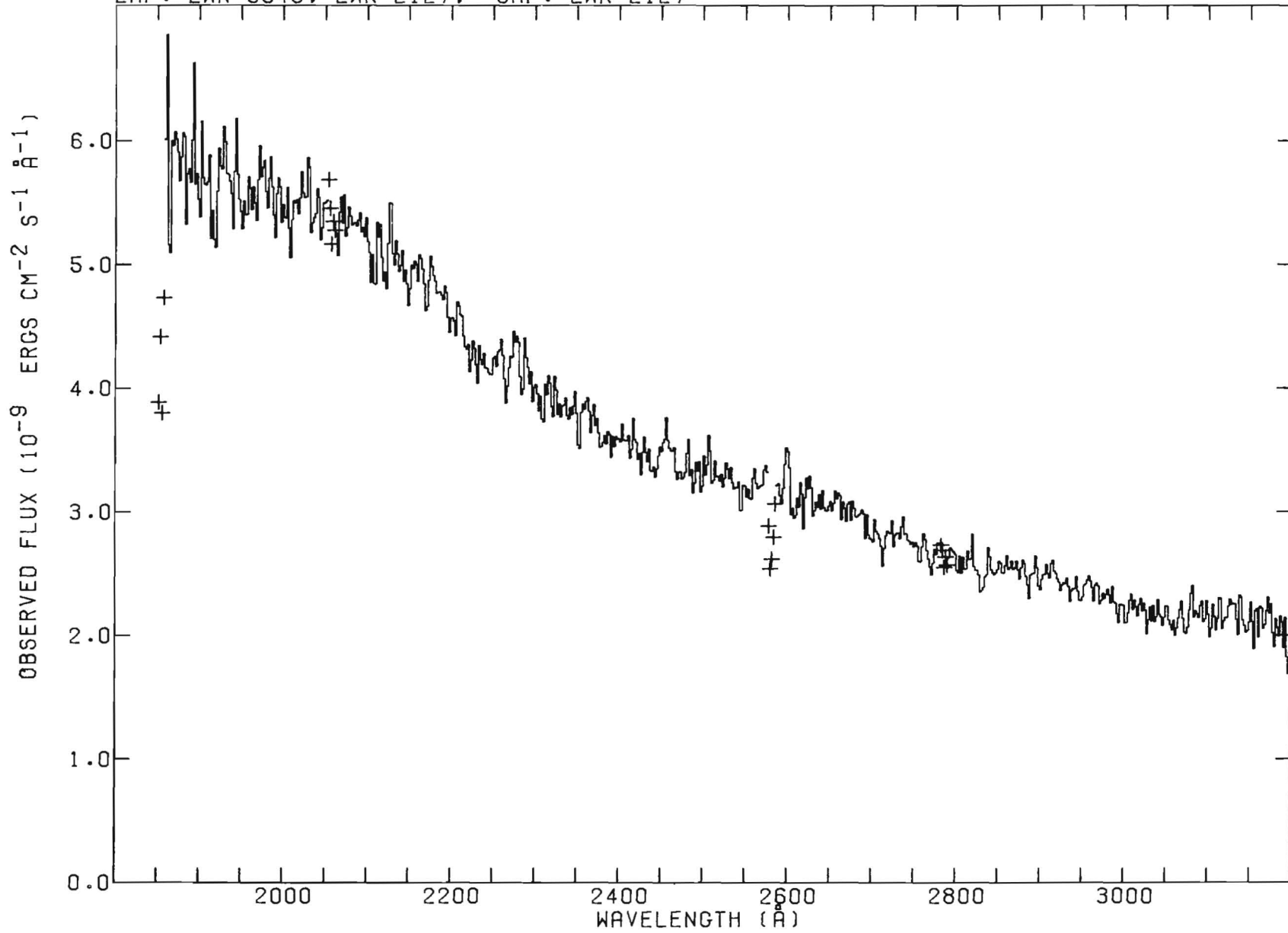
HD 32630 B3 V + V=3.17 (B-V)=-0.18 E(B-V)=0.02
LAP: LWR 7125, LWR 7126



HD 120315 B3 V V=1.86 (B-V)=-0.19 E(B-V)=0.01
LAP: SWP 2341, SWP 4110

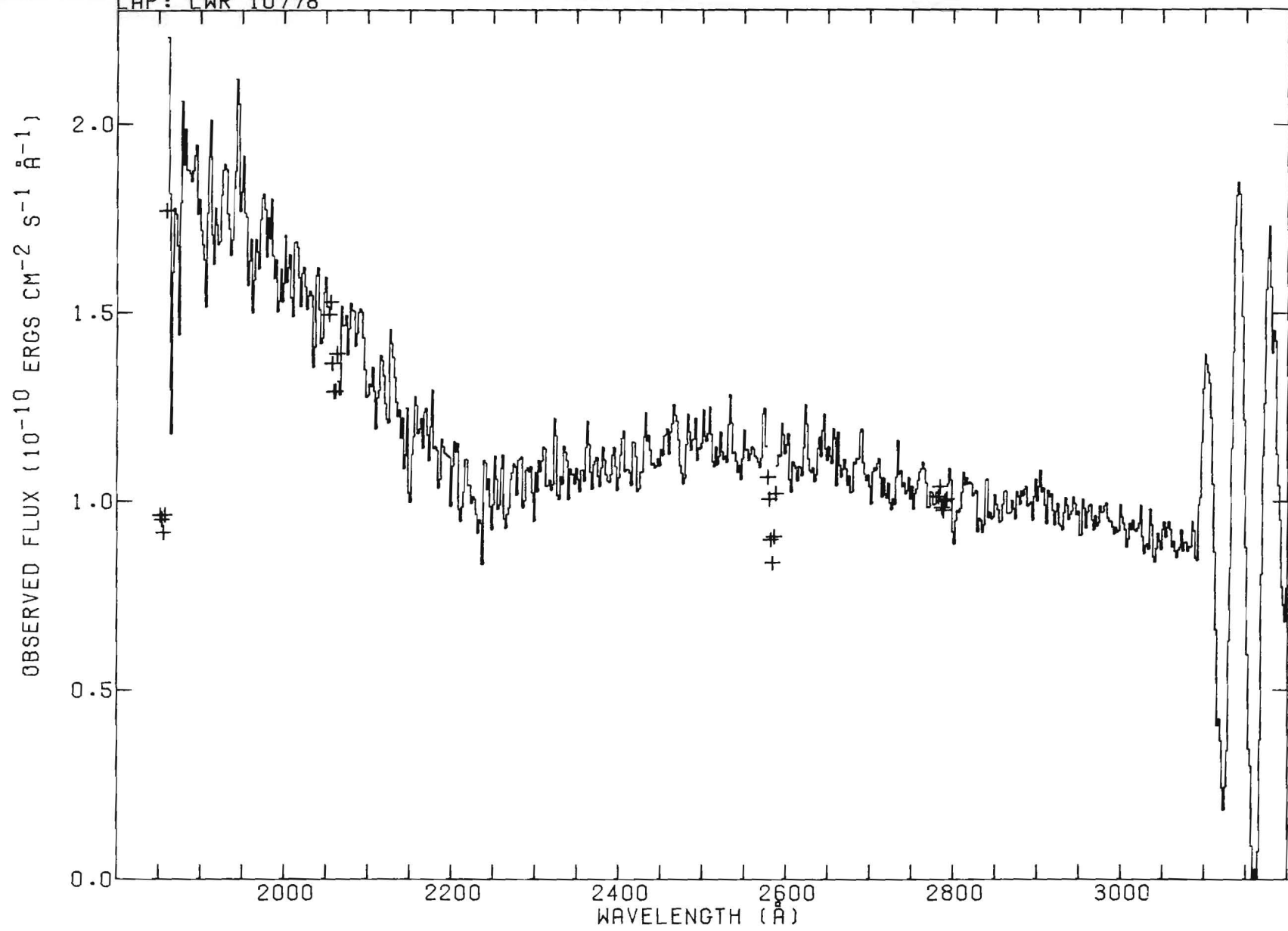


HD 120315 B3 V V=1.86 (B-V)=-0.19 E(B-V)=0.01
LAP: LWR 3640, LWR 2127; SAP: LWR 2127



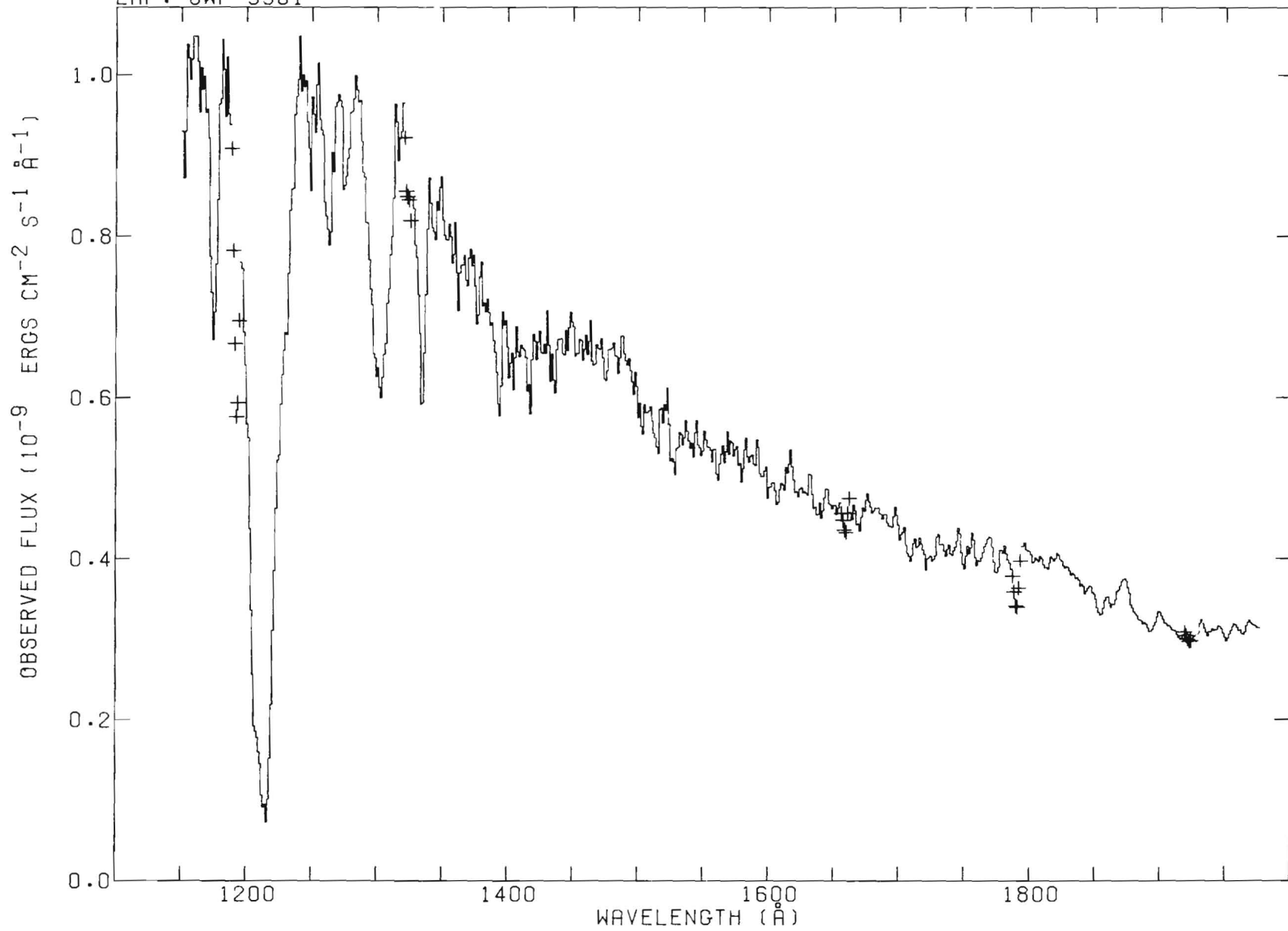
HD 142096 B3 V
LAP: LWR 10778

V=5.03 (B-V)=-0.01 E(B-V)=0.19



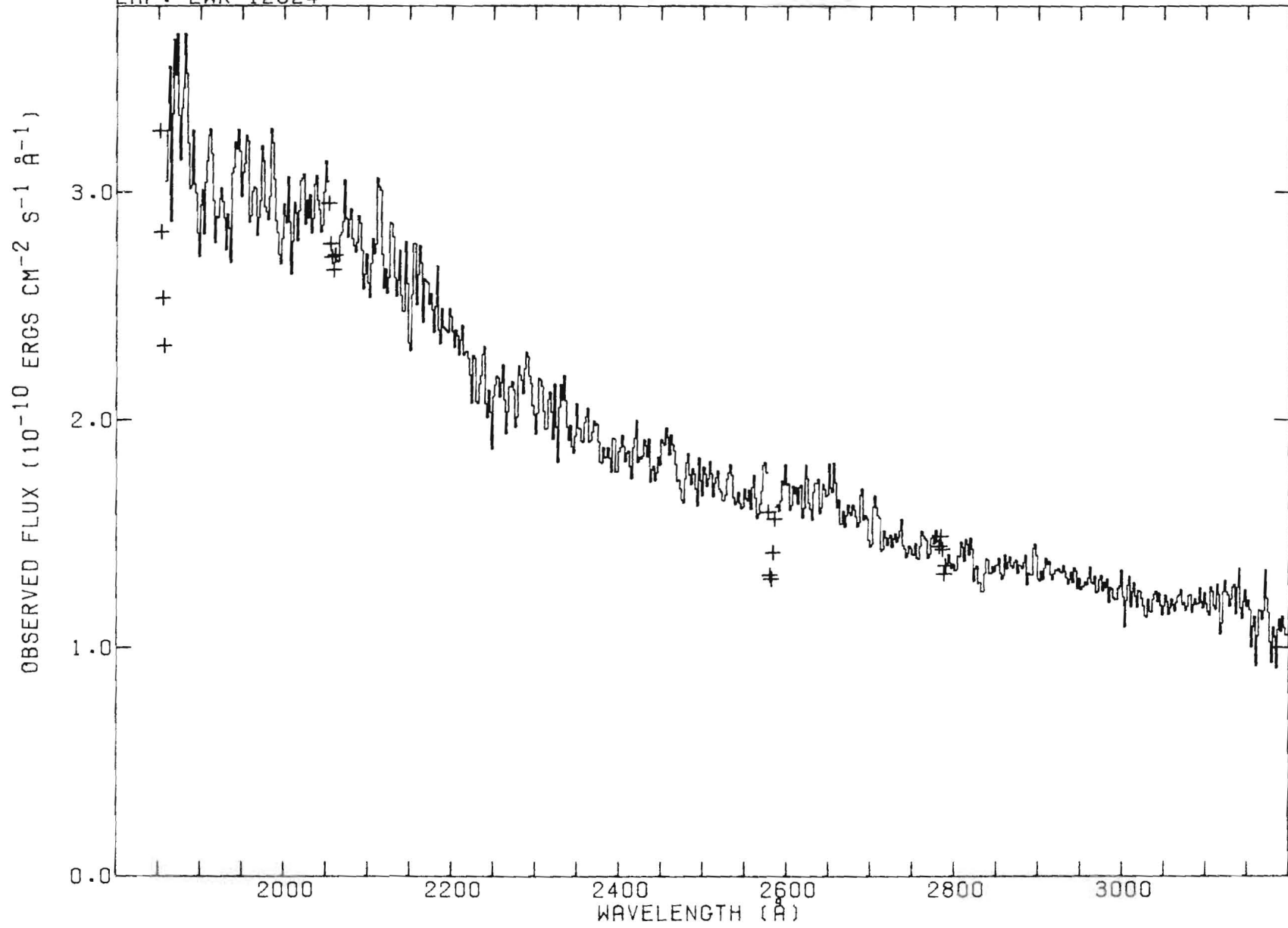
HD 190993 B3 V +
LAP: SWP 9961

V=5.07 (B-V)=-0.18 E(B-V)=0.02

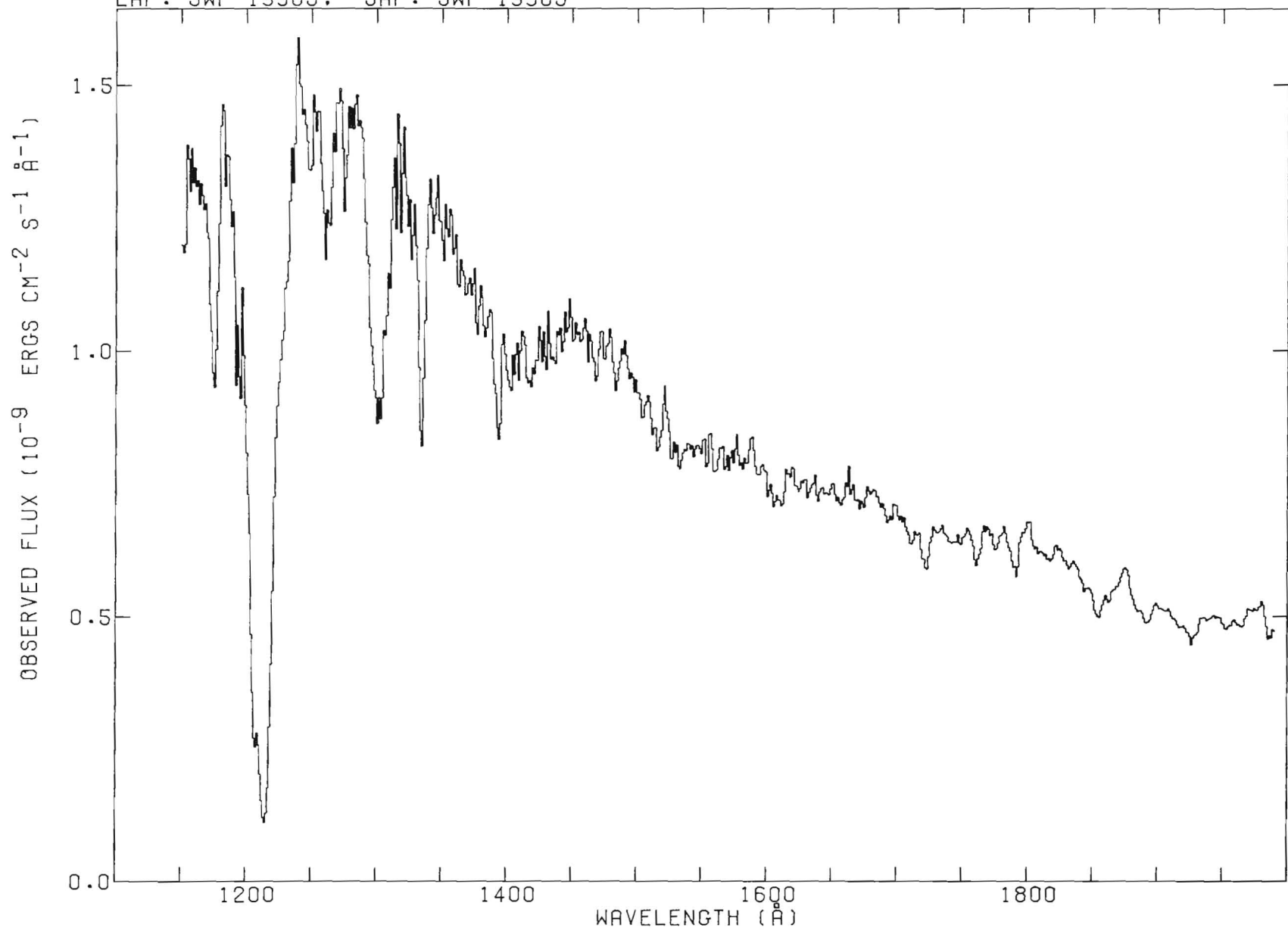


HD 190993 B3 V +
LAP: LWR 12024

V=5.07 (B-V)=-0.18 E(B-V)=0.02

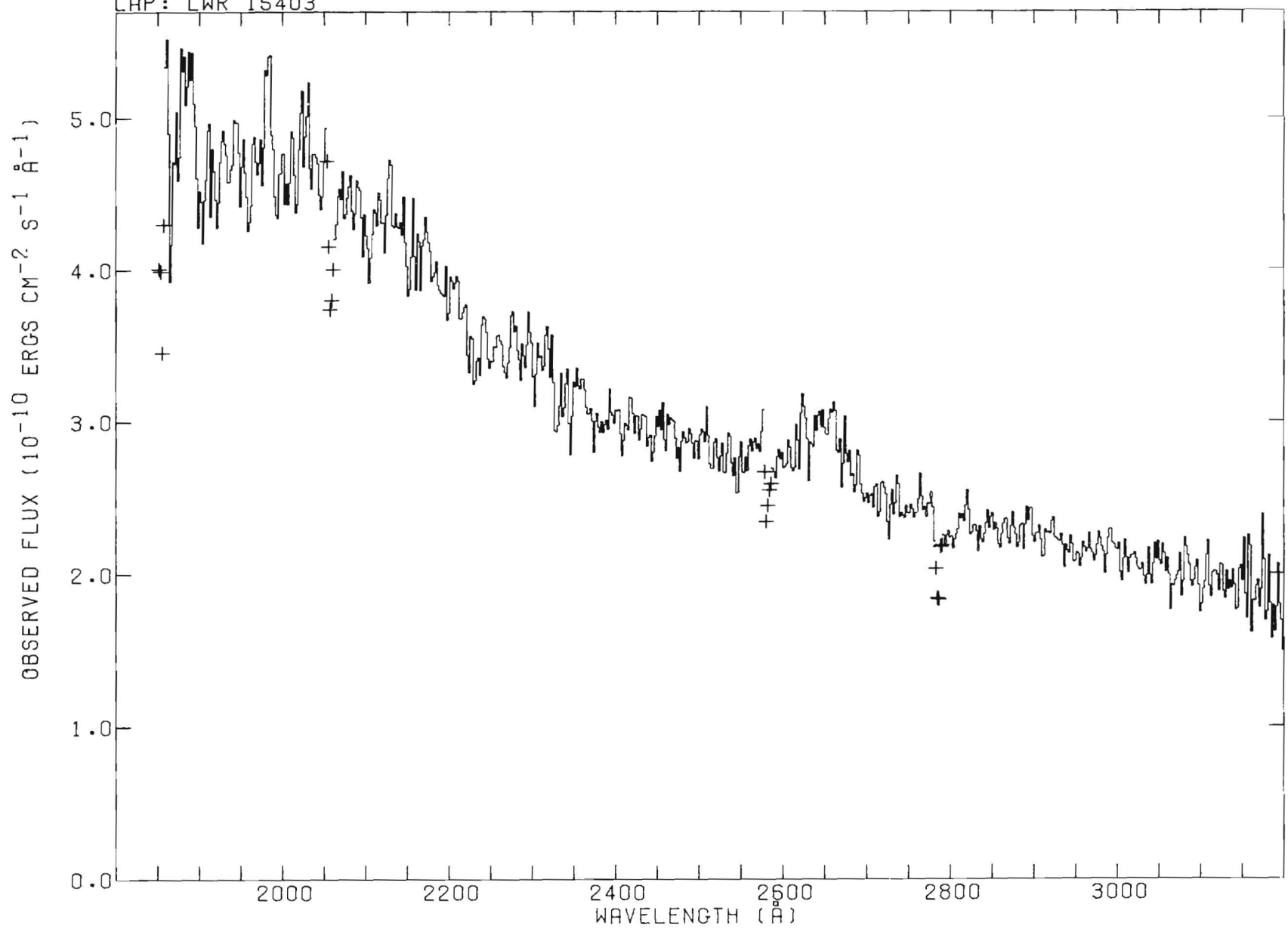


HD 42560 B3 IV V=4.48 (B-V)=-0.18 E(B-V)=0.02
LAP: SWP 19365: SAP: SWP 19365



HD 42560 B3 IV
LAP: LWR 15403

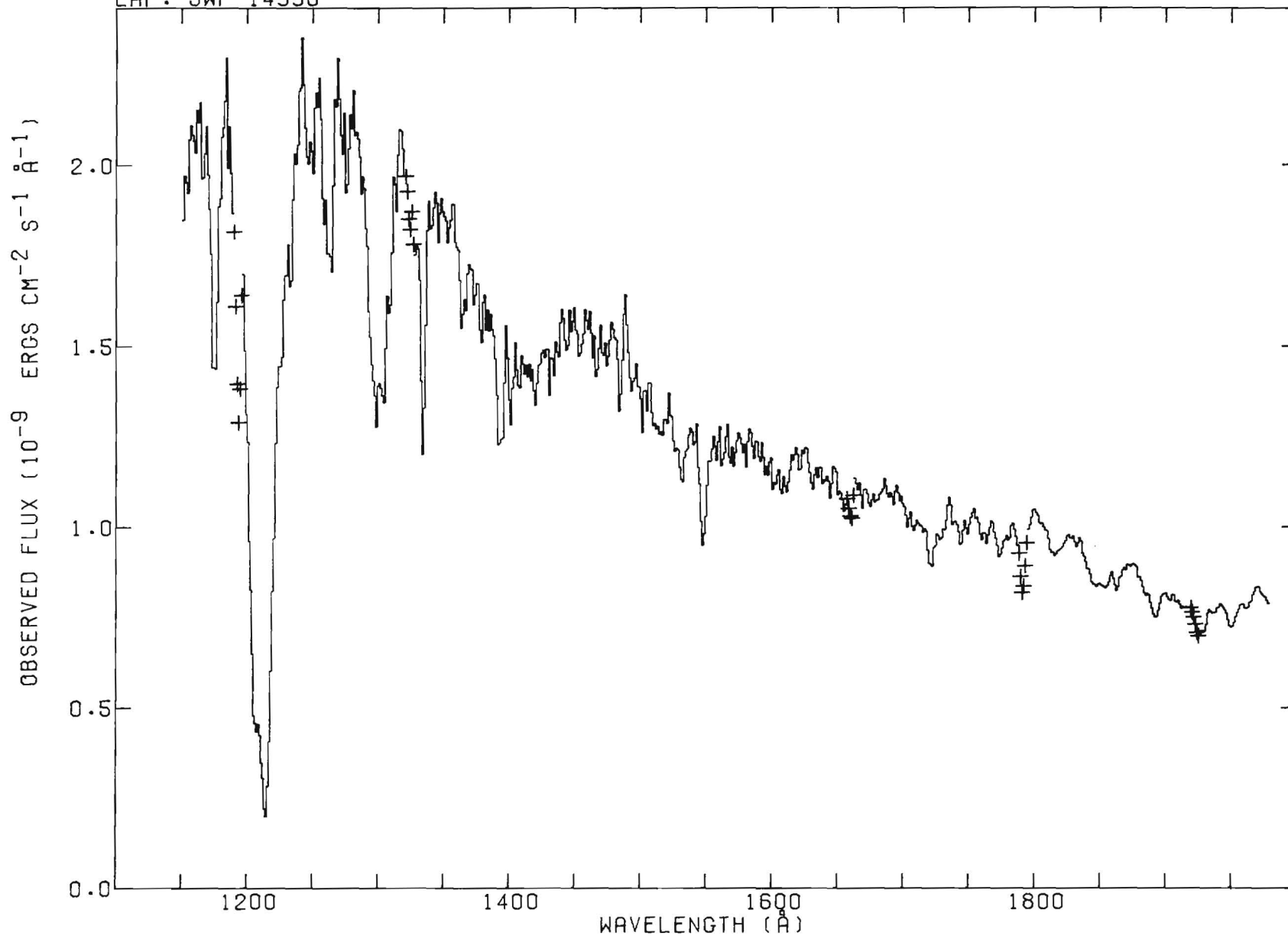
V=4.48 (B-V)=-0.18 E(B-V)=0.02



HD 79447
LAP: SWP 14338

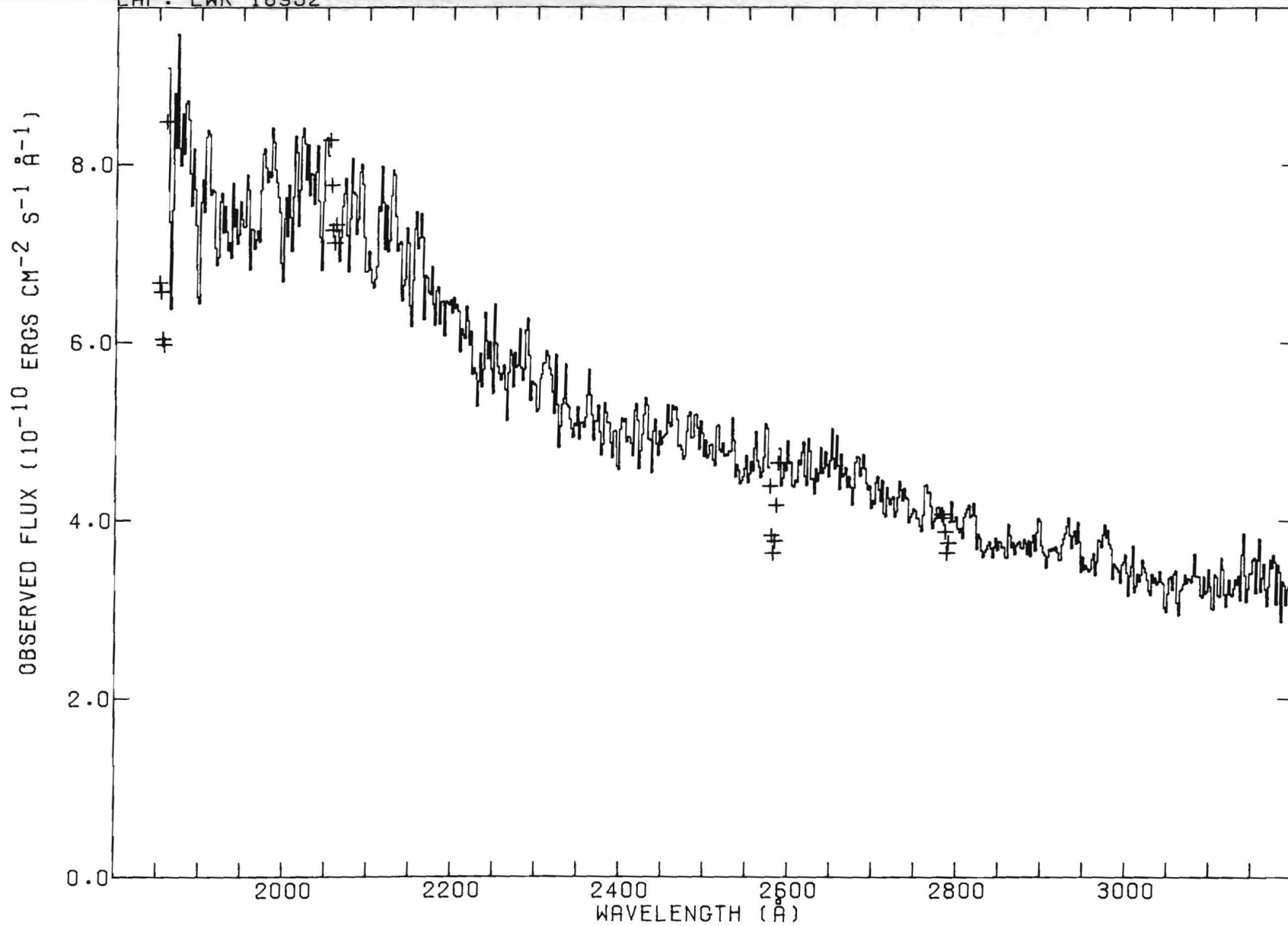
B3 III

V=3.97 (B-V)=-0.18 E(B-V)=0.02



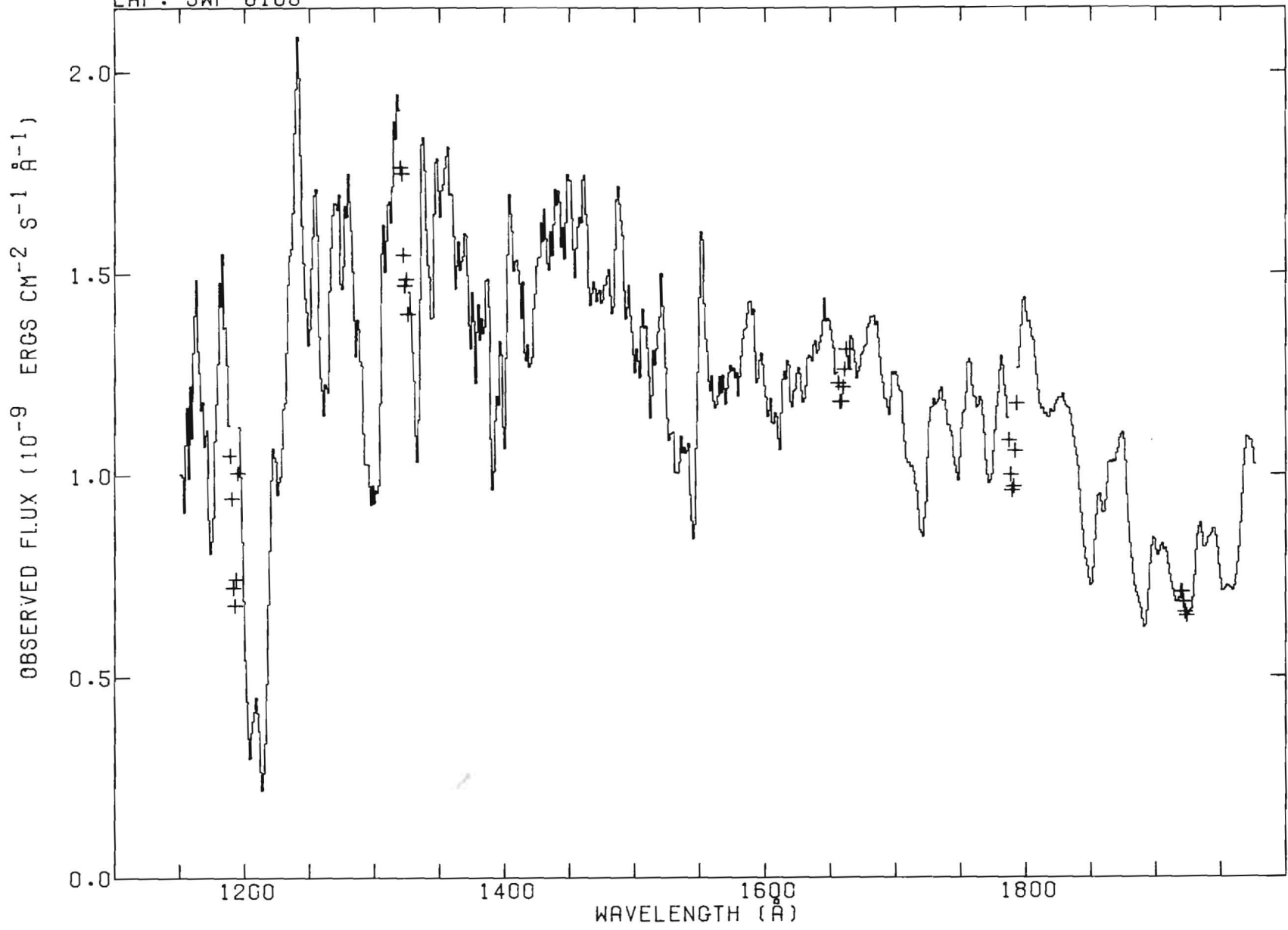
HD 79447 B3 III
LAP: LWR 10952

V=3.97 (B-V)=-0.18 E(B-V)=0.02

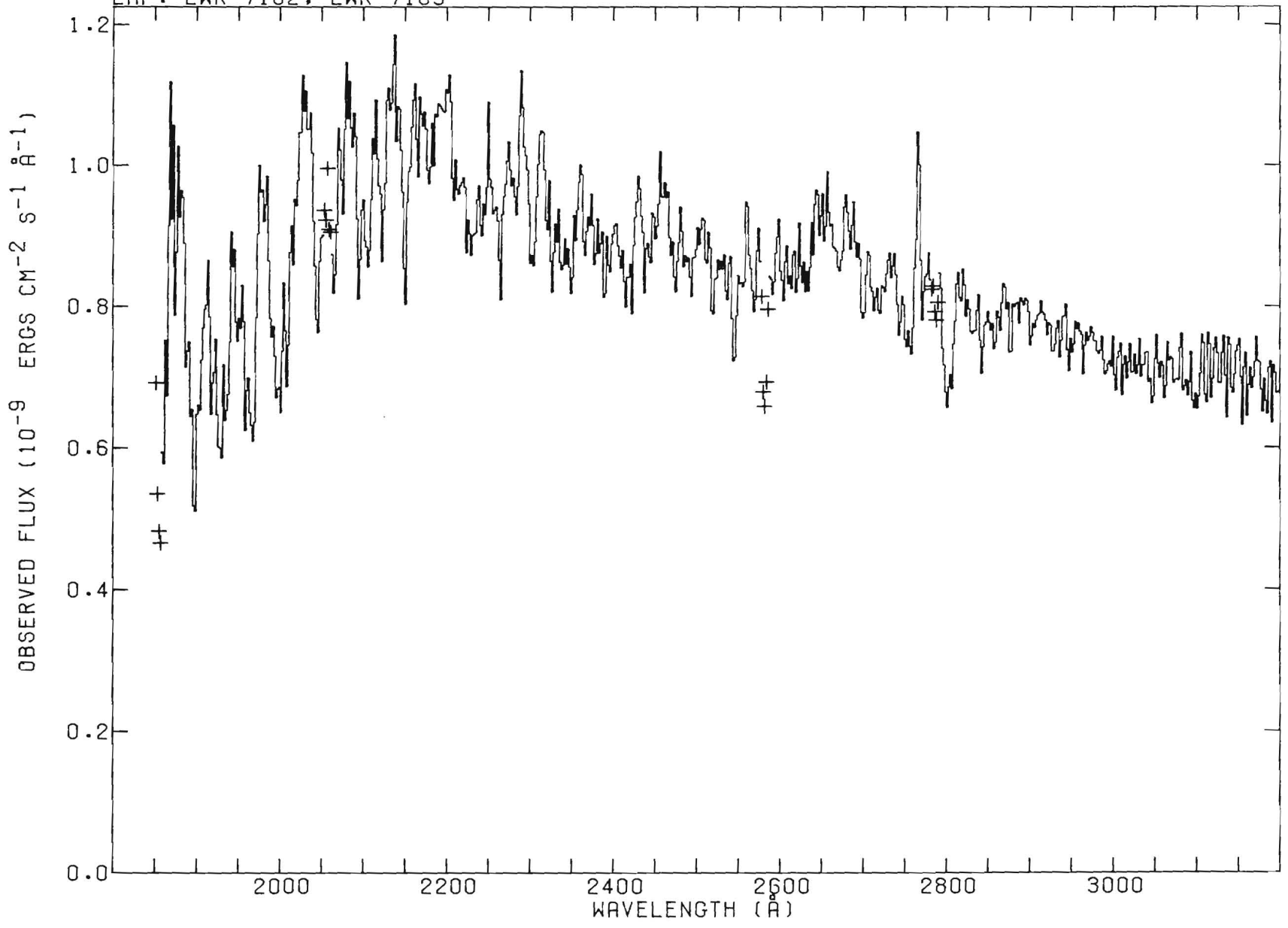


HD 53138 B3 IA +
LAP: SWP 8168

V=3.04 (B-V)=-0.08 E(B-V)=0.05



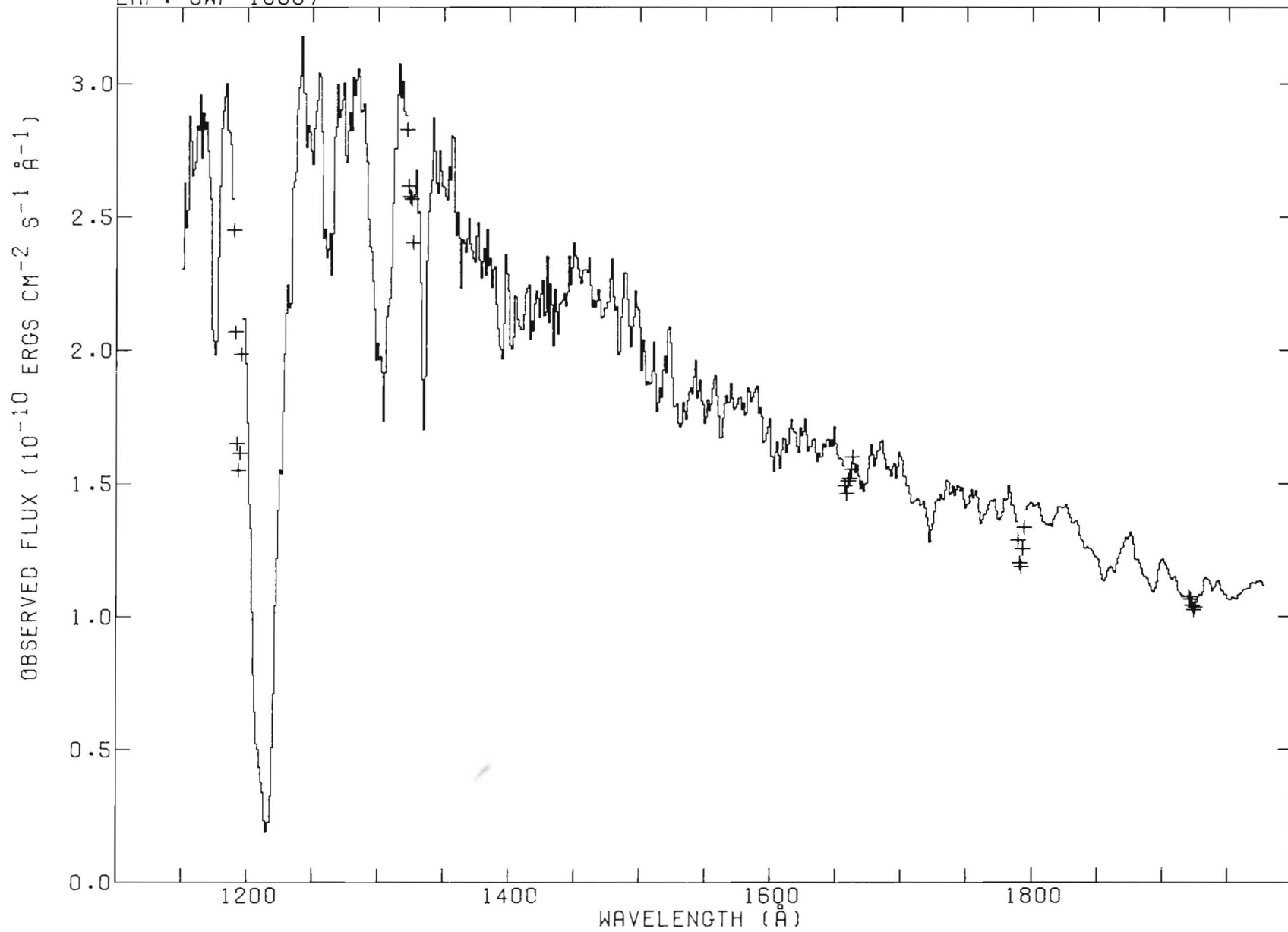
HD 53138 B3 IA + V=3.04 (B-V)=-0.08 E(B-V)=0.05
LAP: LWR 7102, LWR 7103



HD 65904
LAP: SWP 15557

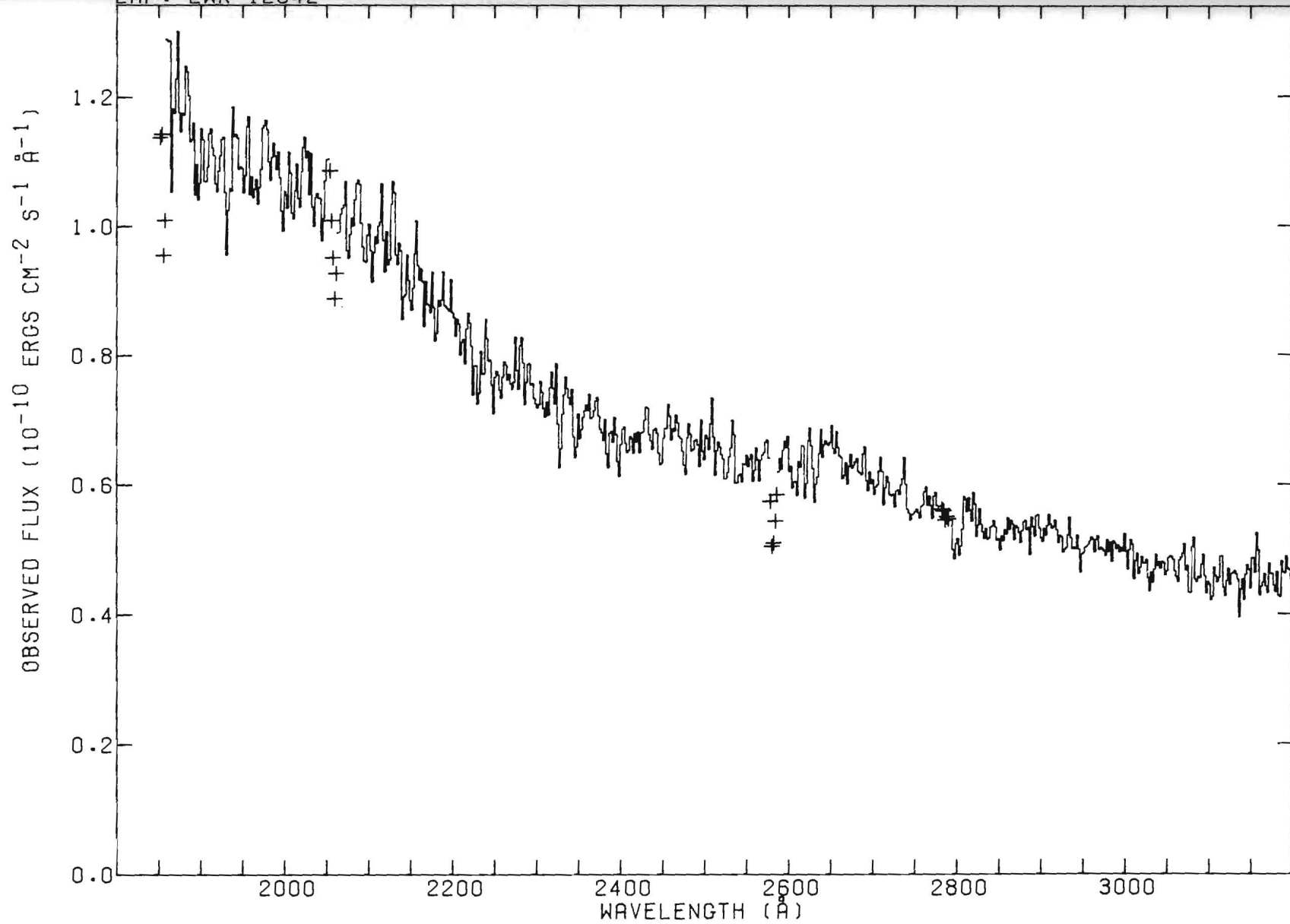
B4 V †

V=5.99 (B-V)=-0.14 E(B-V)=0.04



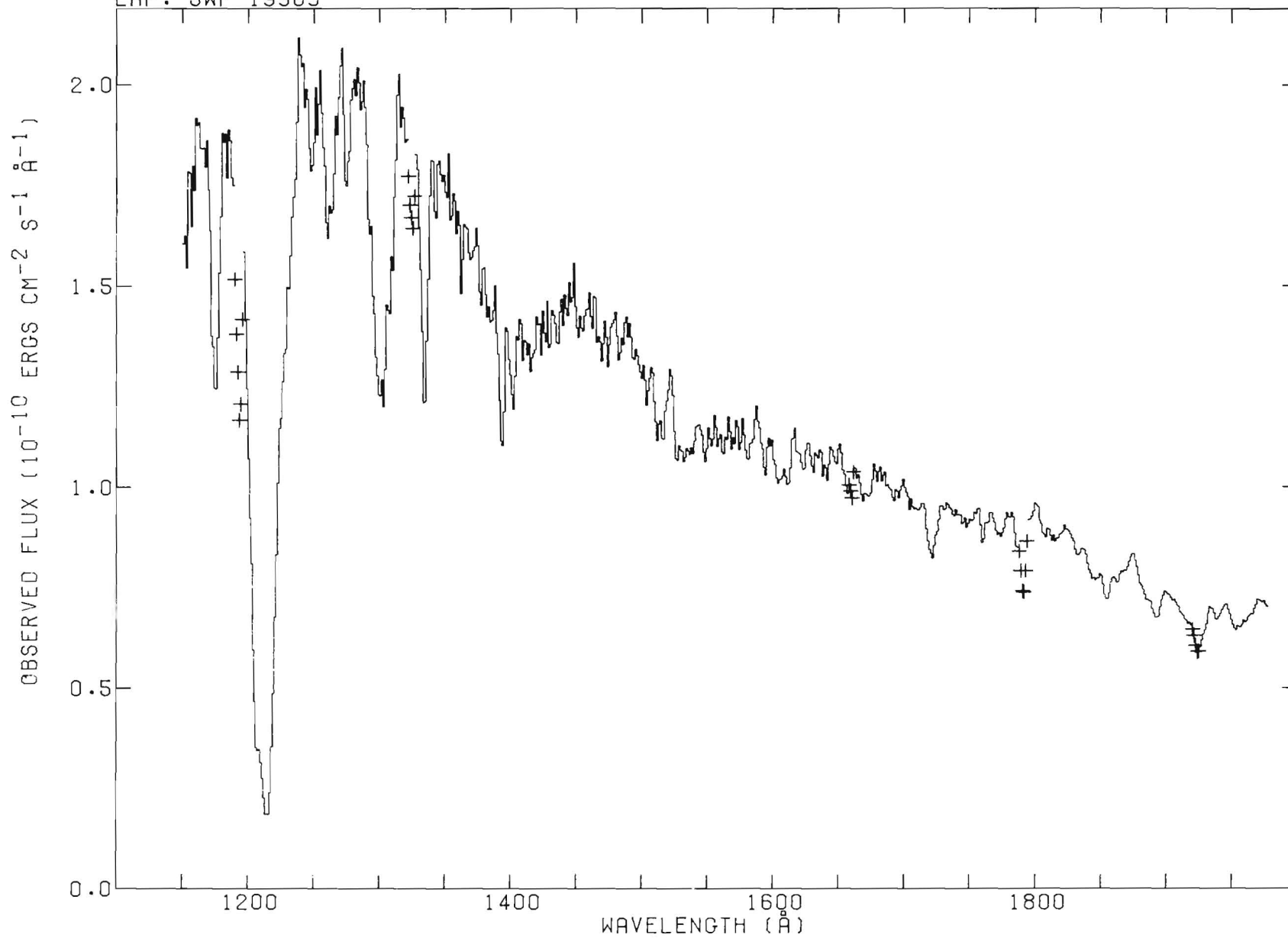
HD 65904 B4 V +
LAP: LWR 12042

V=5.99 (B-V)=-0.14 E(B-V)=0.04



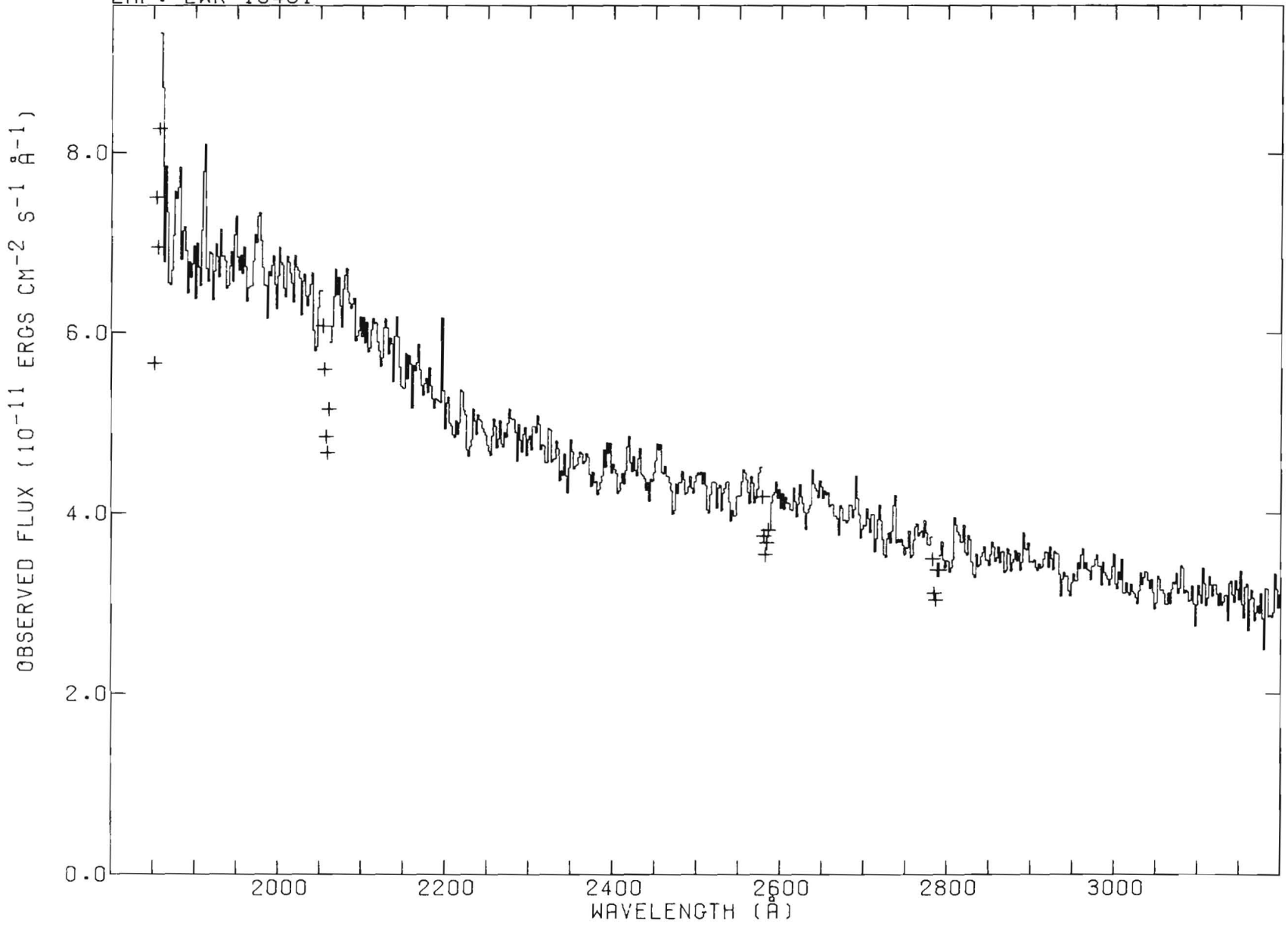
HD 202654 B4 IV
LAP: SWP 19363

V=6.46 (B-V)=-0.15 E(B-V)=0.03

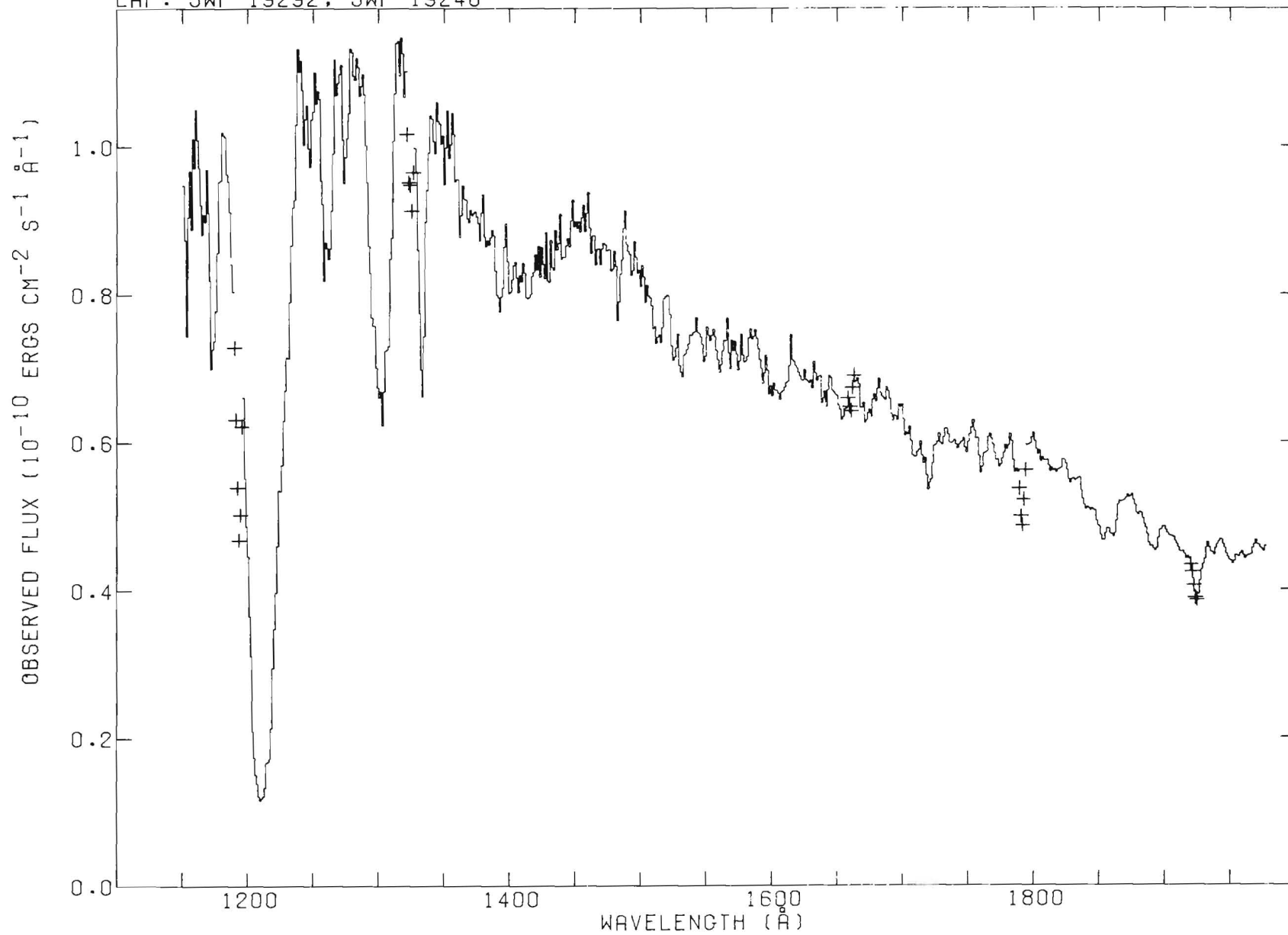


HD 202654 B4 IV
LAP: LWR 15401

V=6.46 (B-V)=-0.15 E(B-V)=0.03

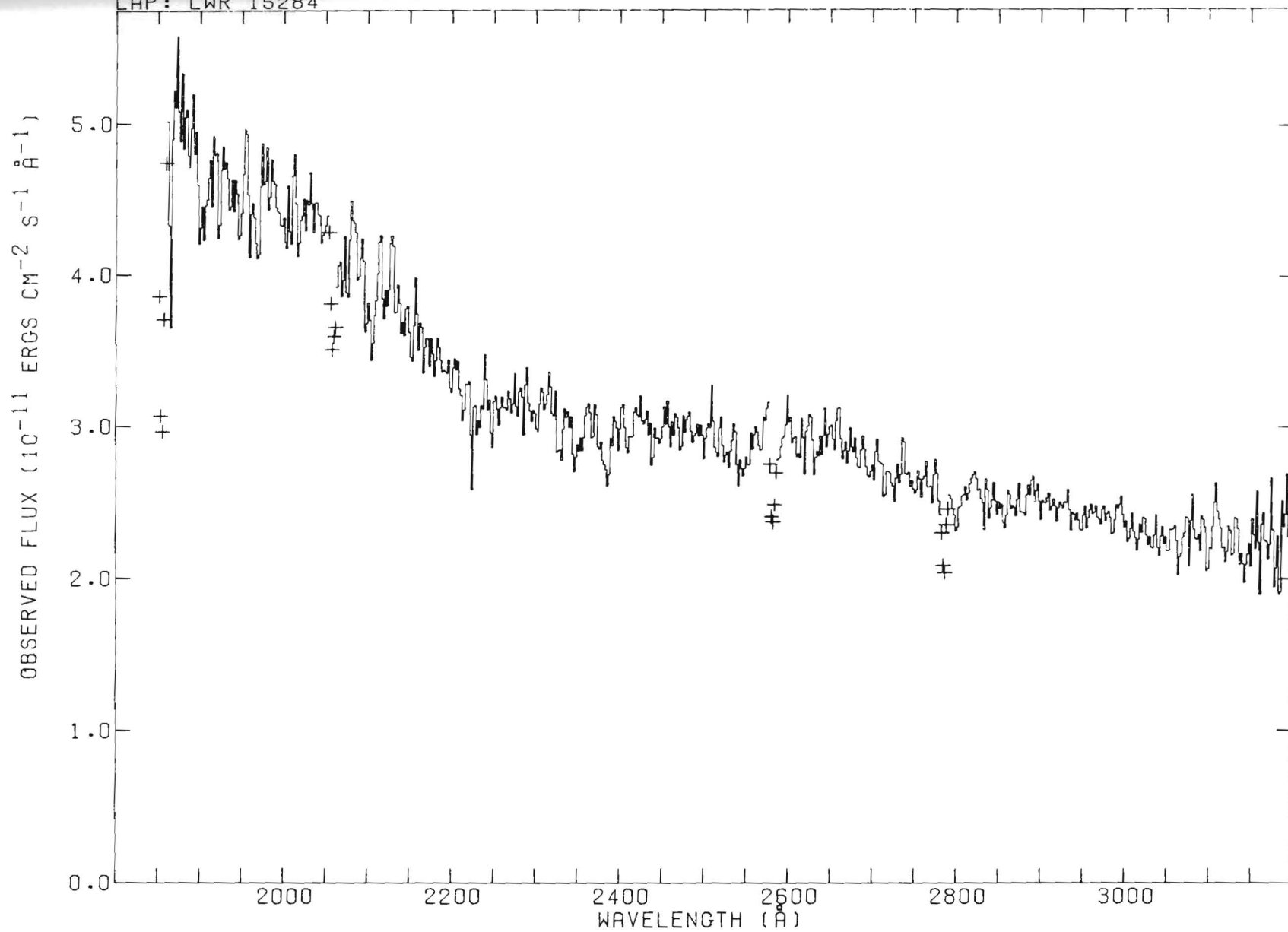


HD 195986 B4 III V=6.60 (B-V)=-0.11 E(B-V)=0.07
LAP: SWP 19292, SWP 19248



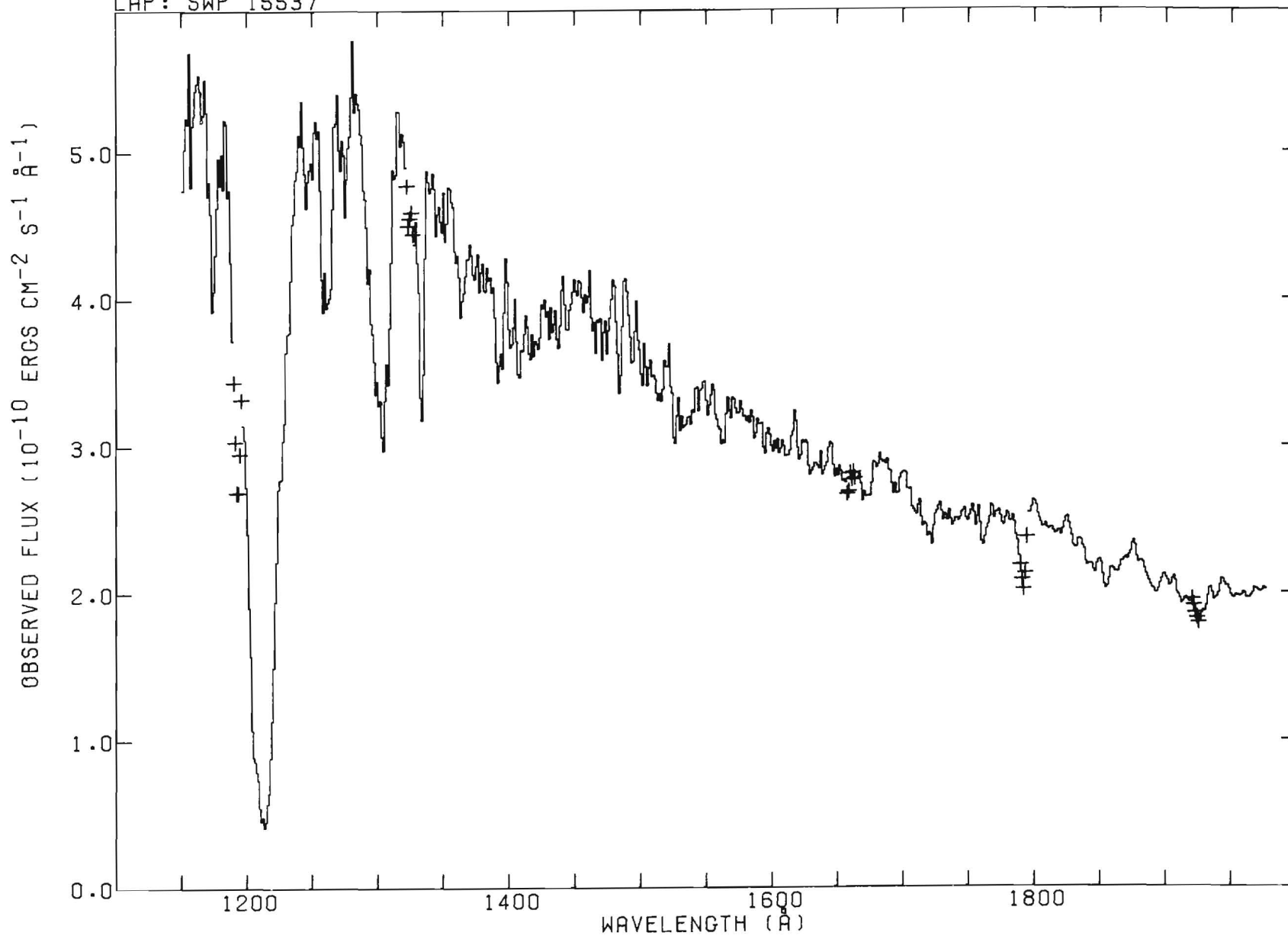
HD 195986 B4 III
LAP: LWR 15284

V=6.60 (B-V)=-0.11 E(B-V)=0.07

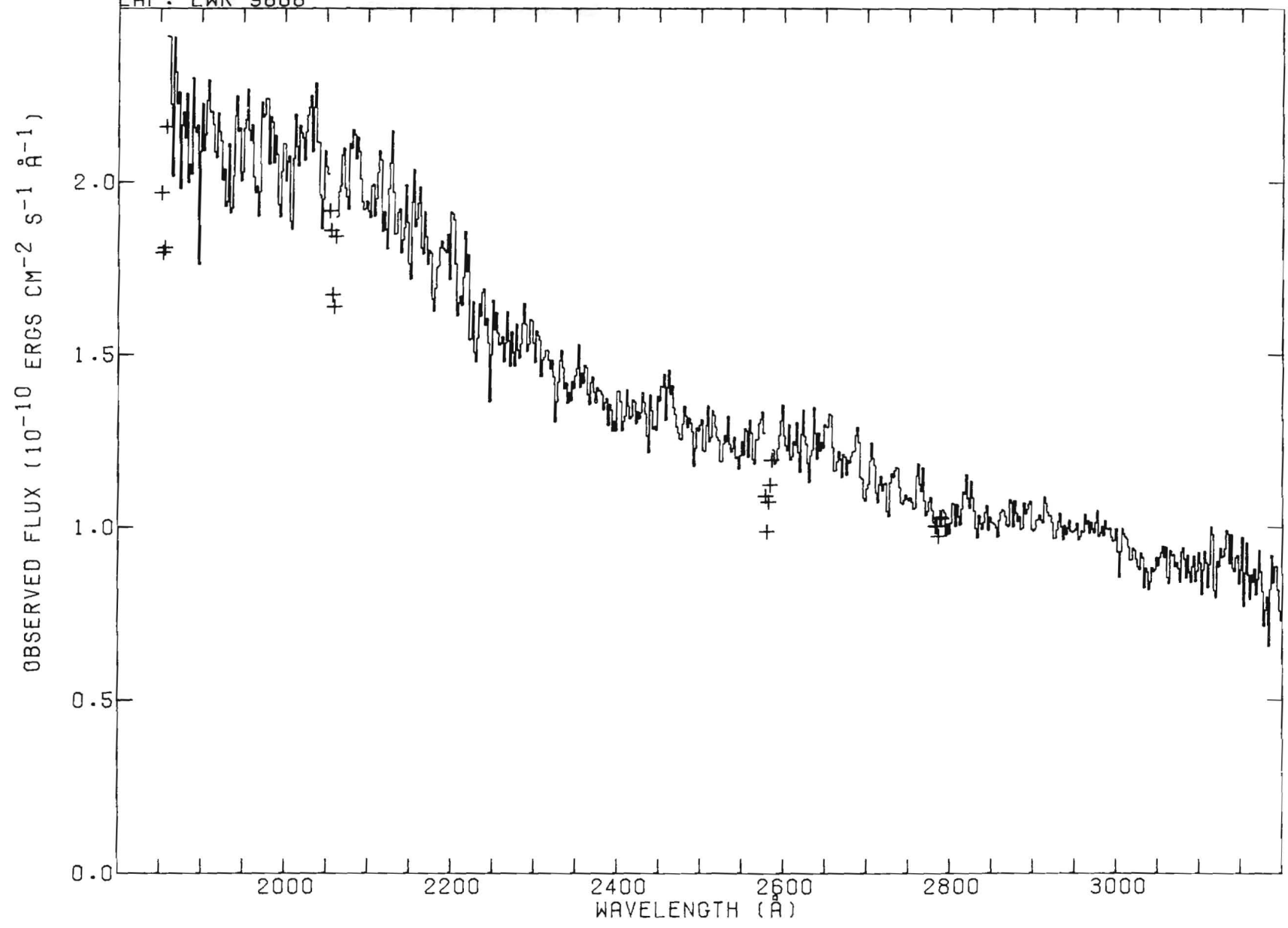


HD 34759 B5 V +
LAP: SWP 15537

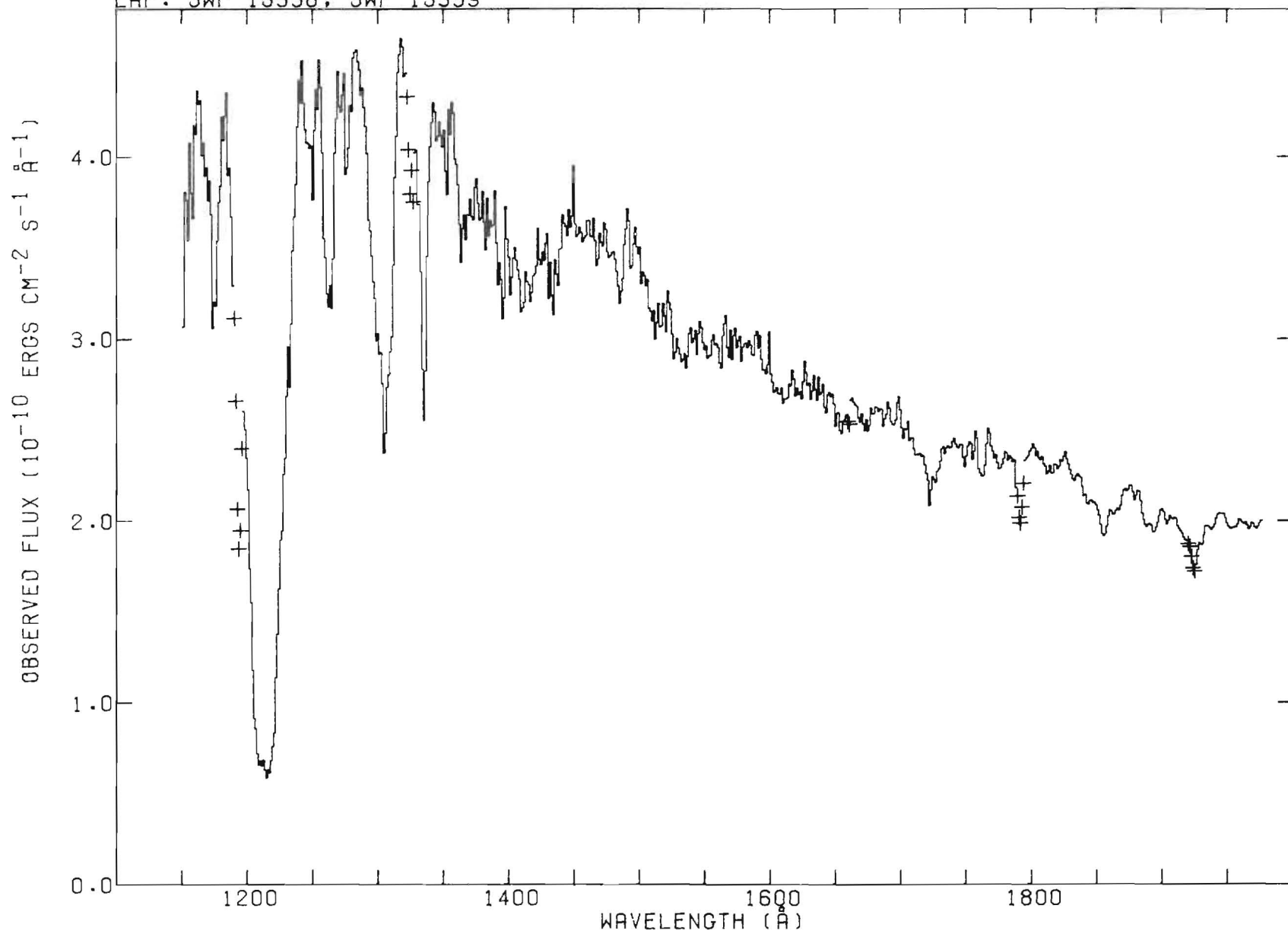
V=5.23 (B-V)=-0.15 E(B-V)=0.01



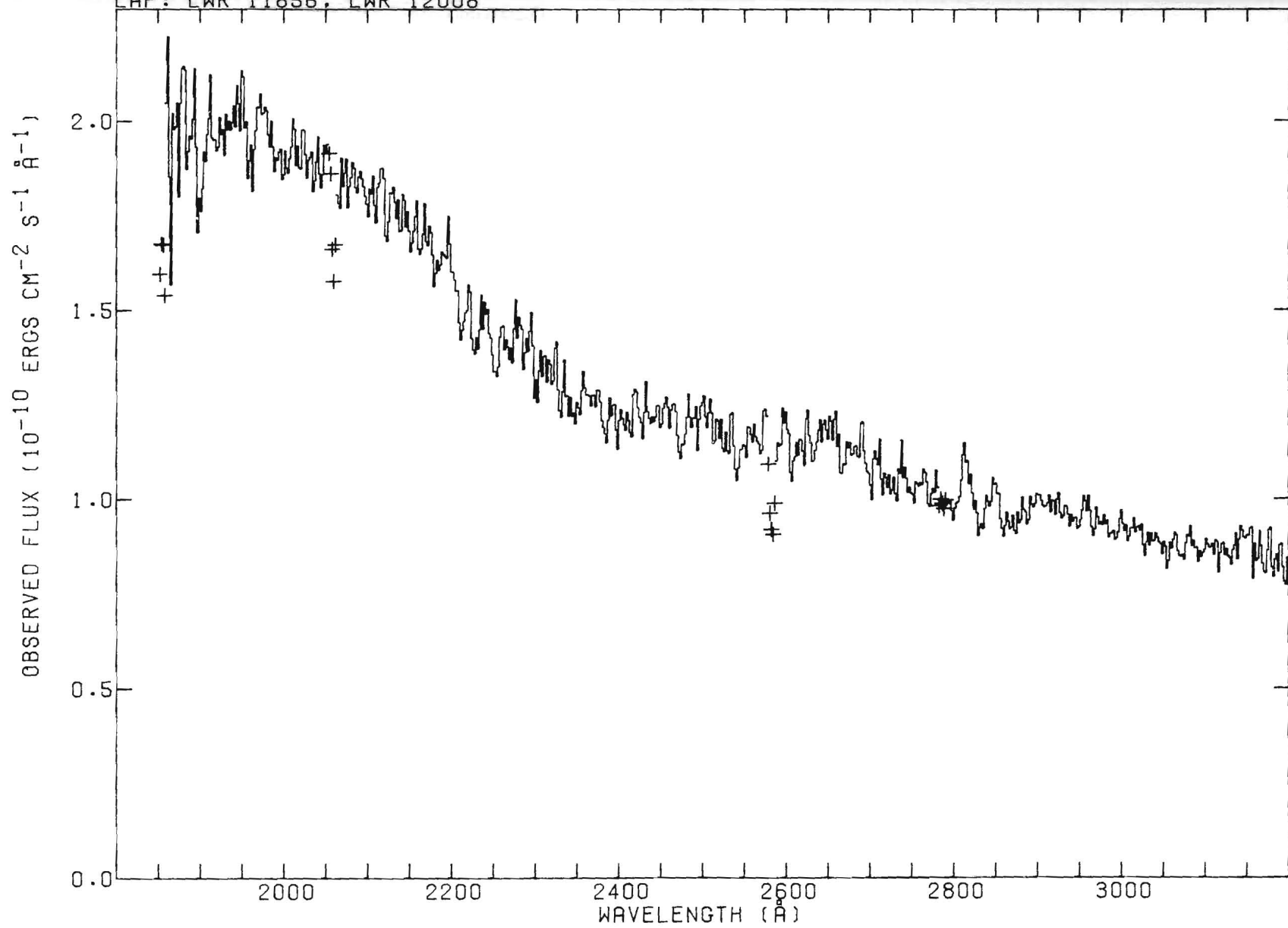
HD 34759 B5 V + V=5.23 (B-V)=-0.15 E(B-V)=0.01
AP: LWR 9868



HD 188665 B5 V + V=5.14 (B-V)=-0.13 E(B-V)=0.03
LAP: SWP 15338, SWP 15339

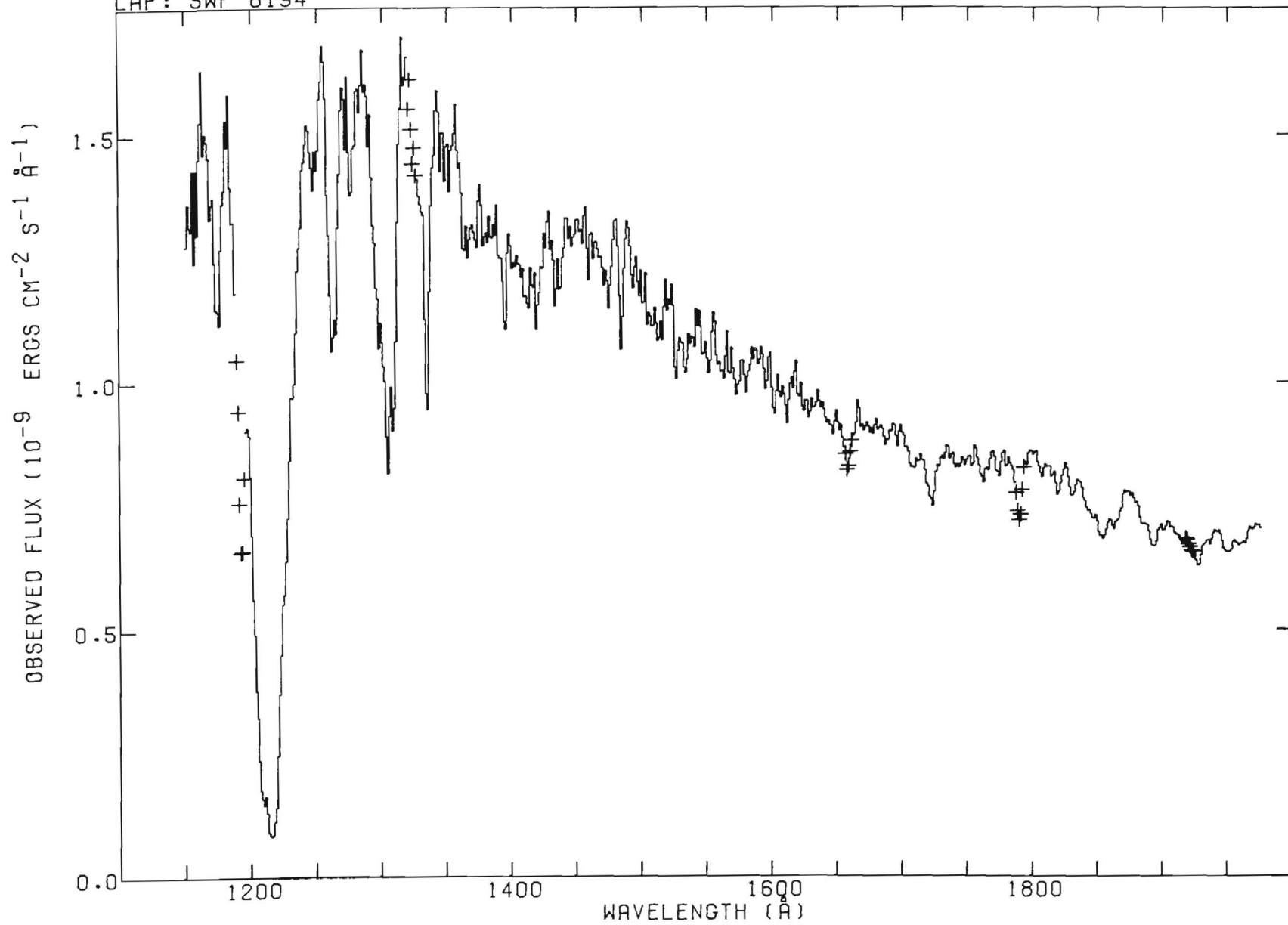


HD 188665 B5 V † V=5.14 (B-V)=-0.13 E(B-V)=0.03
LAP: LWR 11856, LWR 12008

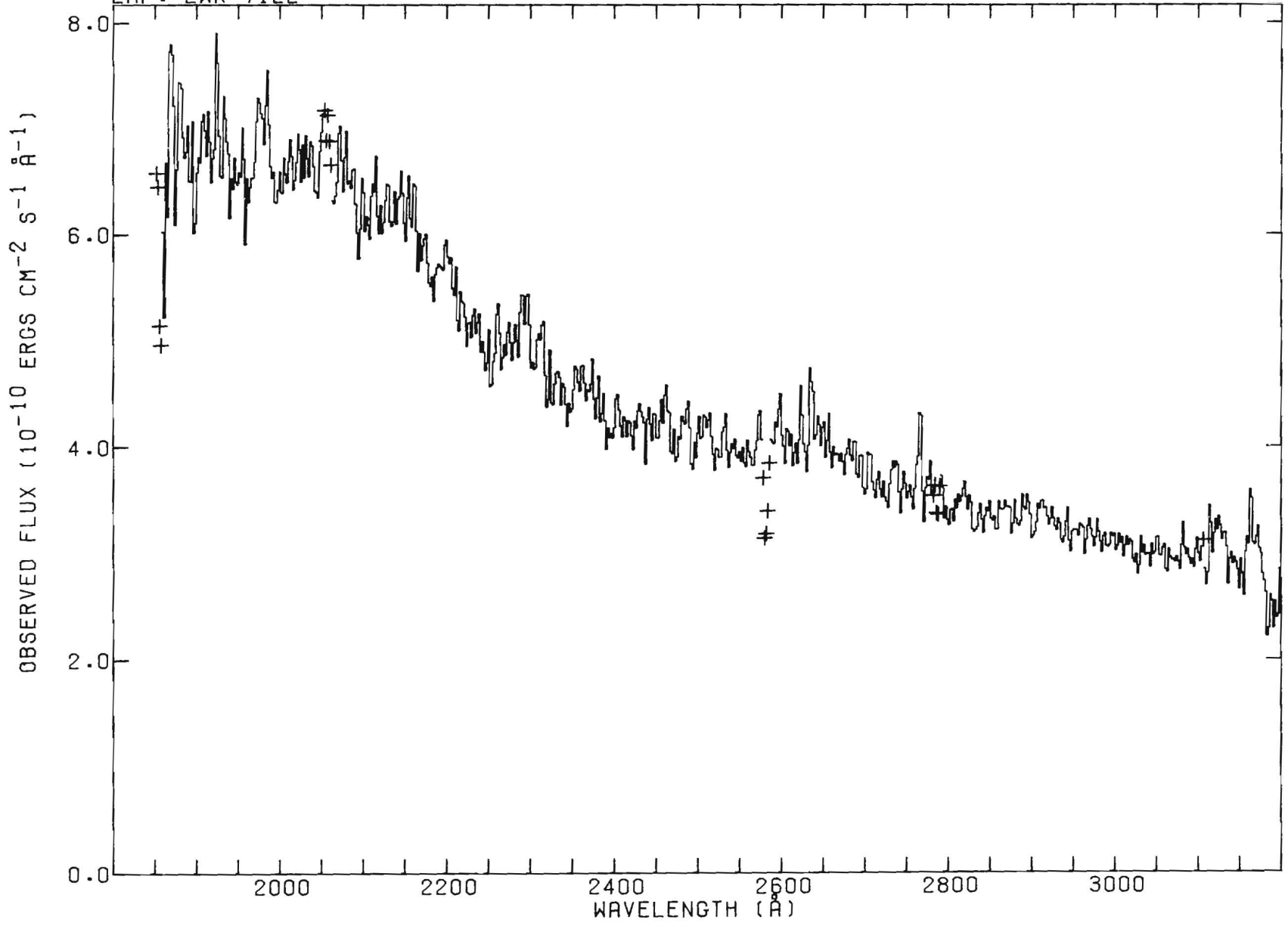


HD 147394 B5 IV +
LAP: SWP 8194

V=3.89 (B-V)=-0.15 E(B-V)=0.01

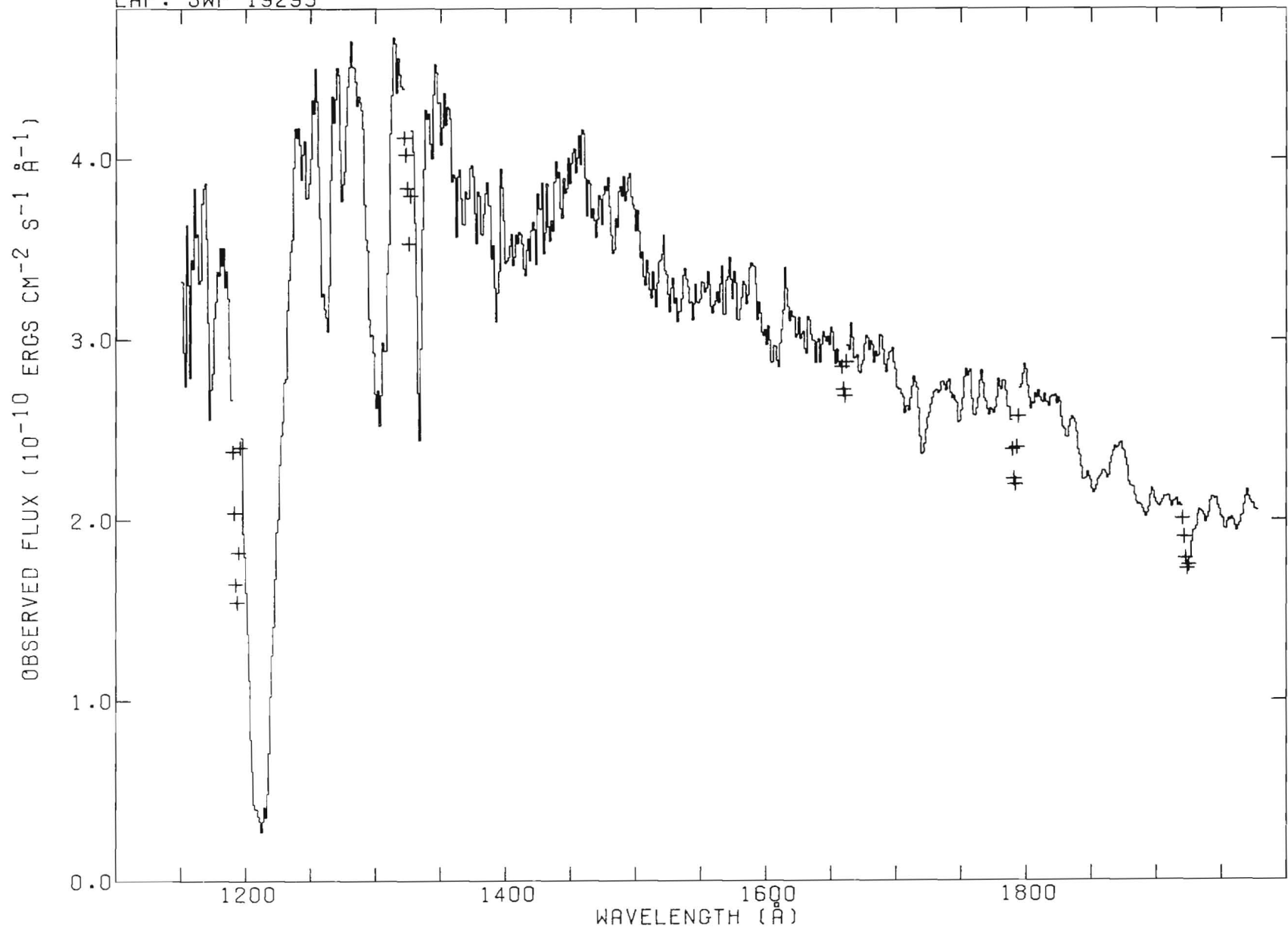


HD 147394 B5 IV + V=3.89 (B-V)=-0.15 E(B-V)=0.01
LAP: LWR 7122



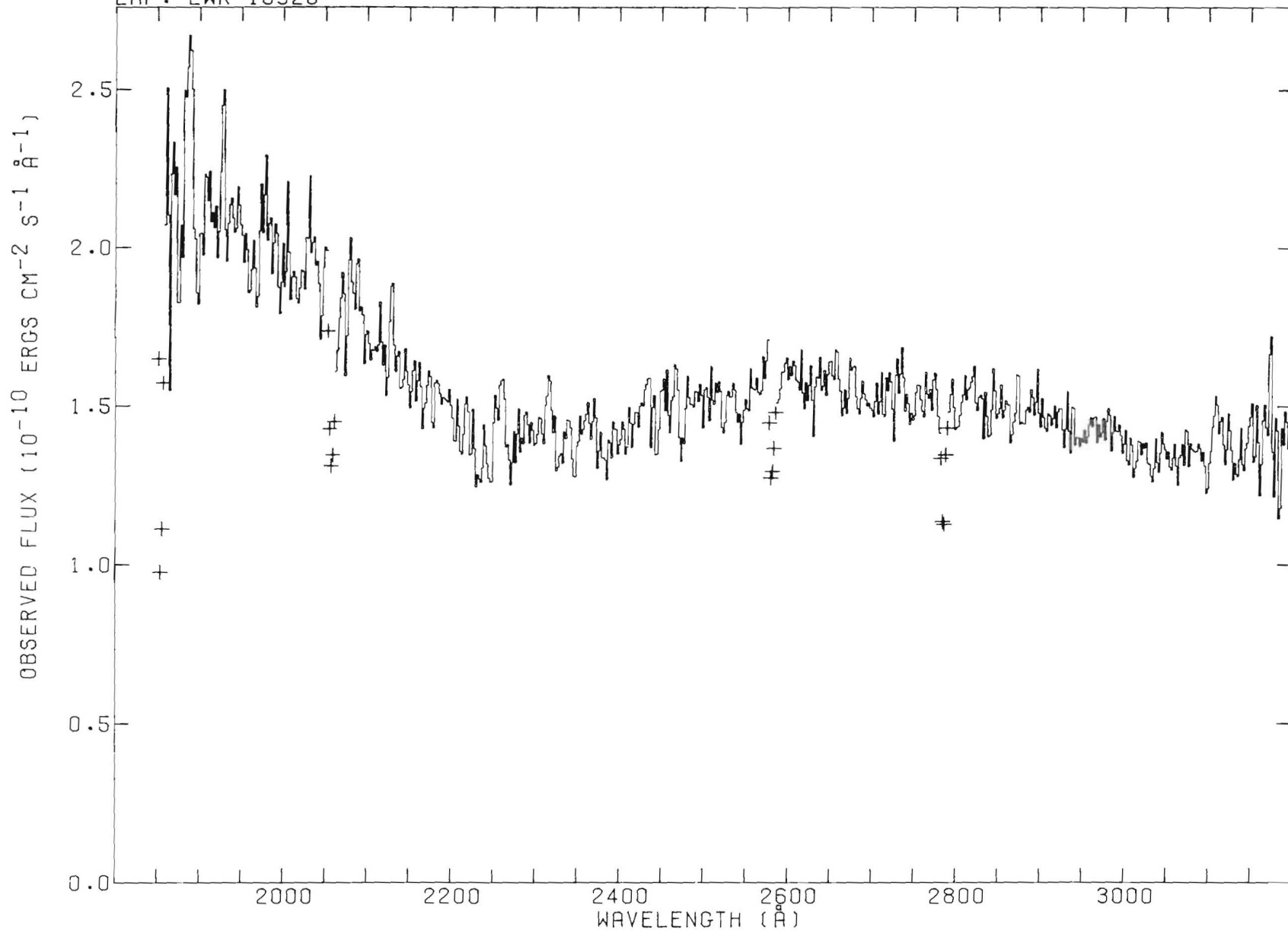
HD 4180 B5 III
LAP: SWP 19293

V=4.54 (B-V)=-0.07 E(B-V)=0.09



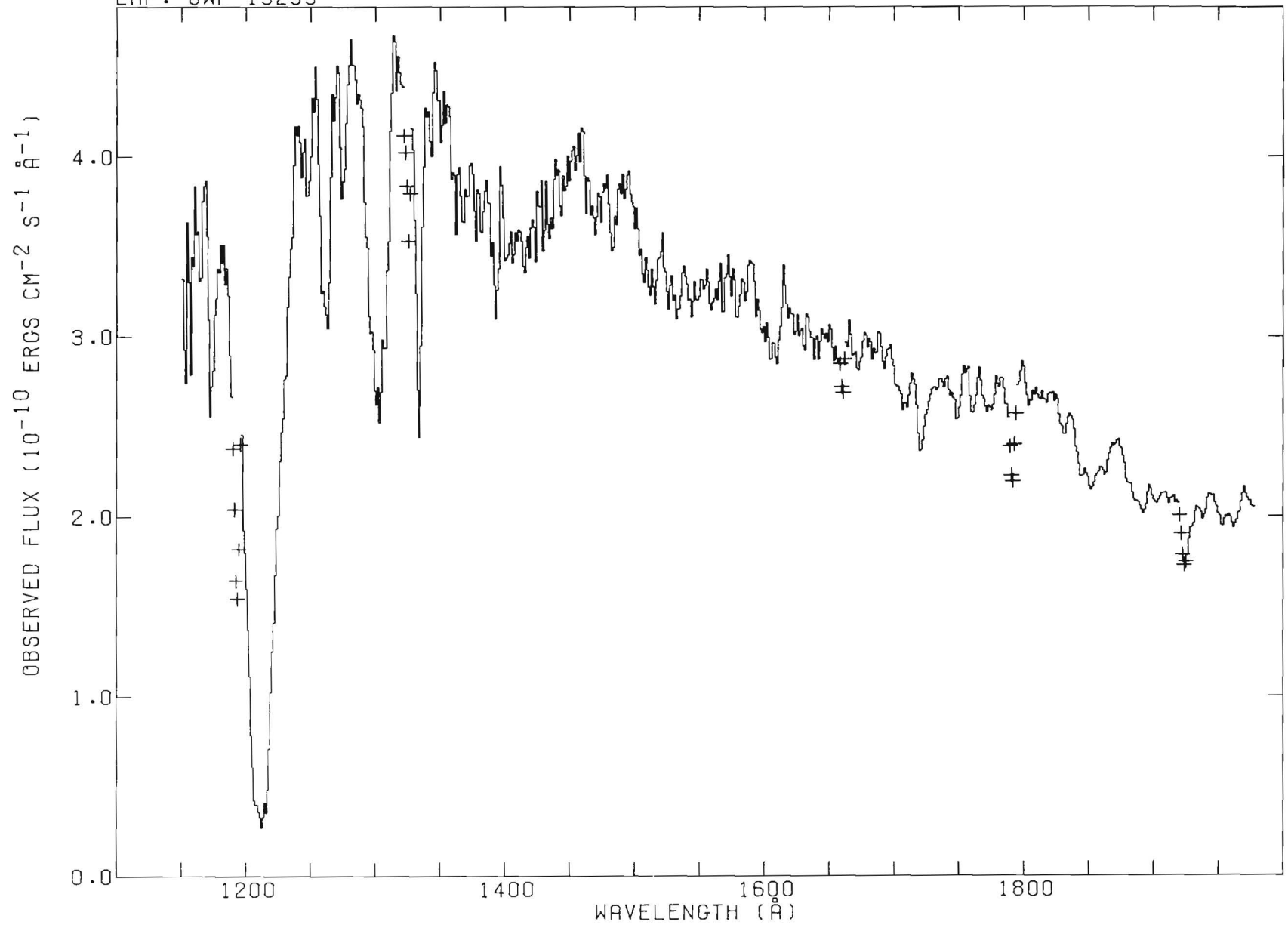
HD 4180 B5 III
LAP: LWR 15326

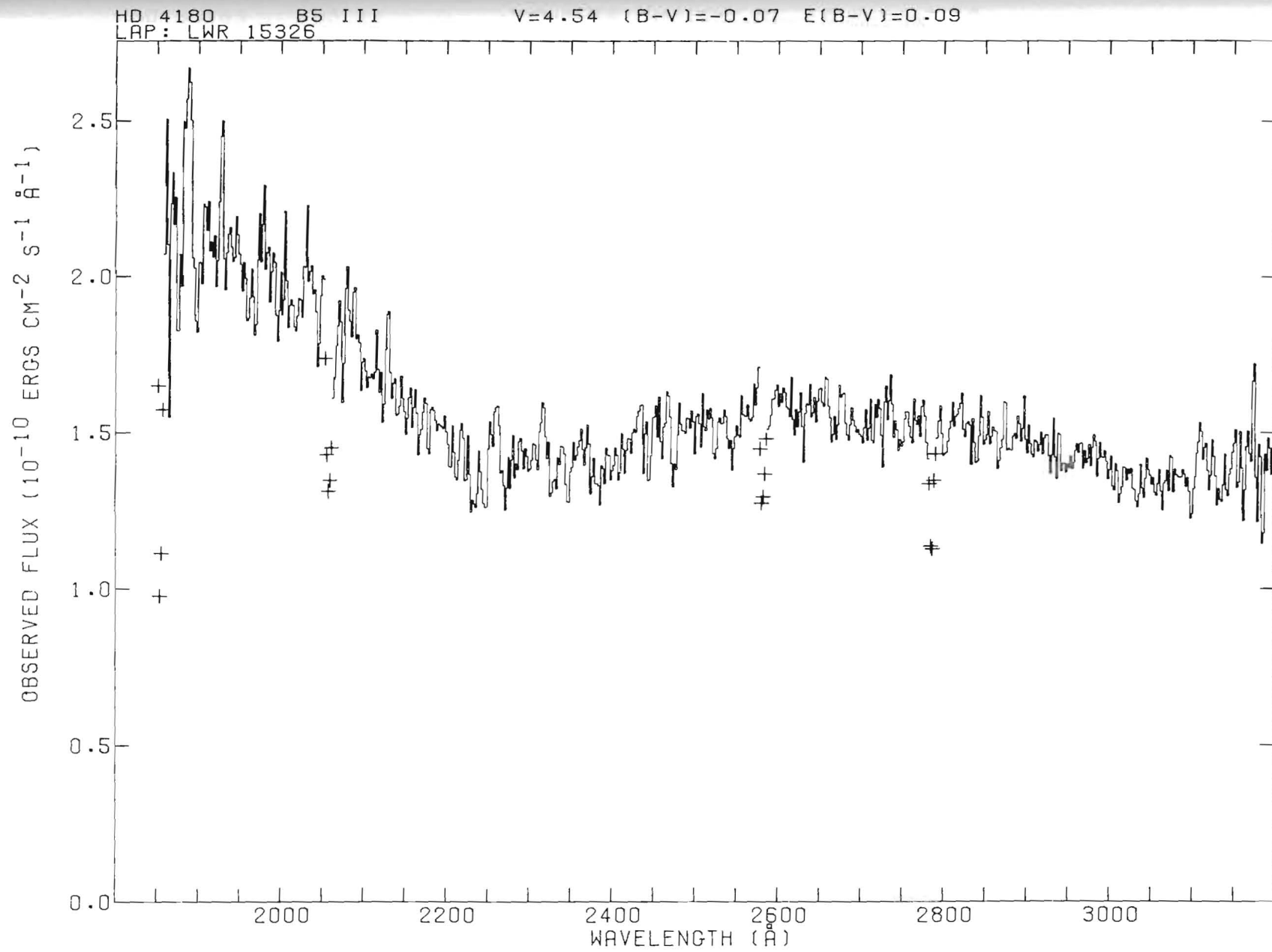
V=4.54 (B-V)=-0.07 E(B-V)=0.09



HD 4180 B5 III
LAP: SWP 19293

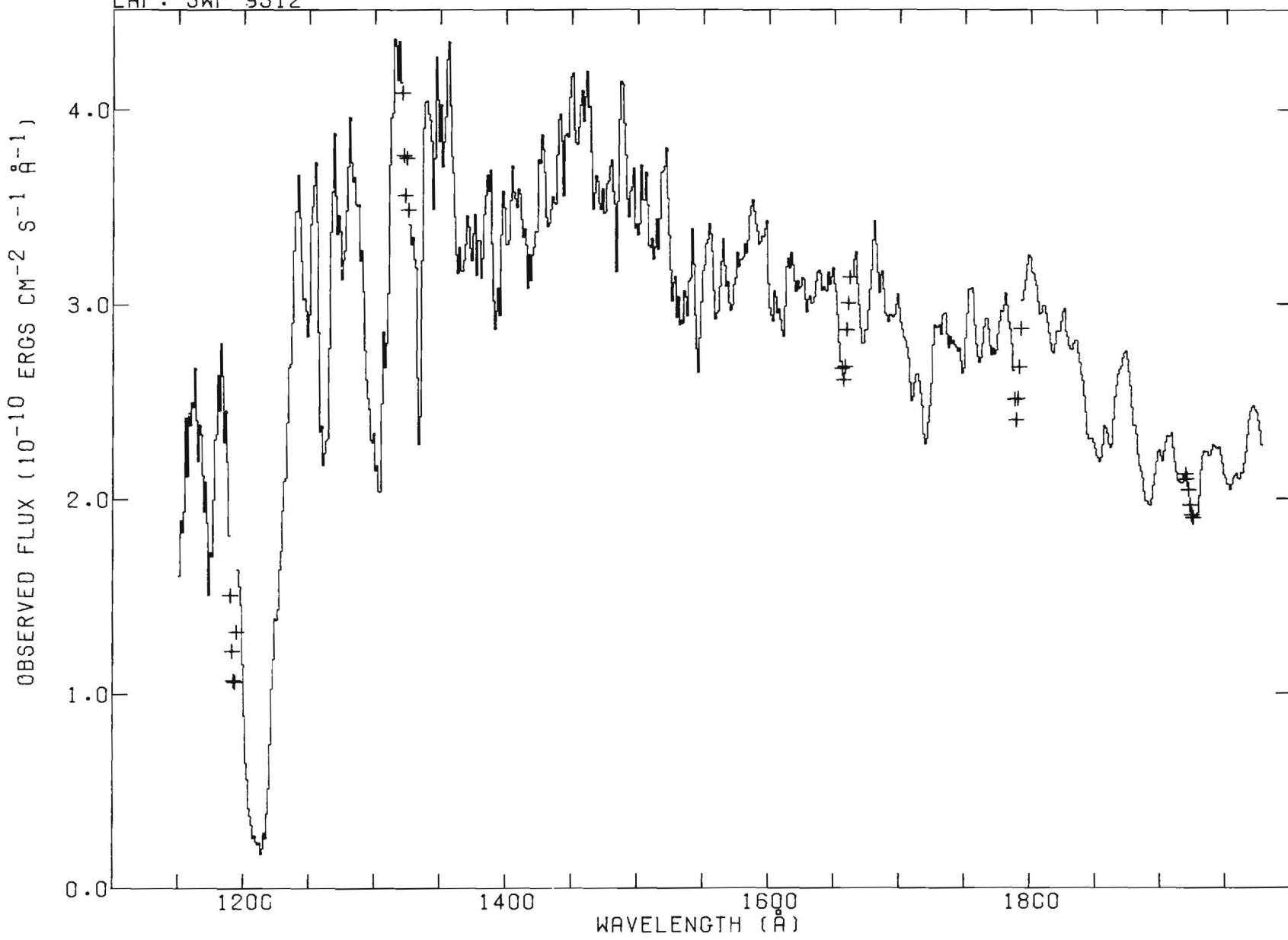
V=4.54 (B-V)=-0.07 E(B-V)=0.09





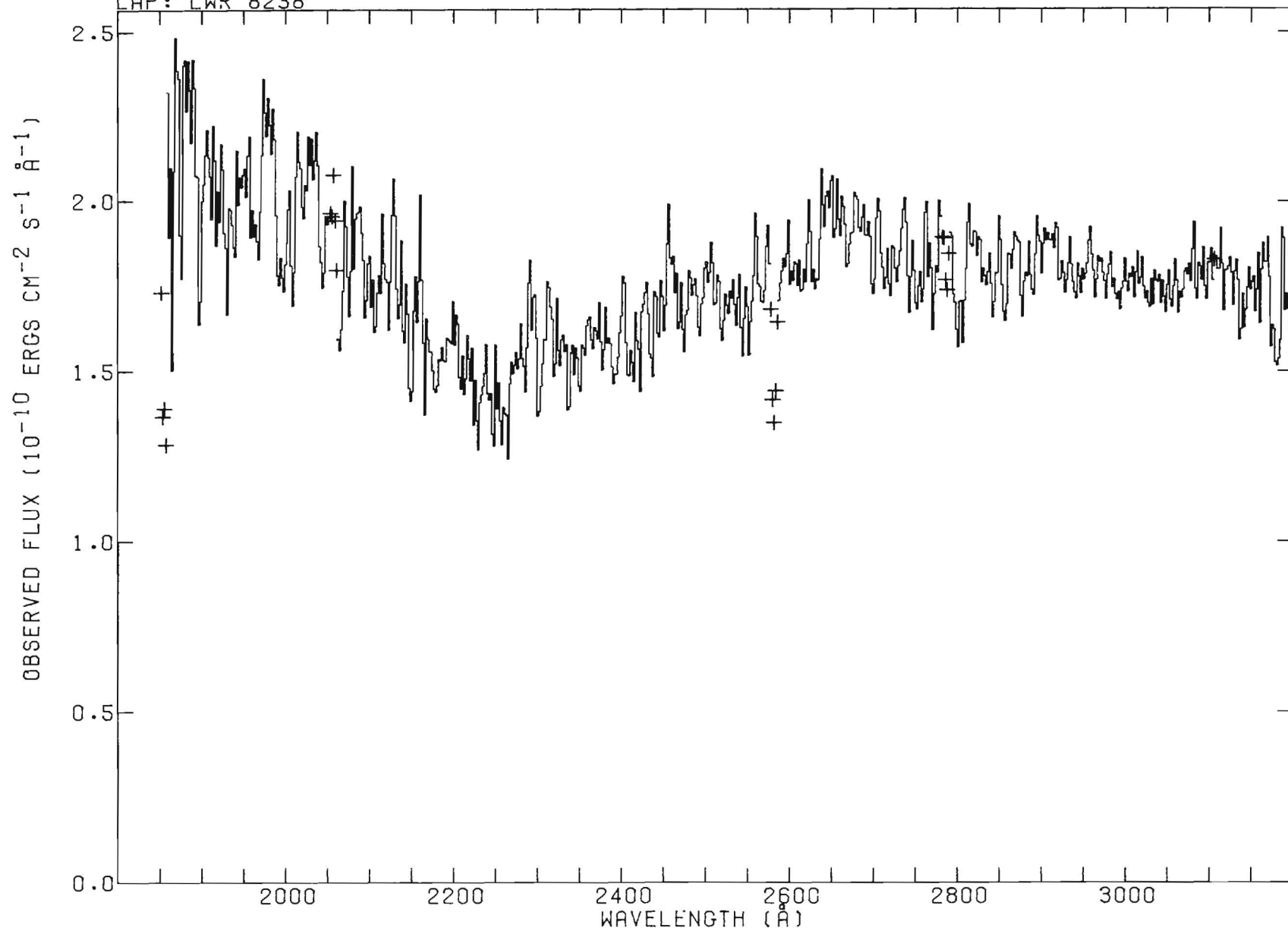
HD 83183 B5 II
LAP: SWP 9512

V=4.08 (B-V)=0.01 E(B-V)=0.13



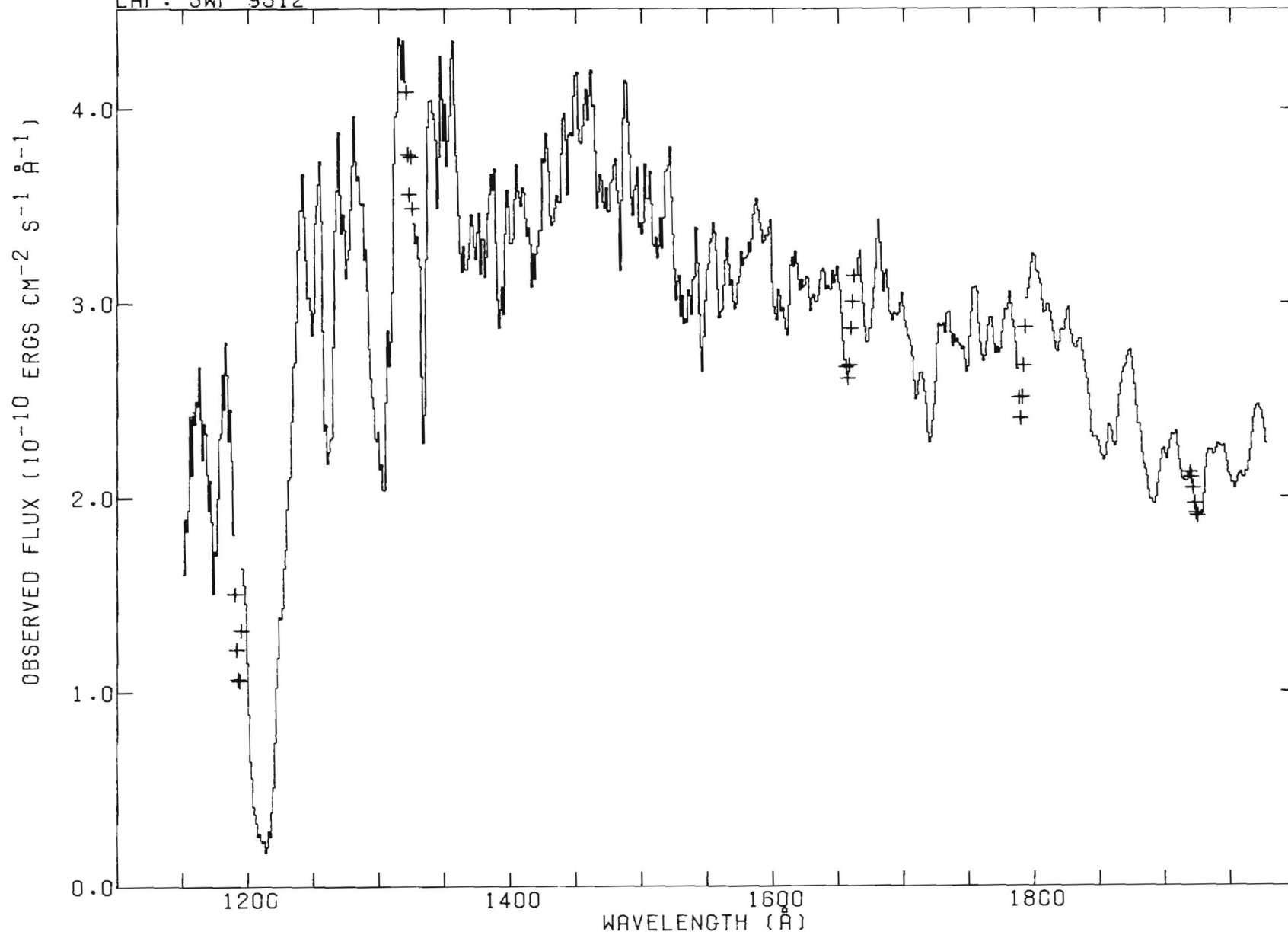
HD 83183 B5 II
LAP: LWR 8238

V=4.08 (B-V)=0.01 E(B-V)=0.13



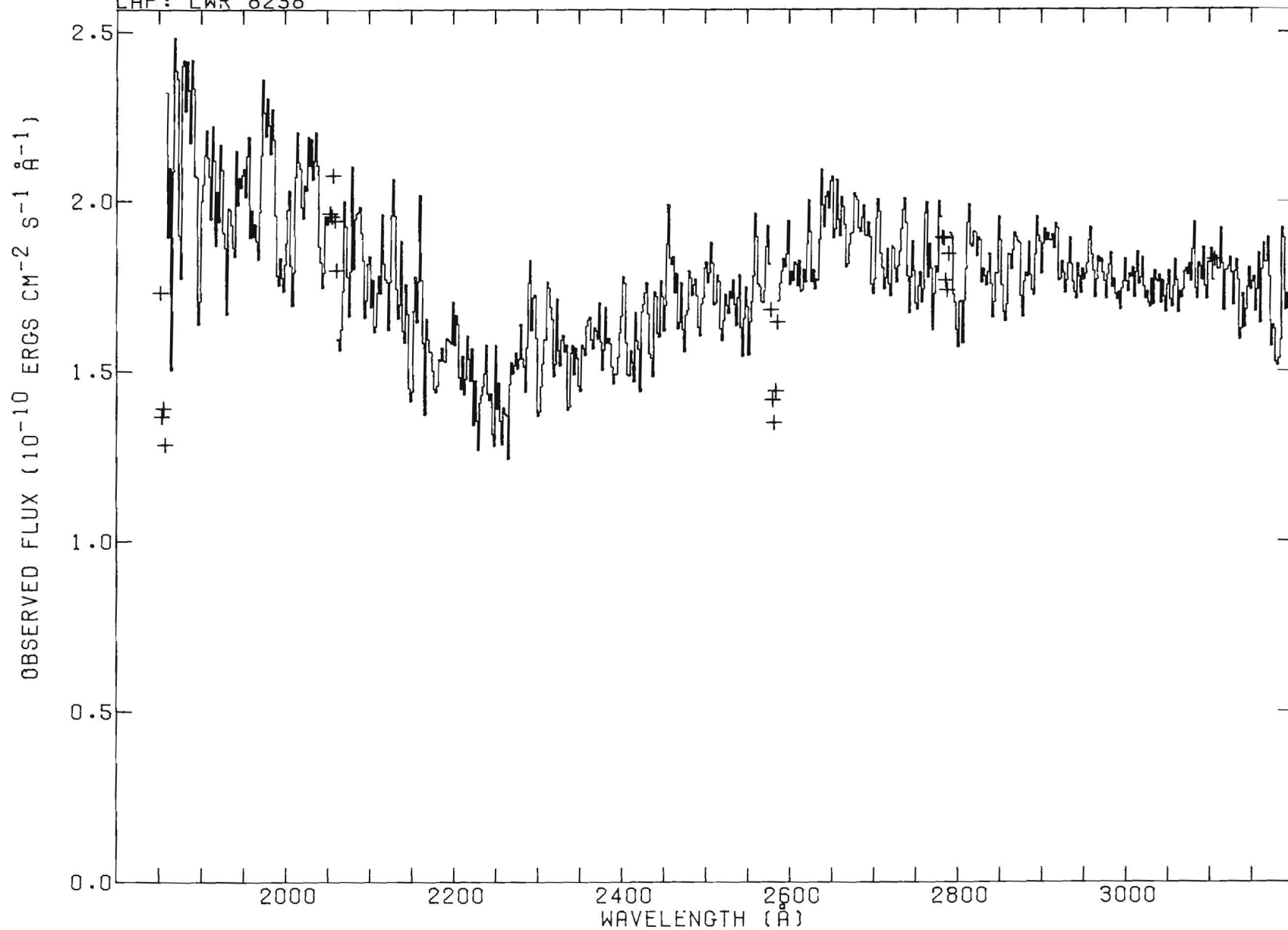
HD 83183 B5 II
LAP: SWP 9512

V=4.08 (B-V)=0.01 E(B-V)=0.13



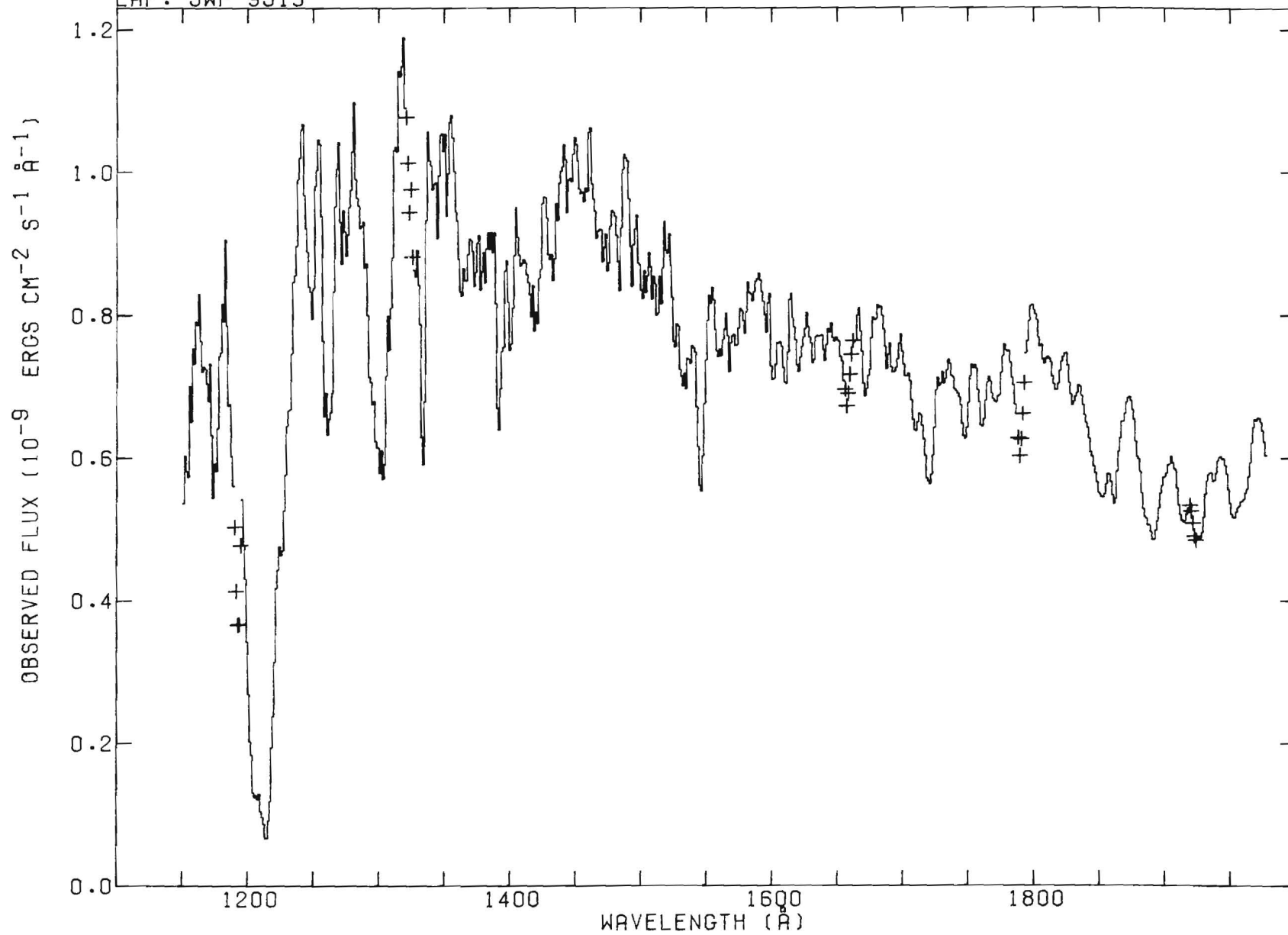
HD 83183 B5 II
LAP: LWR 8238

V=4.08 (B-V)=0.01 E(B-V)=0.13



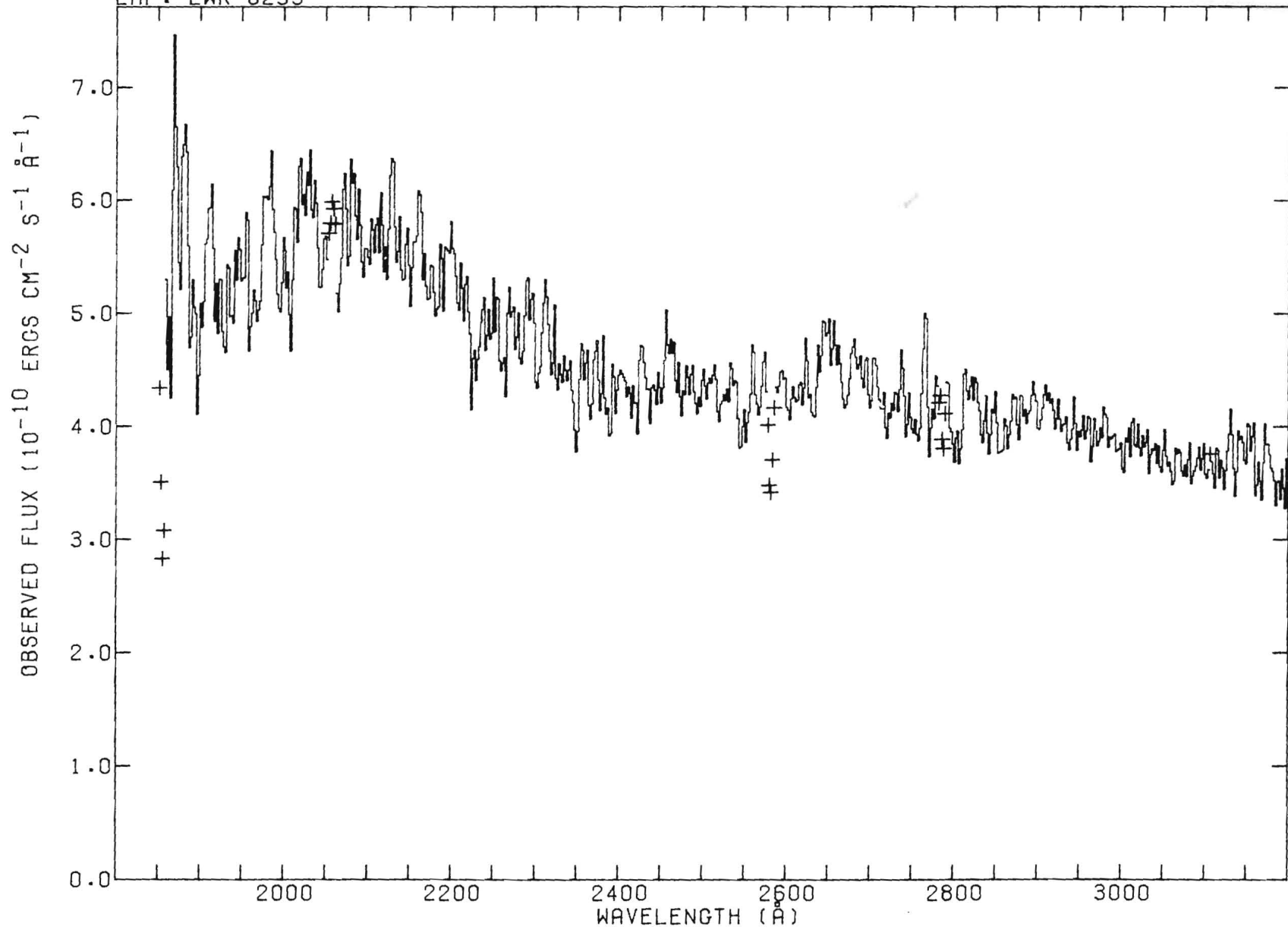
HD 86440 B5 IB
LAP: SWP 9513

V=3.54 (B-V)=-0.08 E(B-V)=0.01



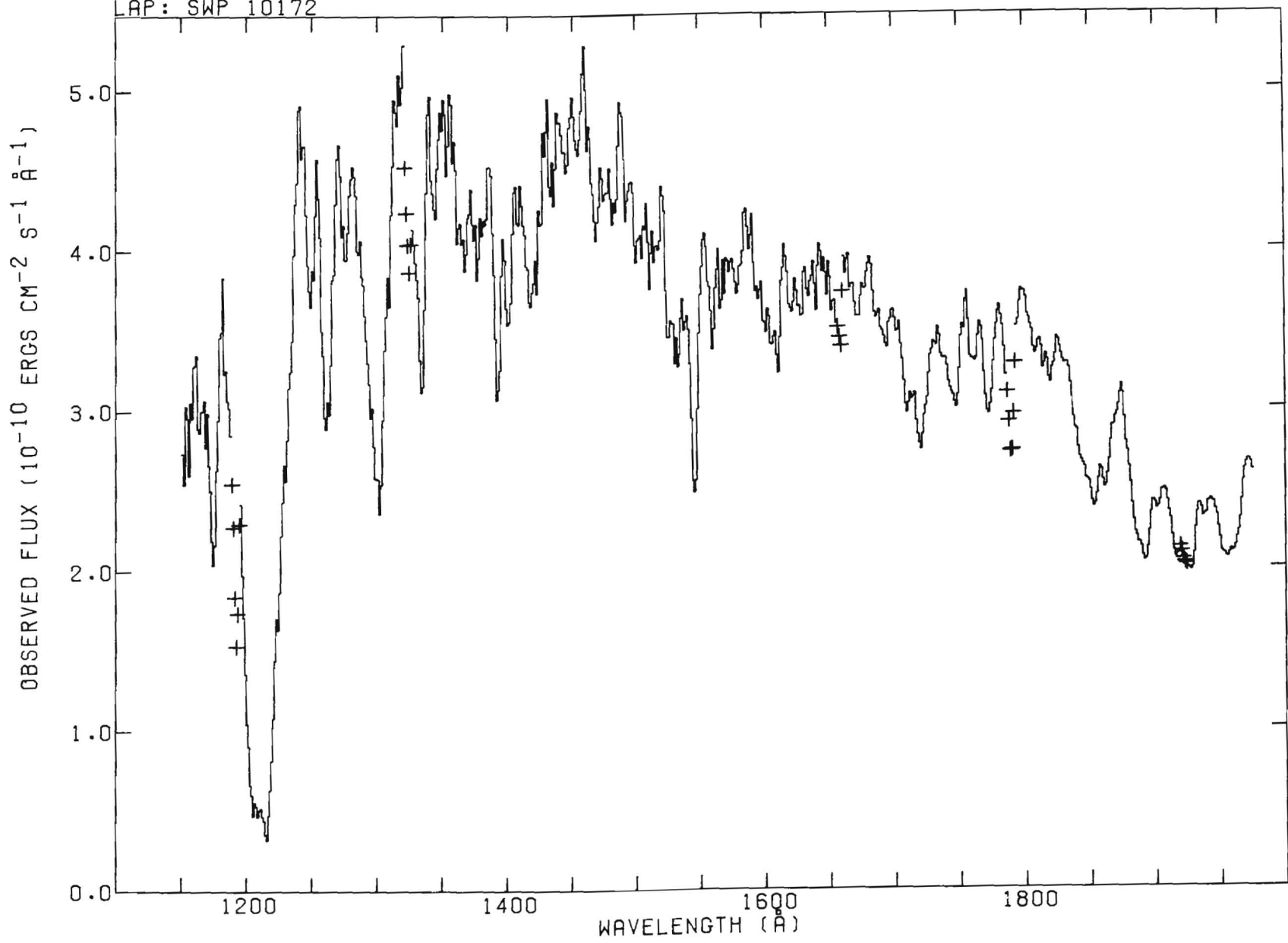
HD 86440 B5 IB
LAP: LWR 8239

V=3.54 (B-V)=-0.08 E(B-V)=0.01



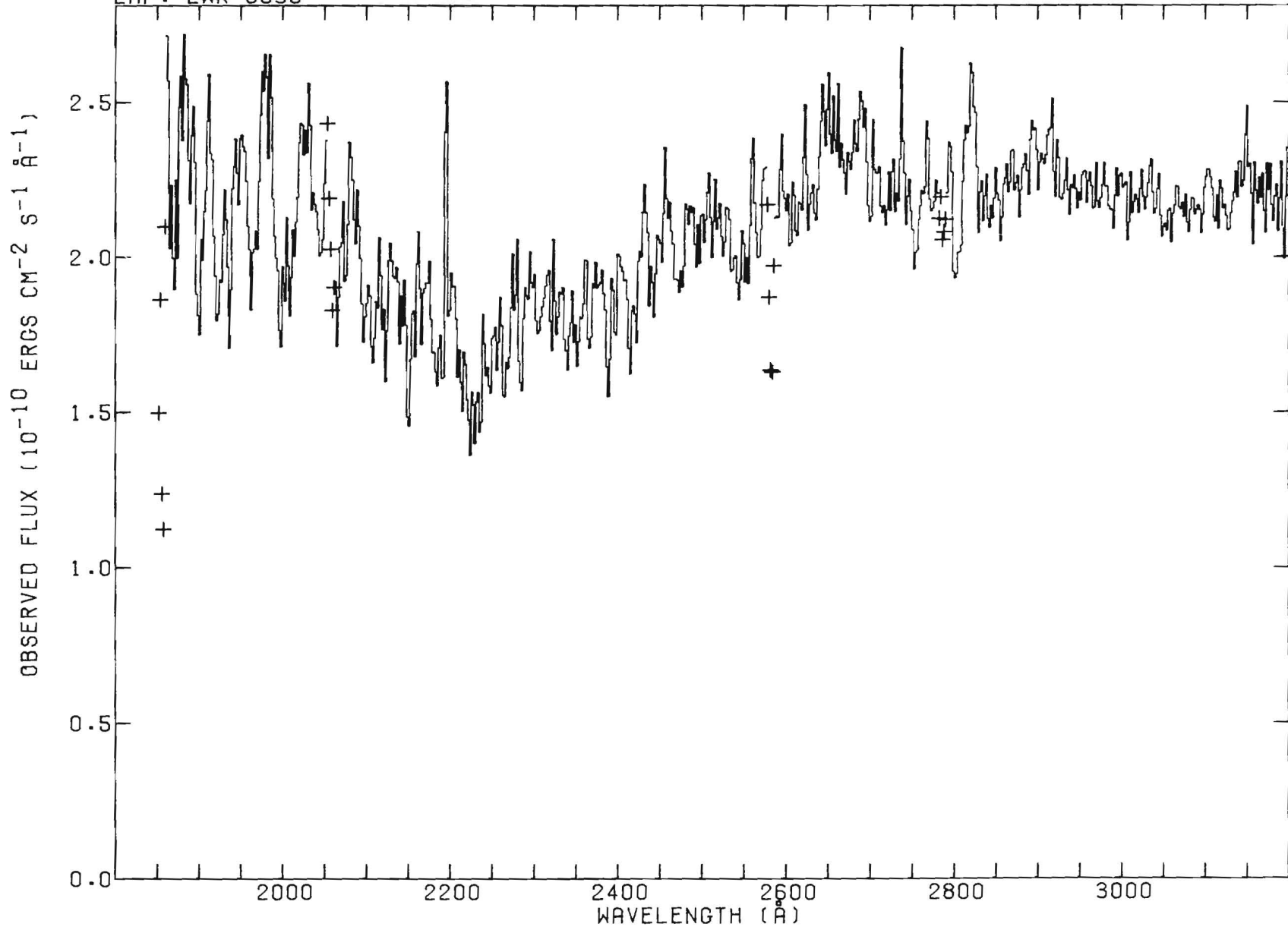
HD 164353 B5 IB
LAP: SWP 10172

V=3.97 (B-V)=0.02 E(B-V)=0.11



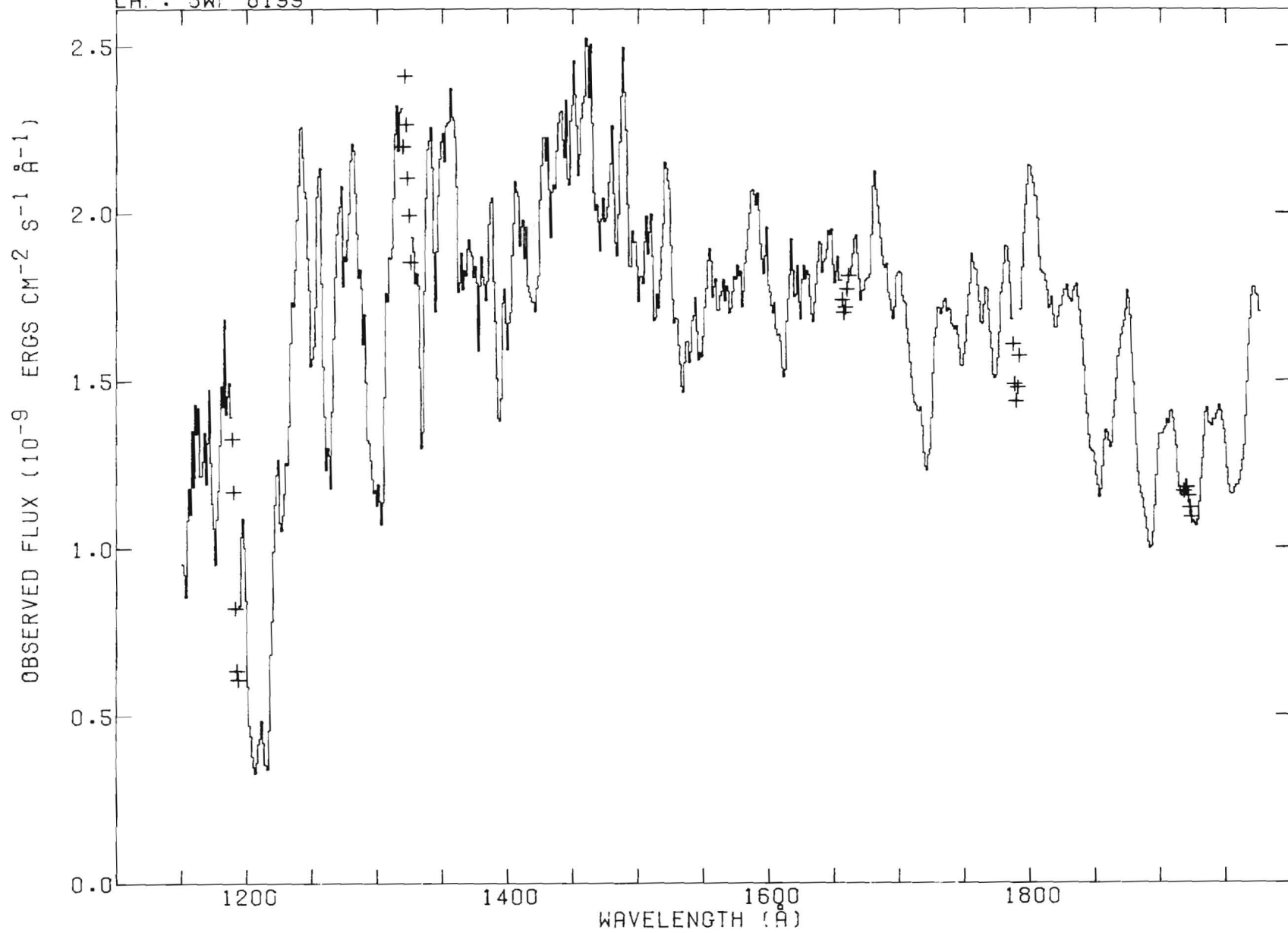
HD 164353 B5 IB
LAP: LWR 8836

V=3.97 (B-V)=0.02 E(B-V)=0.11



HD 58350 B5 IA +
LAP: SWP 8199

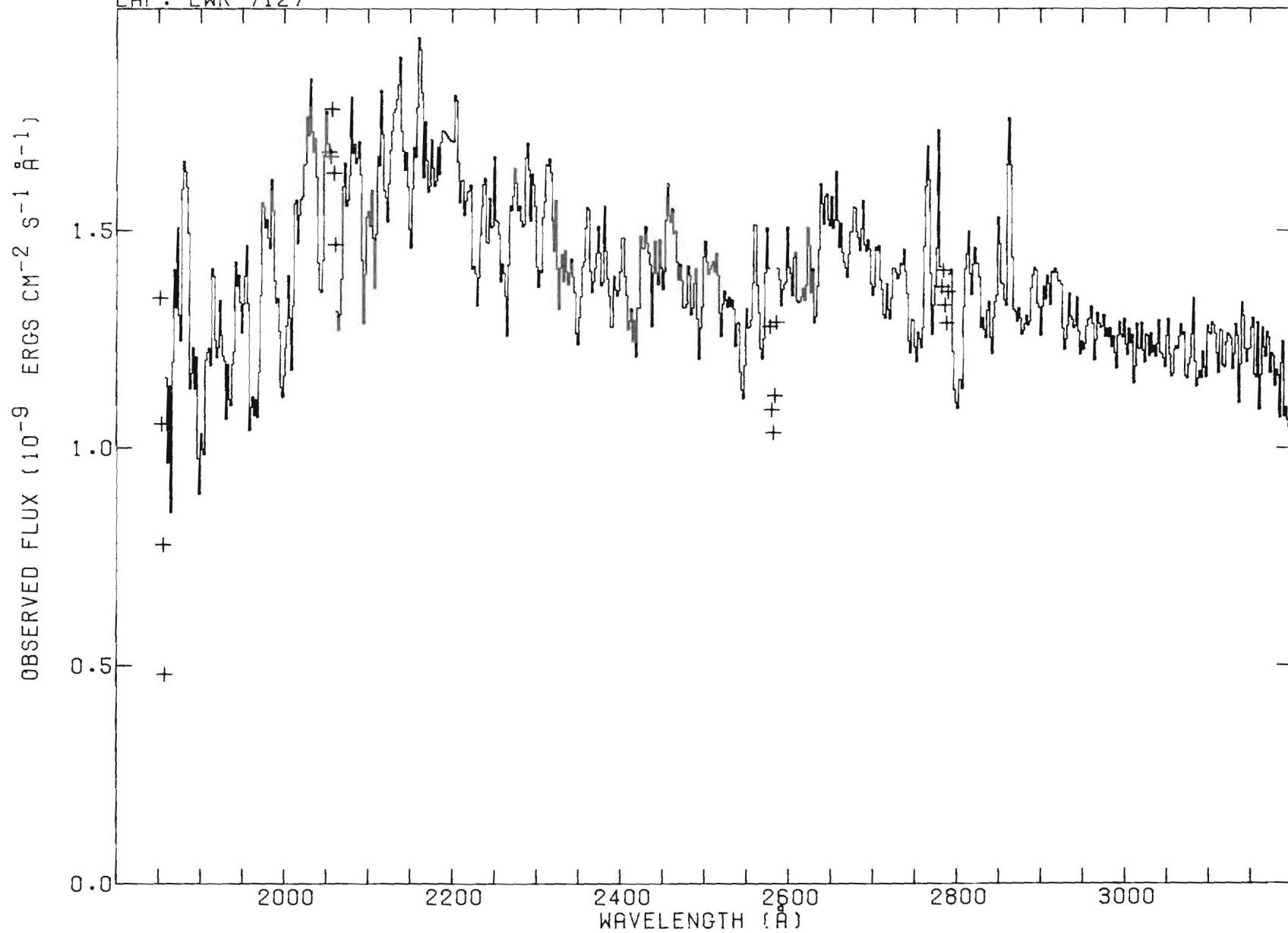
V=2.44 (B-V)=-0.07 E(B-V)=0.02



HD 58350
LAP: LWR 7127

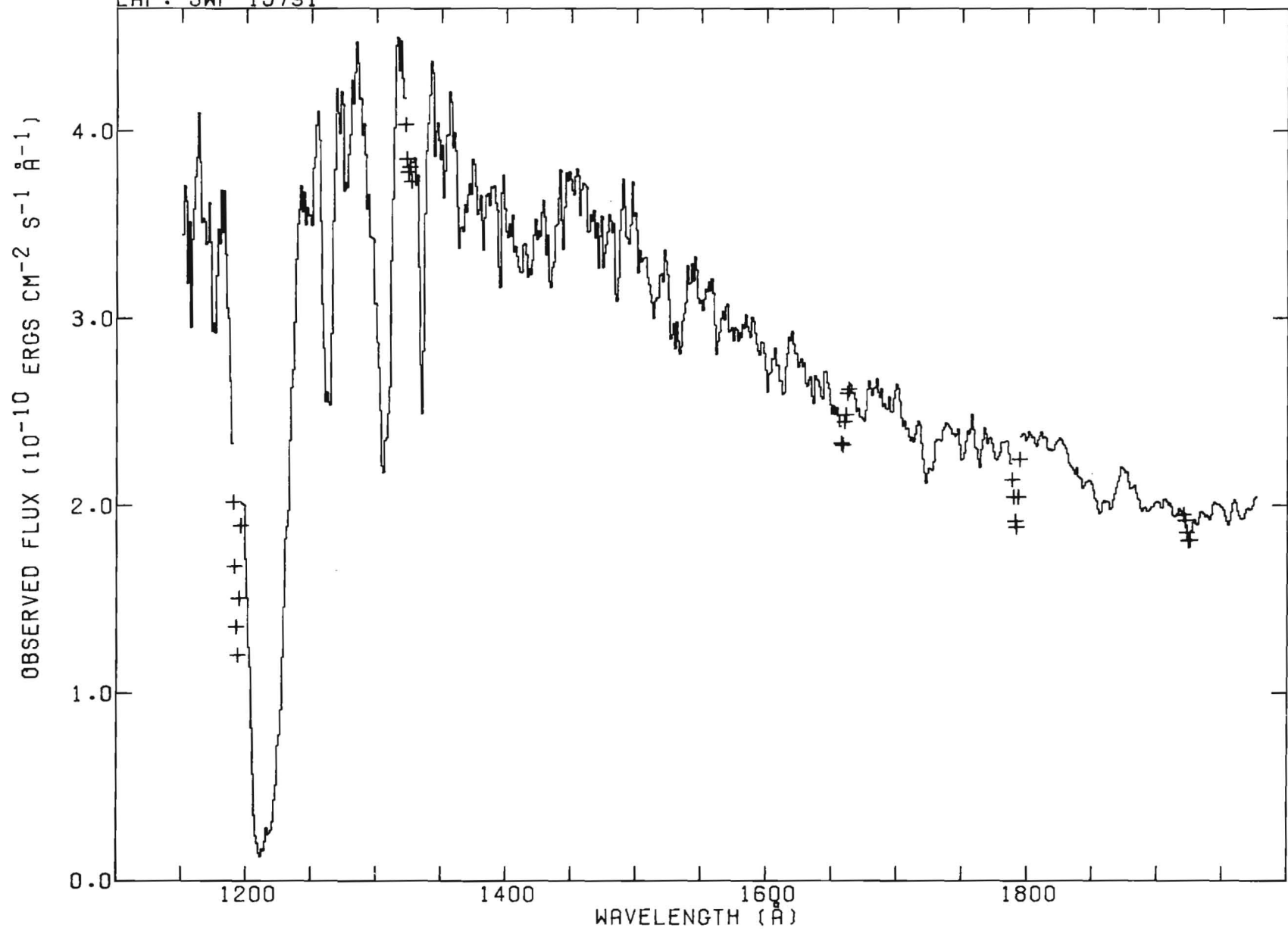
B5 IA +

V=2.44 (B-V)=-0.07 E(B-V)=0.02



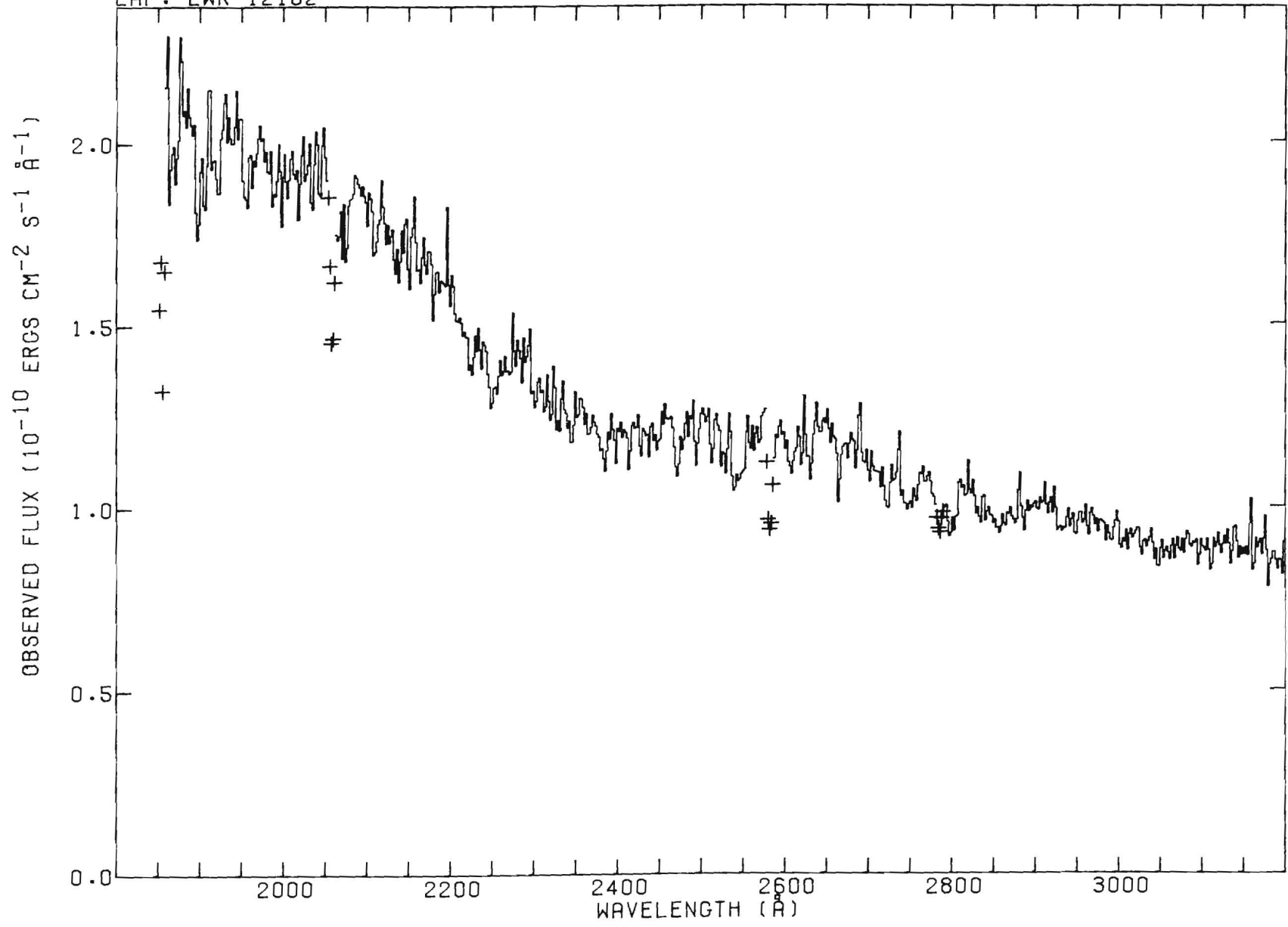
HD 90994 B6 V
LAP: SWP 15791

V=5.09 (B-V)=-0.14 E(B-V)=0.00



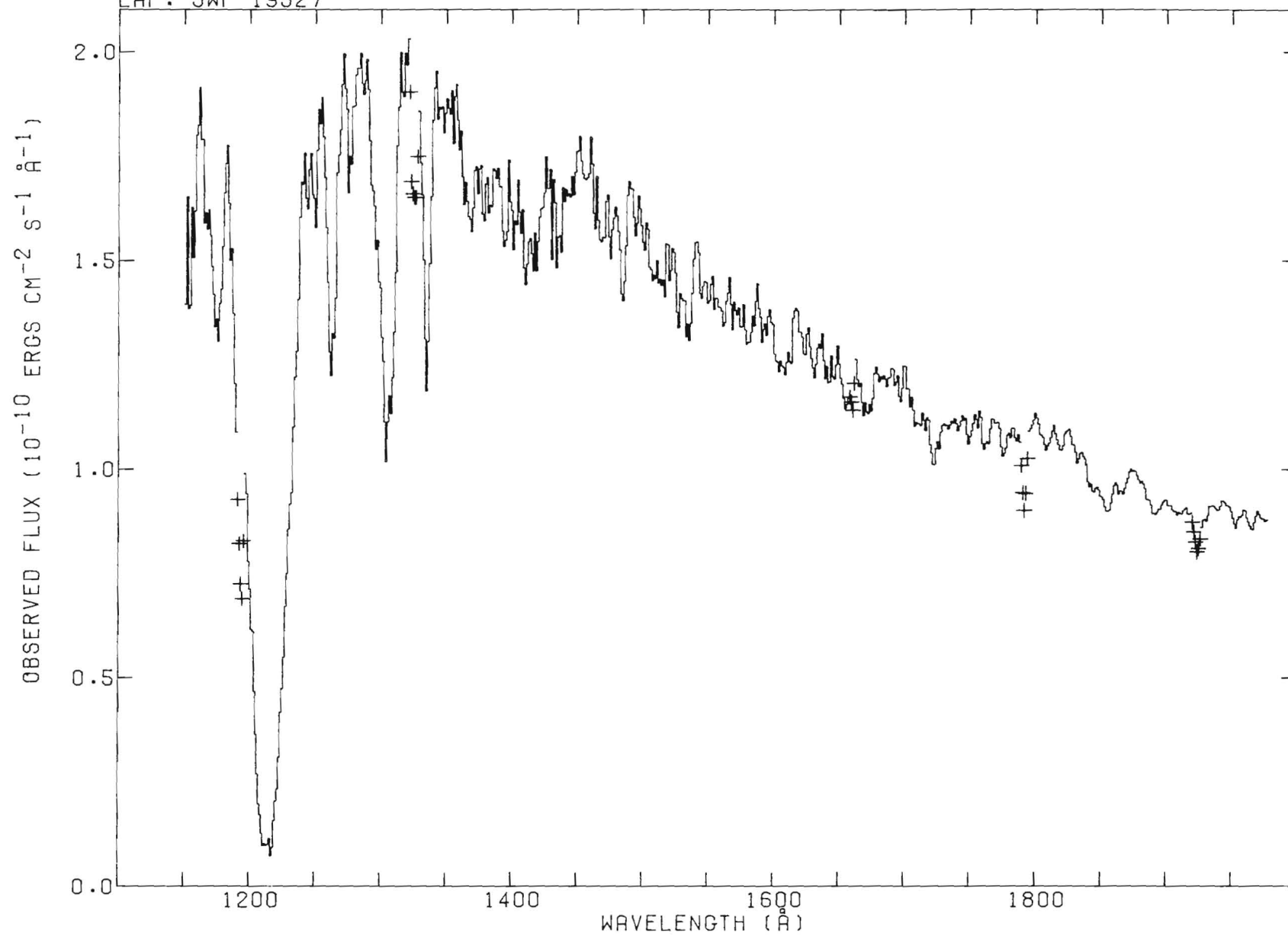
HD 90994 B6 V
LAP: LWR 12162

V=5.09 (B-V)=-0.14 E(B-V)=0.00



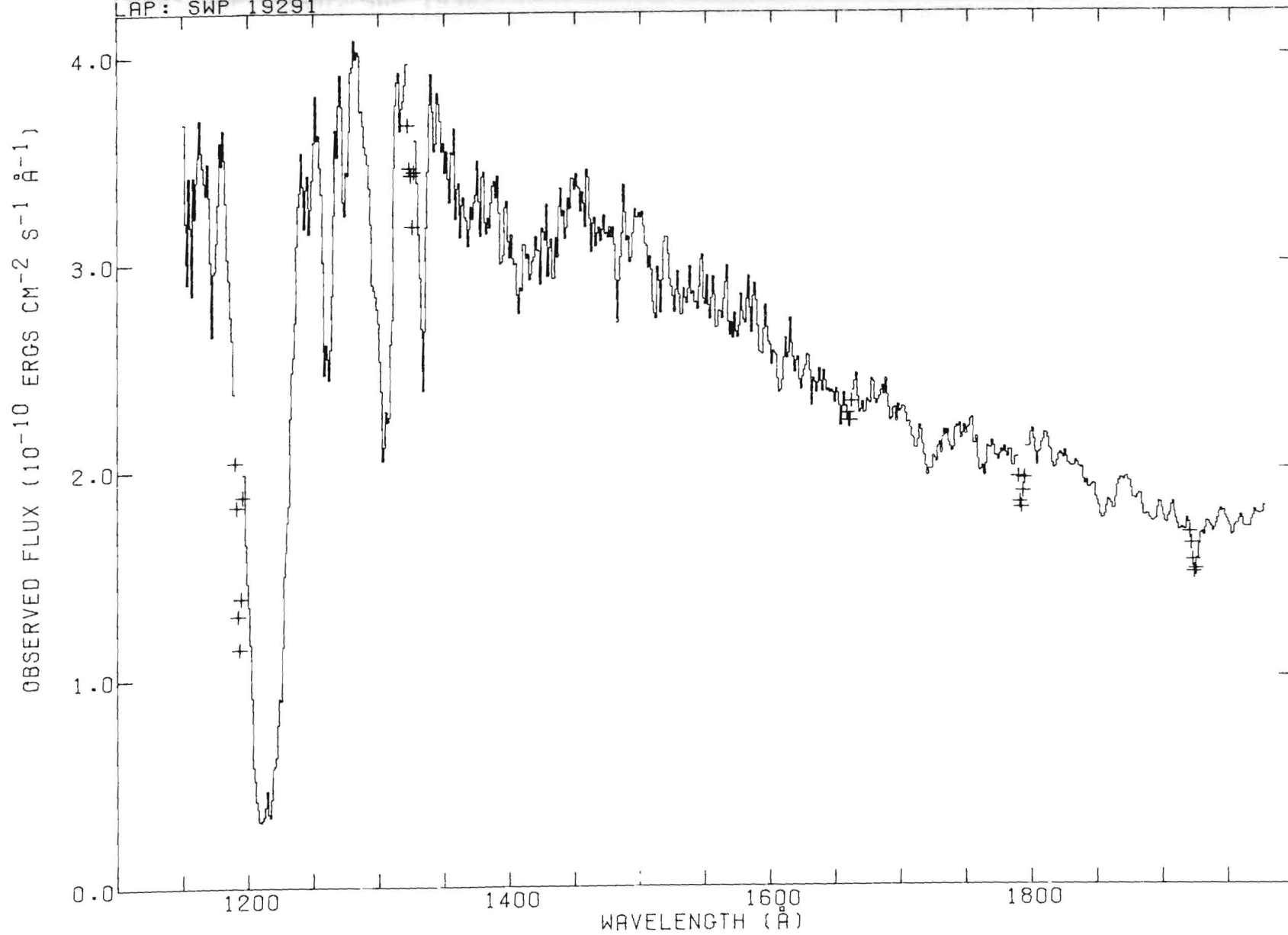
HD 79694 B6 IV
LAP: SWP 19527

V=5.85 (B-V)=-0.12 E(B-V)=0.02



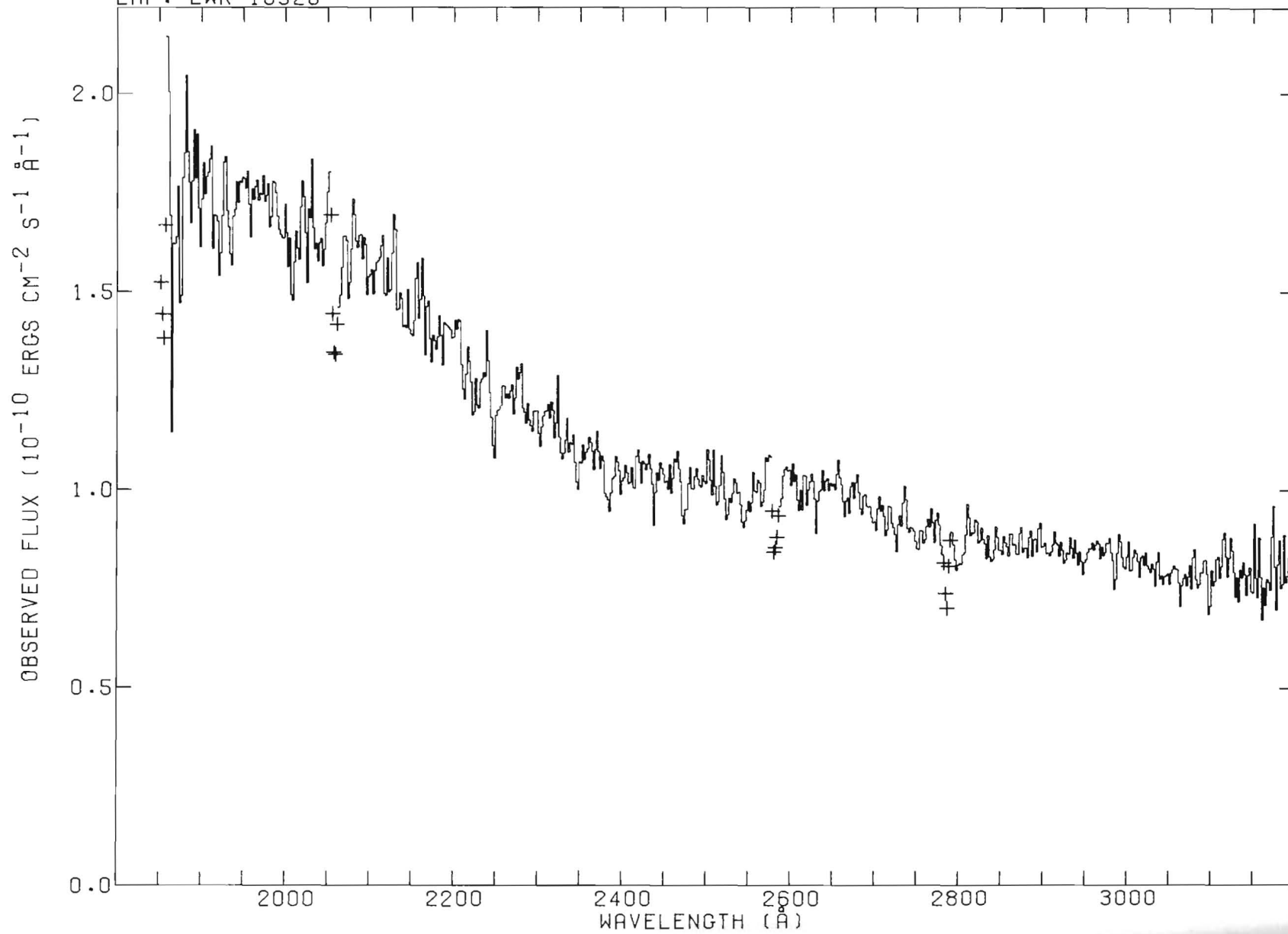
HD 182255 B6 III
LAP: SWP 19291

V=5.18 (B-V)=-0.12 E(B-V)=0.02

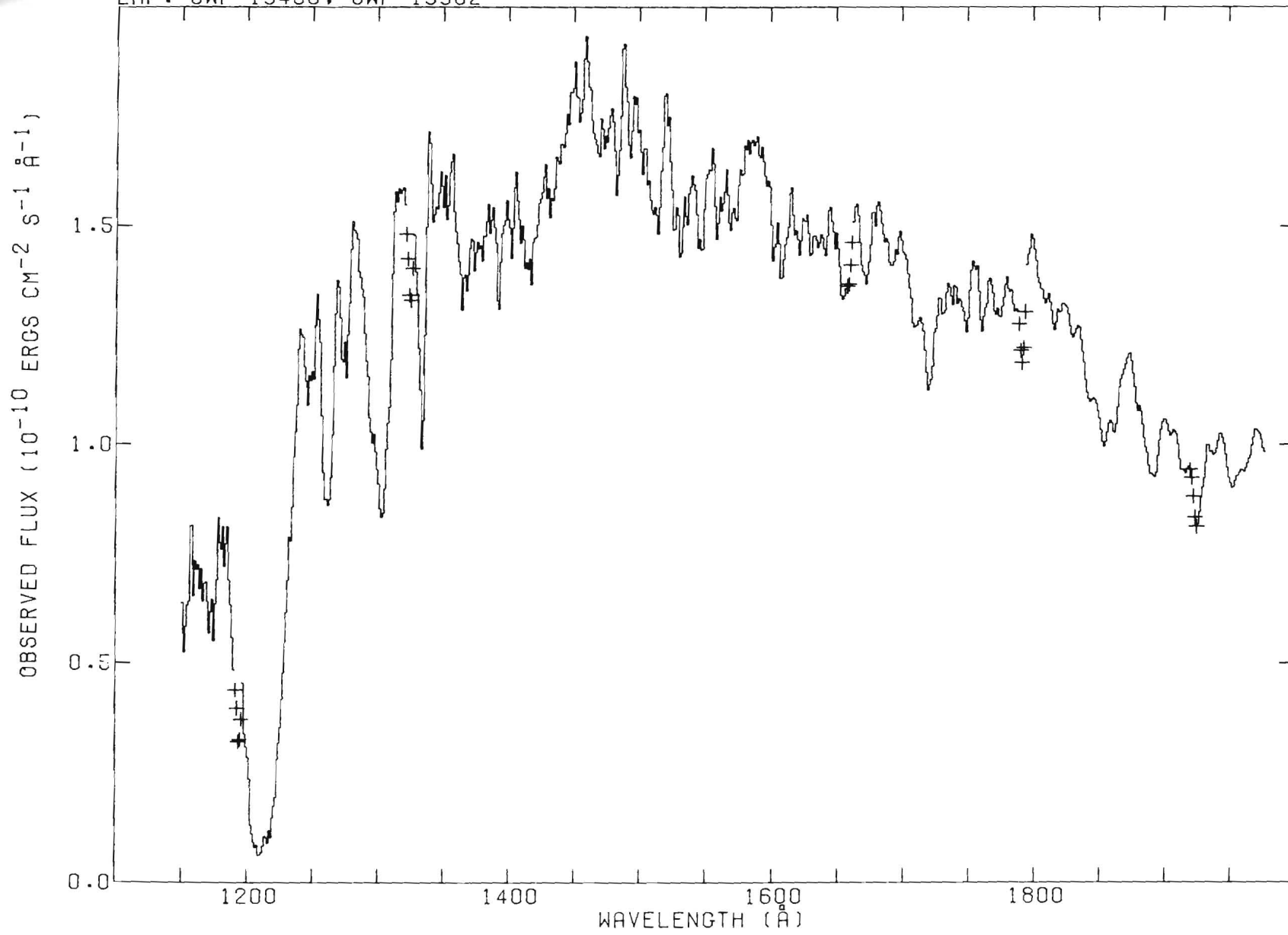


HD 182255 B6 III
LAP: LWR 15325

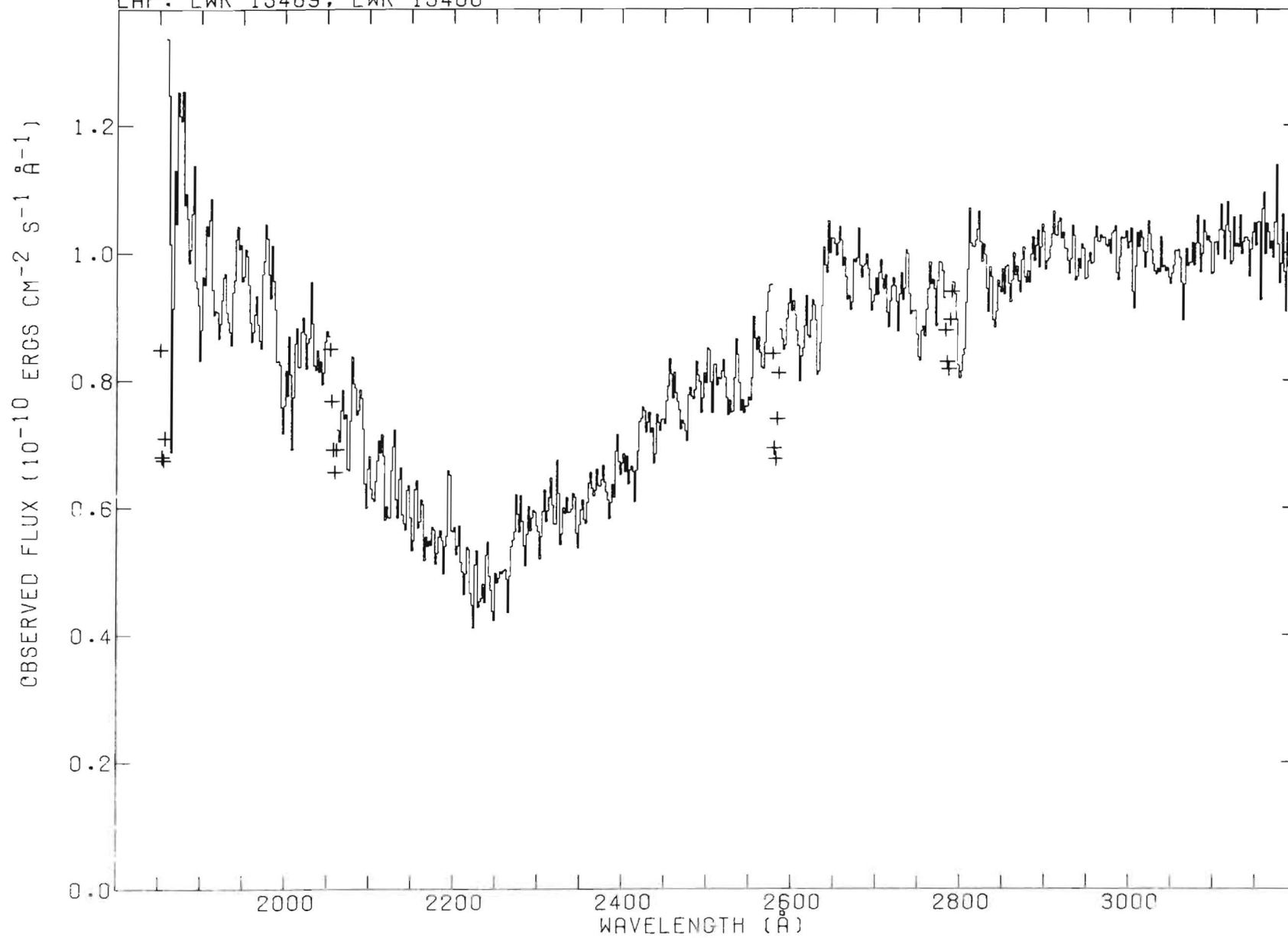
V=5.18 (B-V)=-0.12 E(B-V)=0.02



HD 125288 B6 IB V=4.33 (B-V)=0.12 E(B-V)=0.19
LAP: SWP 19460, SWP 19362

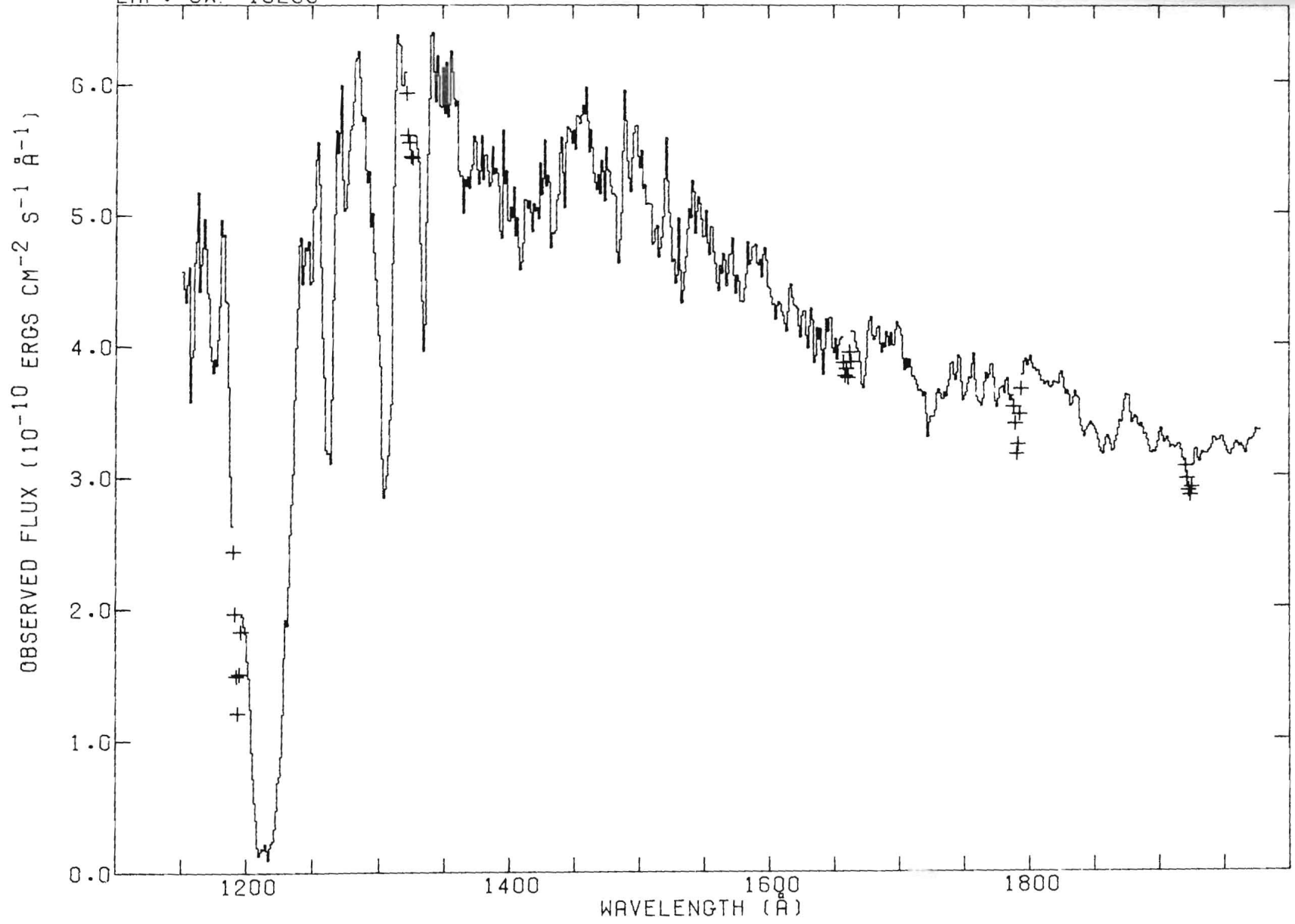


HD 125288 B6 IB V=4.33 (B-V)=0.12 E(B-V)=0.19
LAP: LWR 15489, LWR 15400



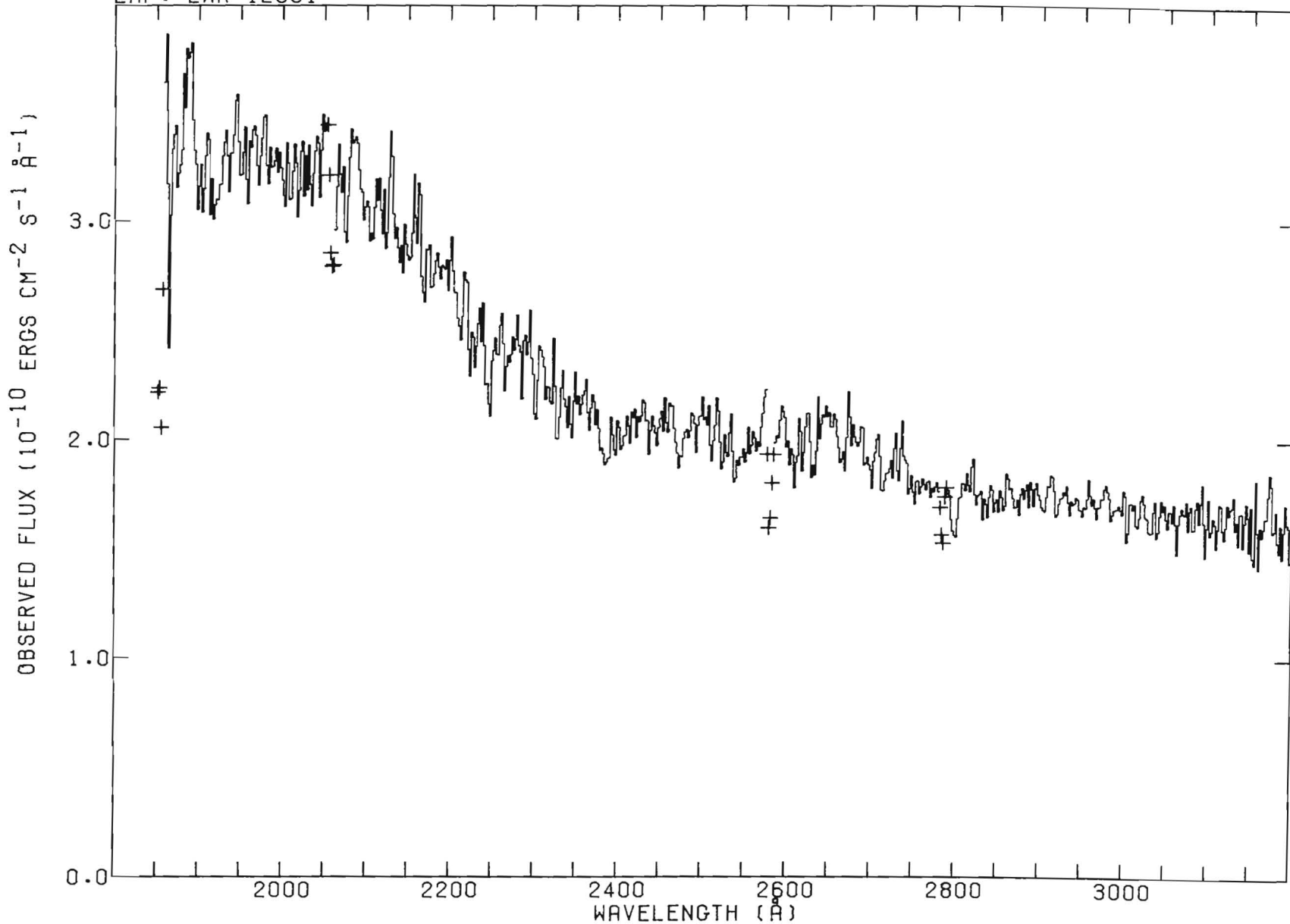
HD 17081 B7 V
LAP: SWP 16255

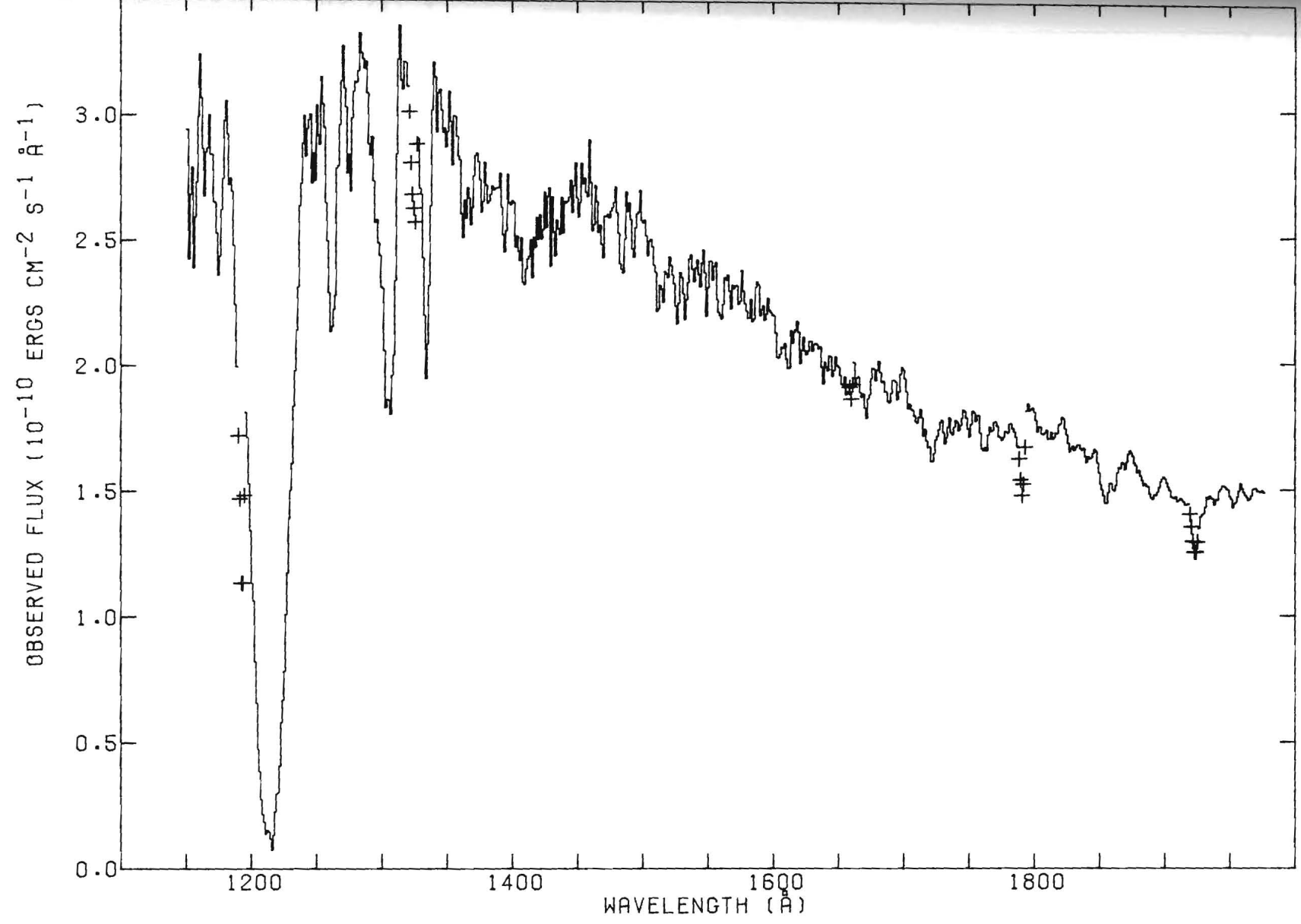
V=4.25 (B-V)=-0.14 E(B-V)=-0.01



HD 17081 B7 V
LAP: LWR 12501

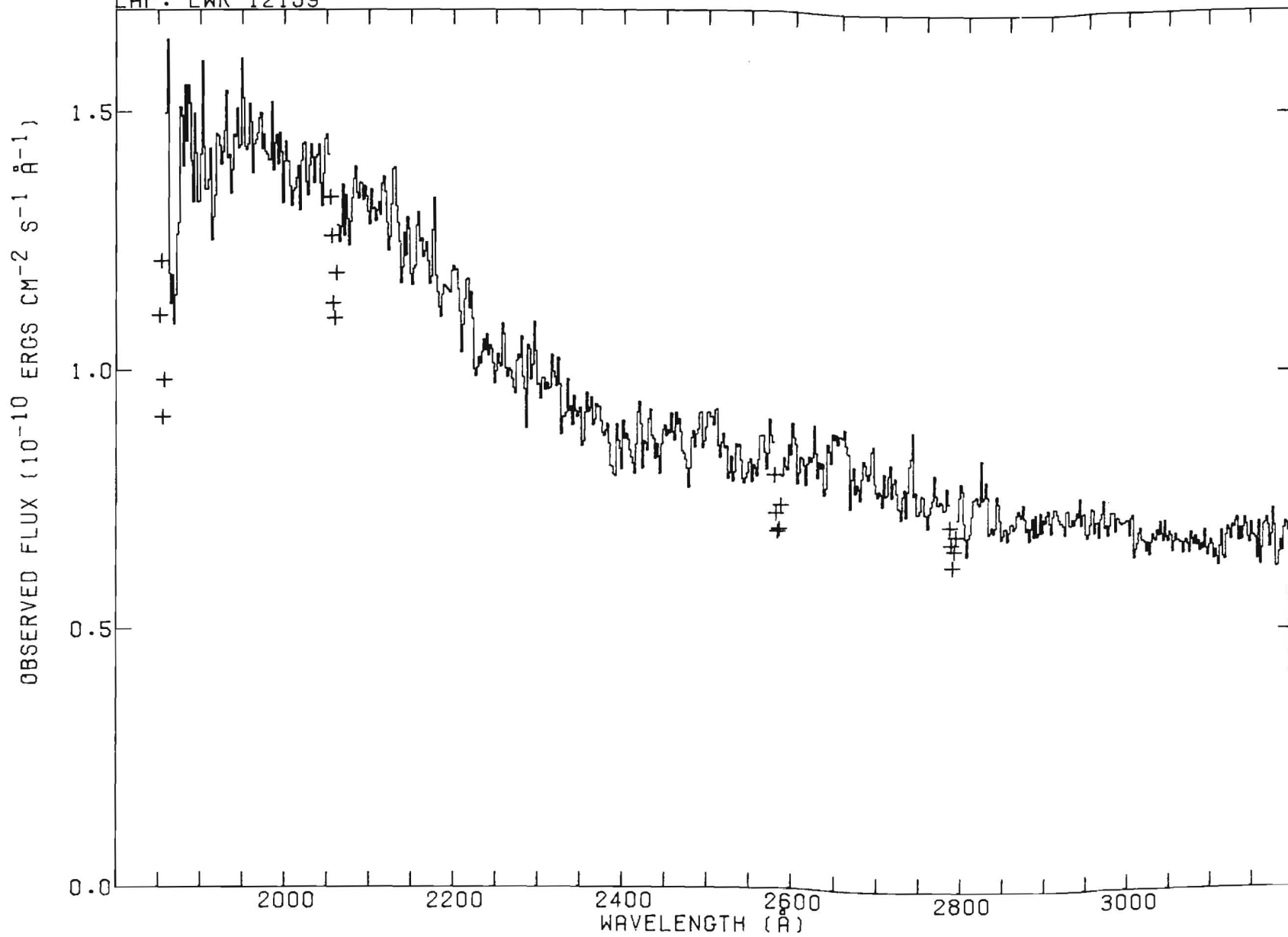
V=4.25 (B-V)=-0.14 E(B-V)=-0.01





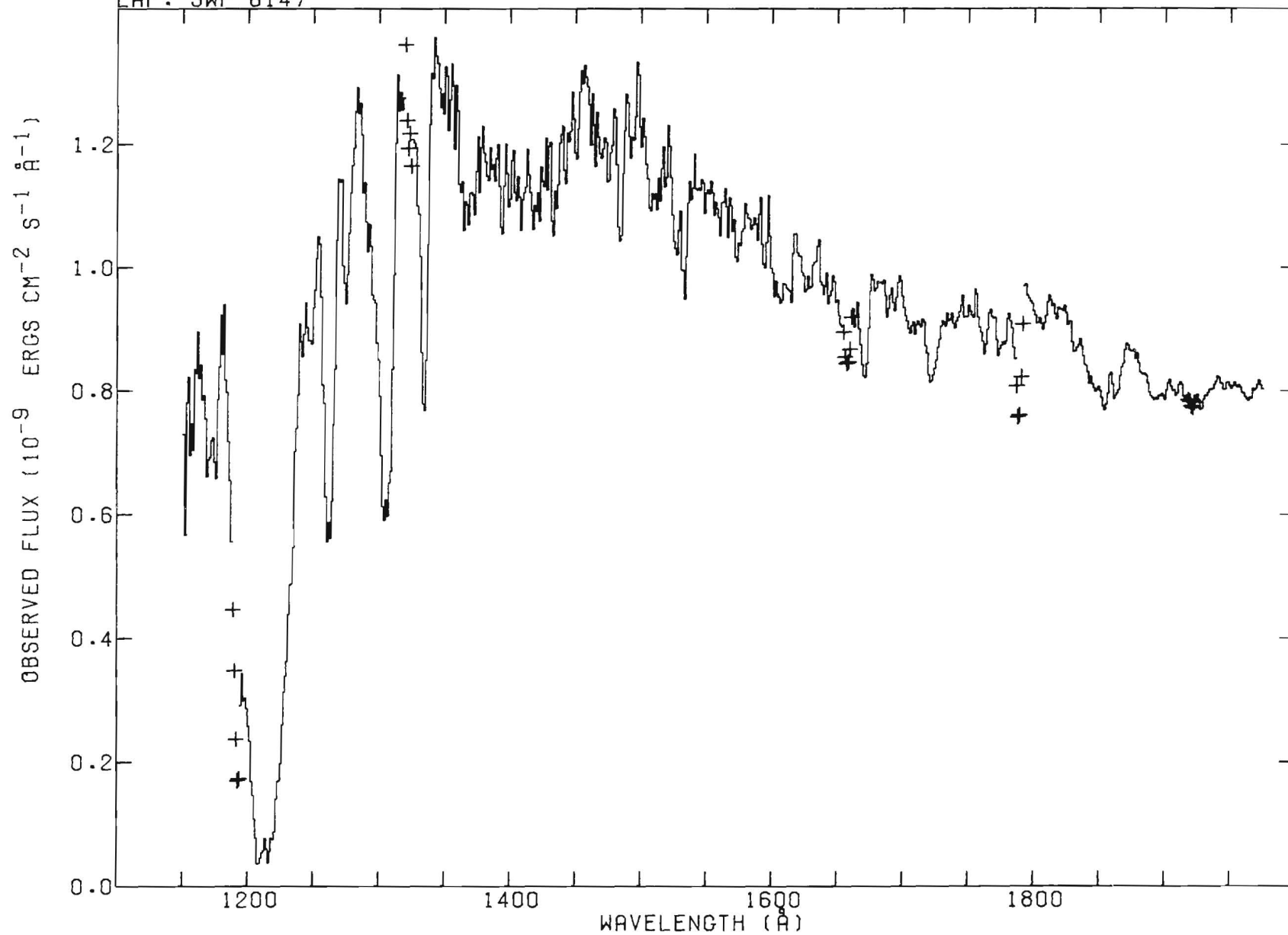
HD 29335 B7 V
LAP: LWR 12159

V=5.31 (B-V)=-0.12 E(B-V)=0.02

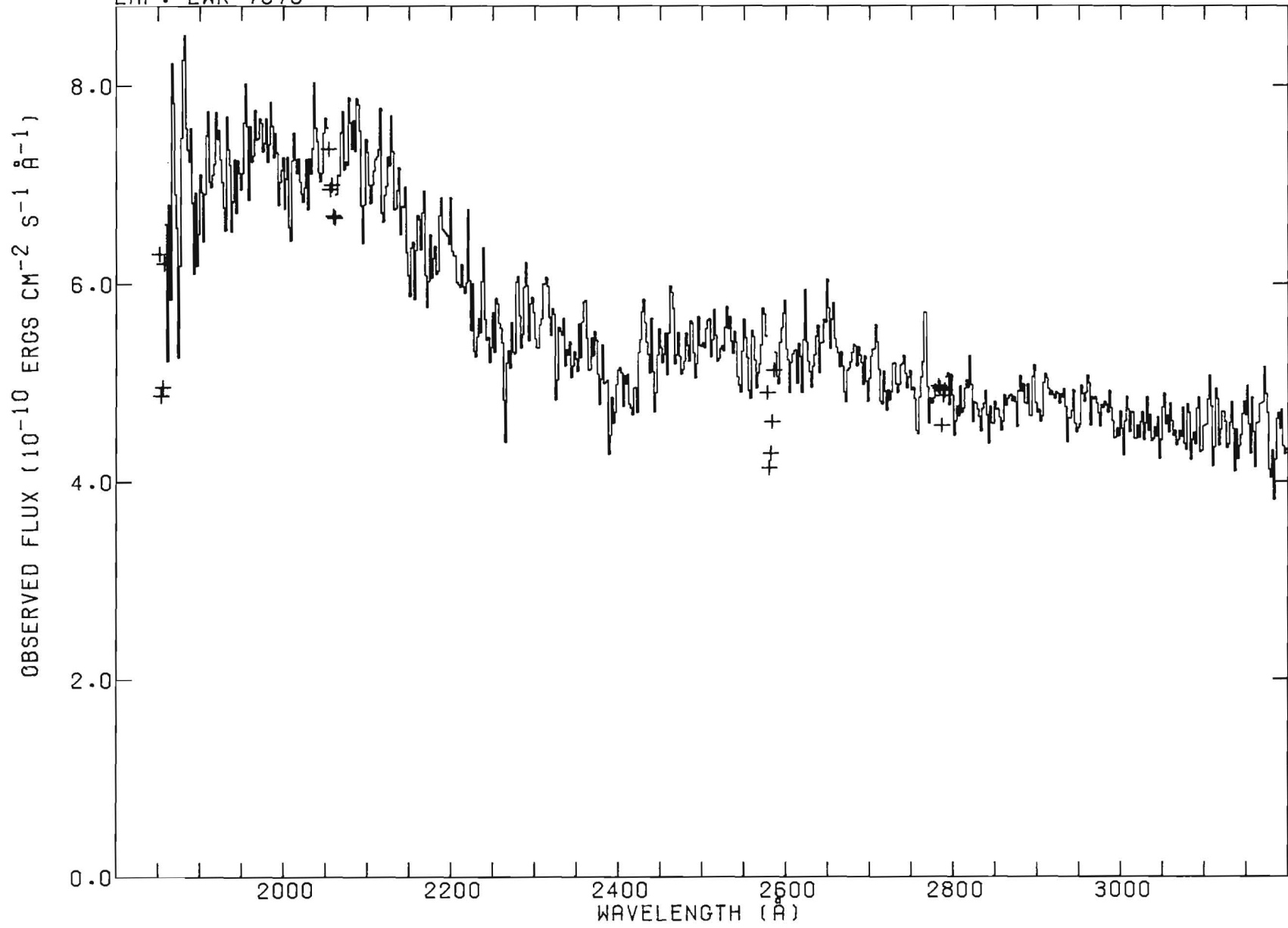


HD 23630 B7 III +
LAP: SWP 8147

V=2.87 (B-V)=-0.09 E(B-V)=0.03



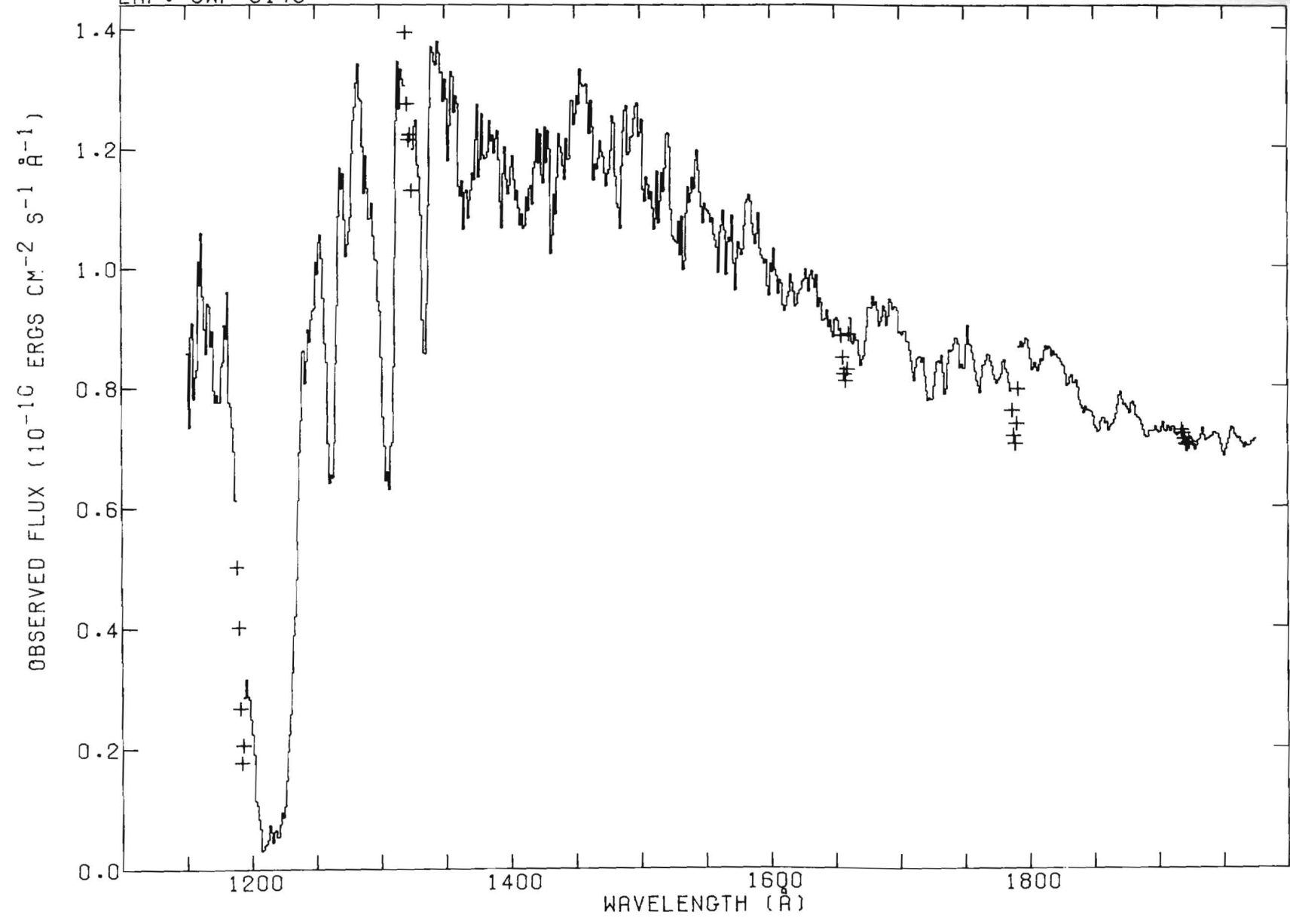
HD 23630 B7 III + V=2.87 (B-V)=-0.09 E(B-V)=0.03
LAP: LWR 7078



HD 23324
LAP: SWP 8148

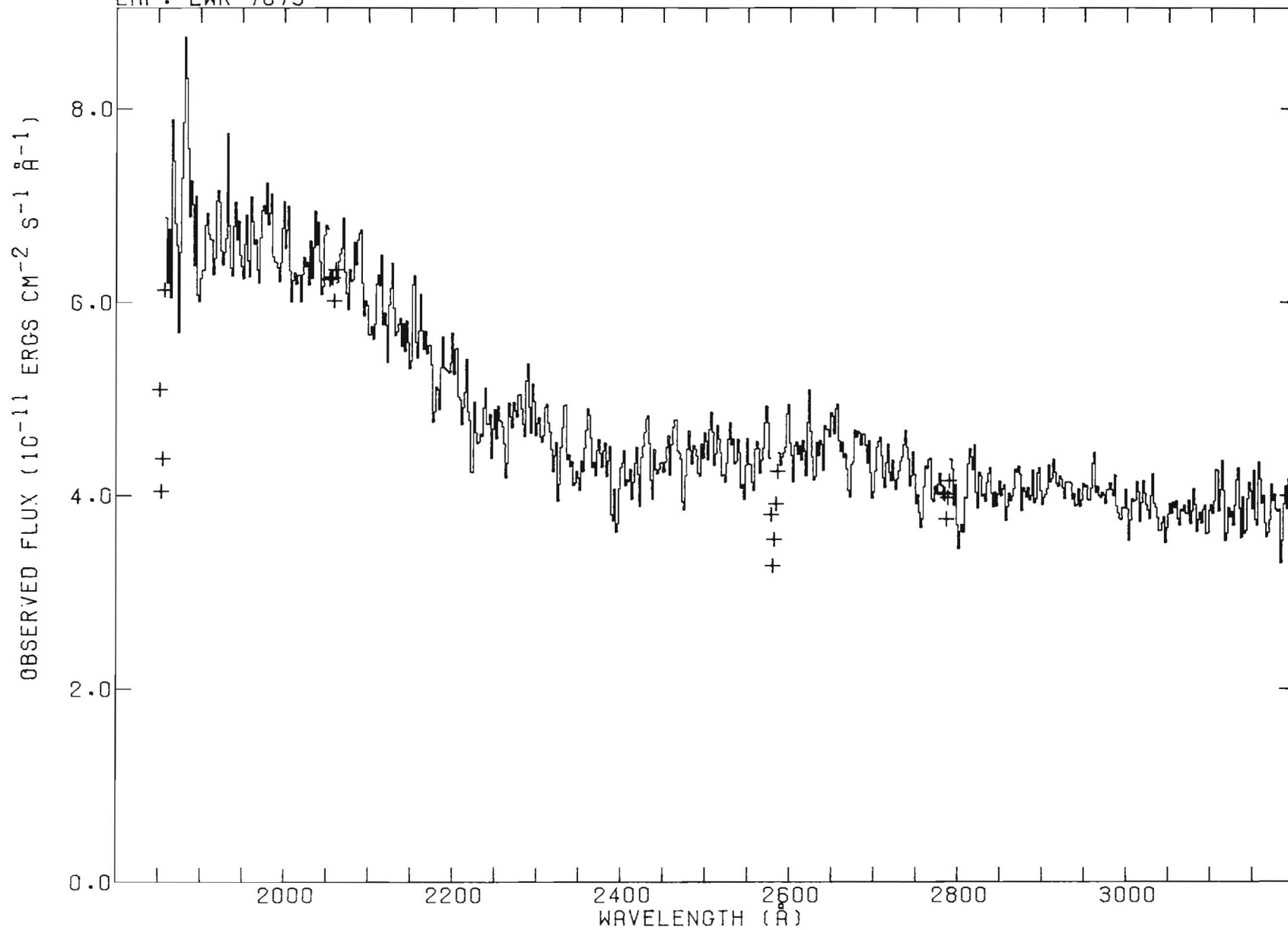
B8 V †

V=5.64 (B-V)=-0.07 E(B-V)=0.04



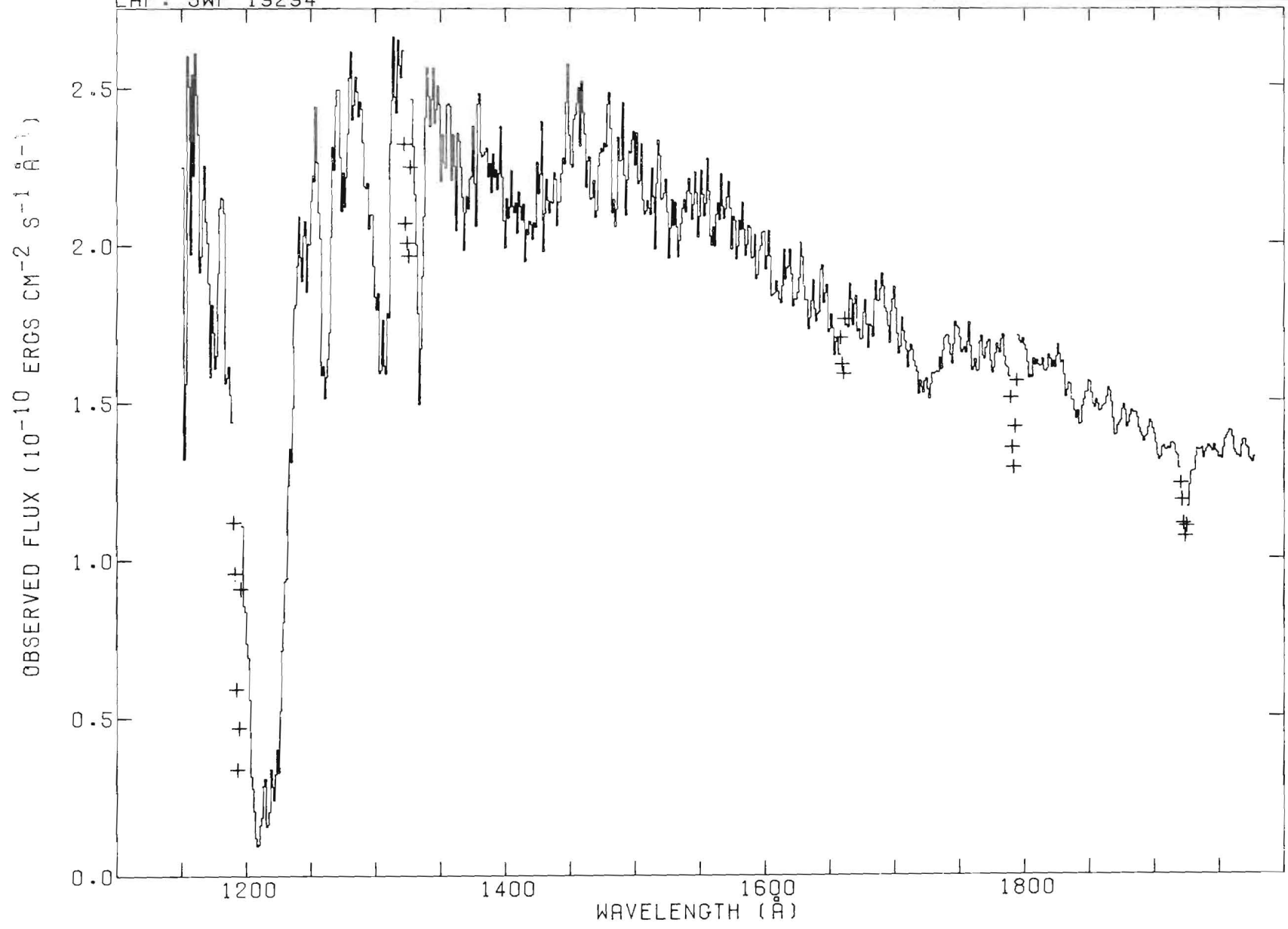
HD 23324 B8 V +
LAP: LWR 7079

V=5.64 (B-V)=-0.07 E(B-V)=0.04



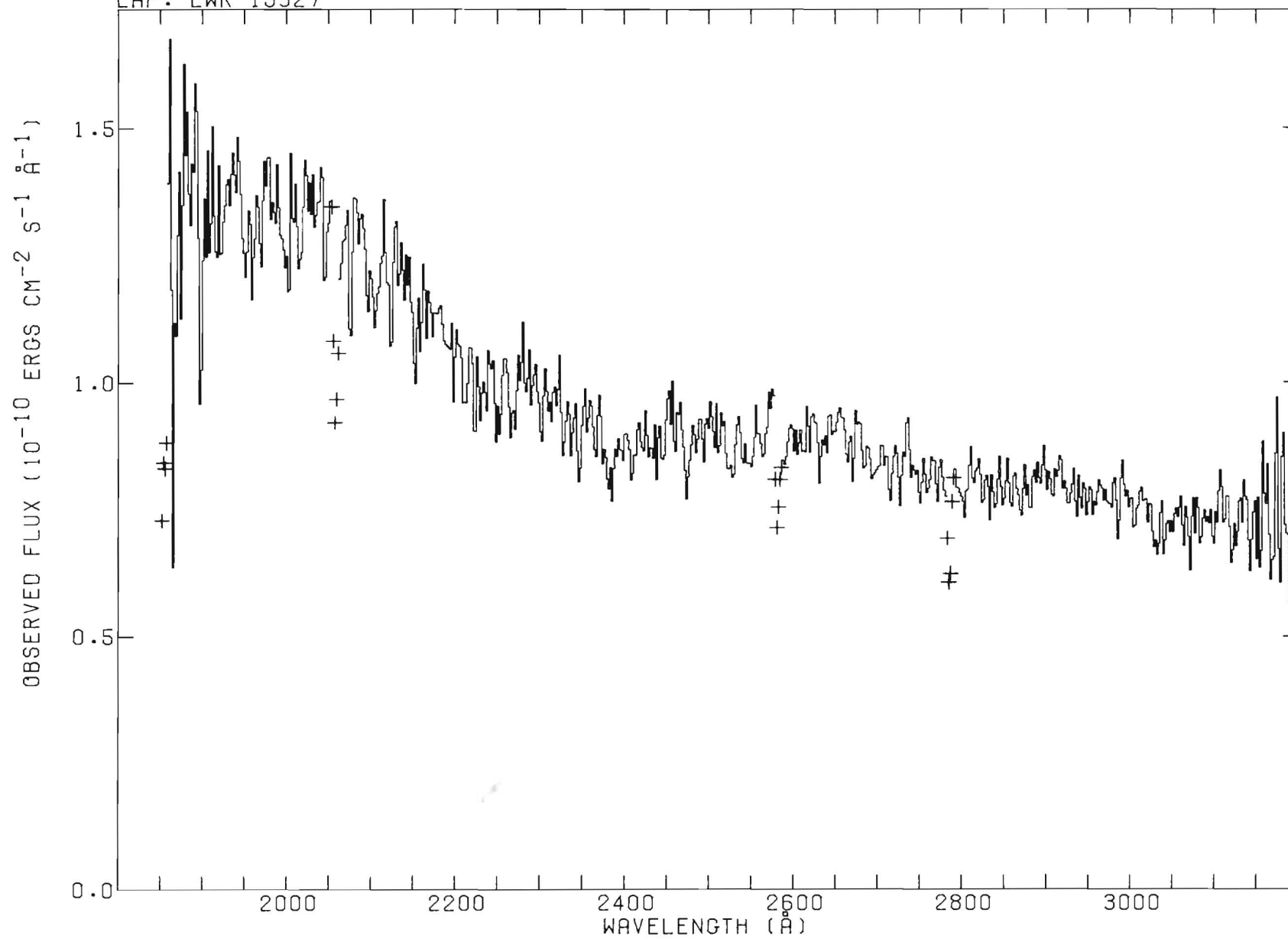
HD 10205 B8 IV
LAP: SWP 19294

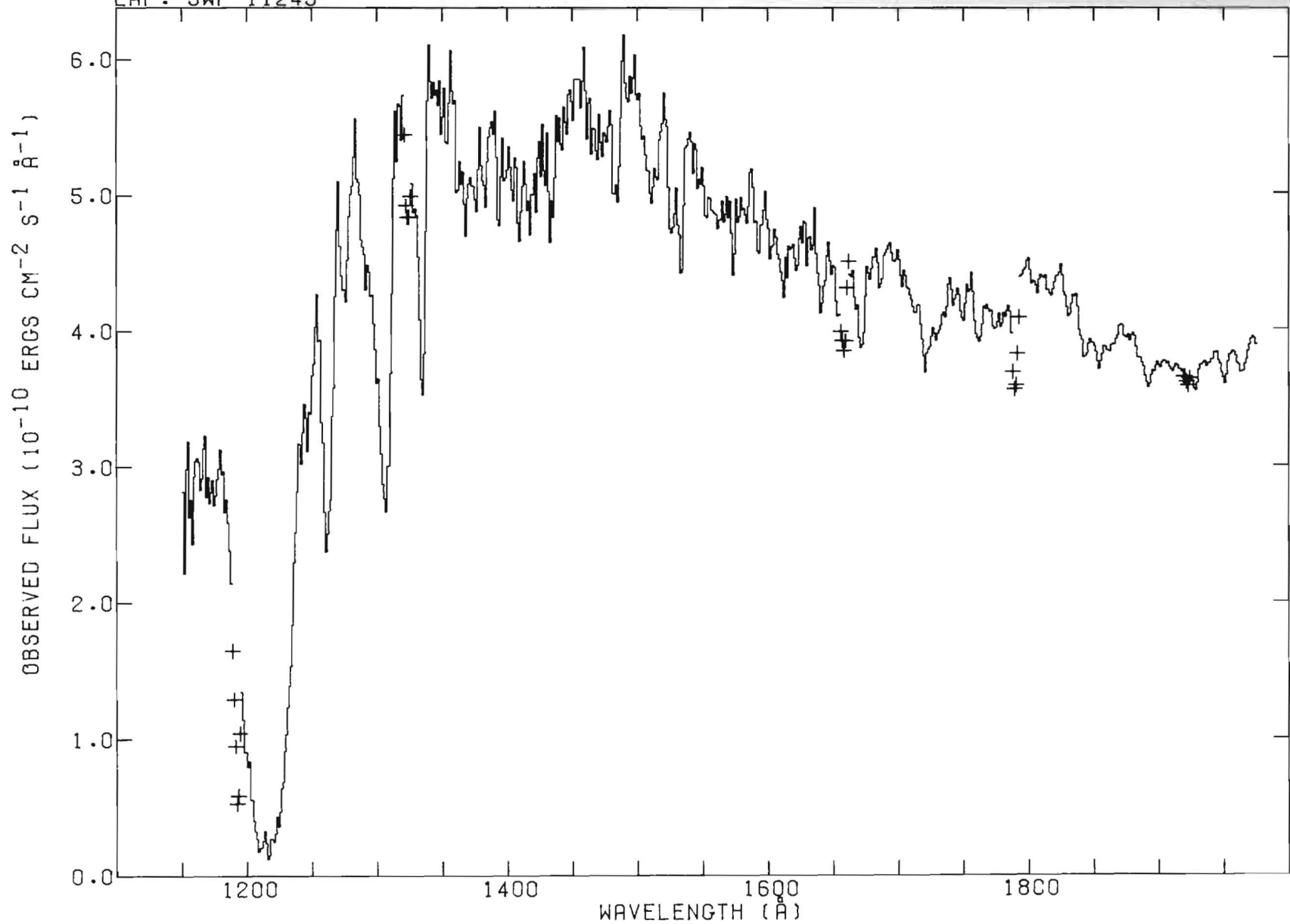
V=4.94 (B-V)=-0.09 E(B-V)=0.01



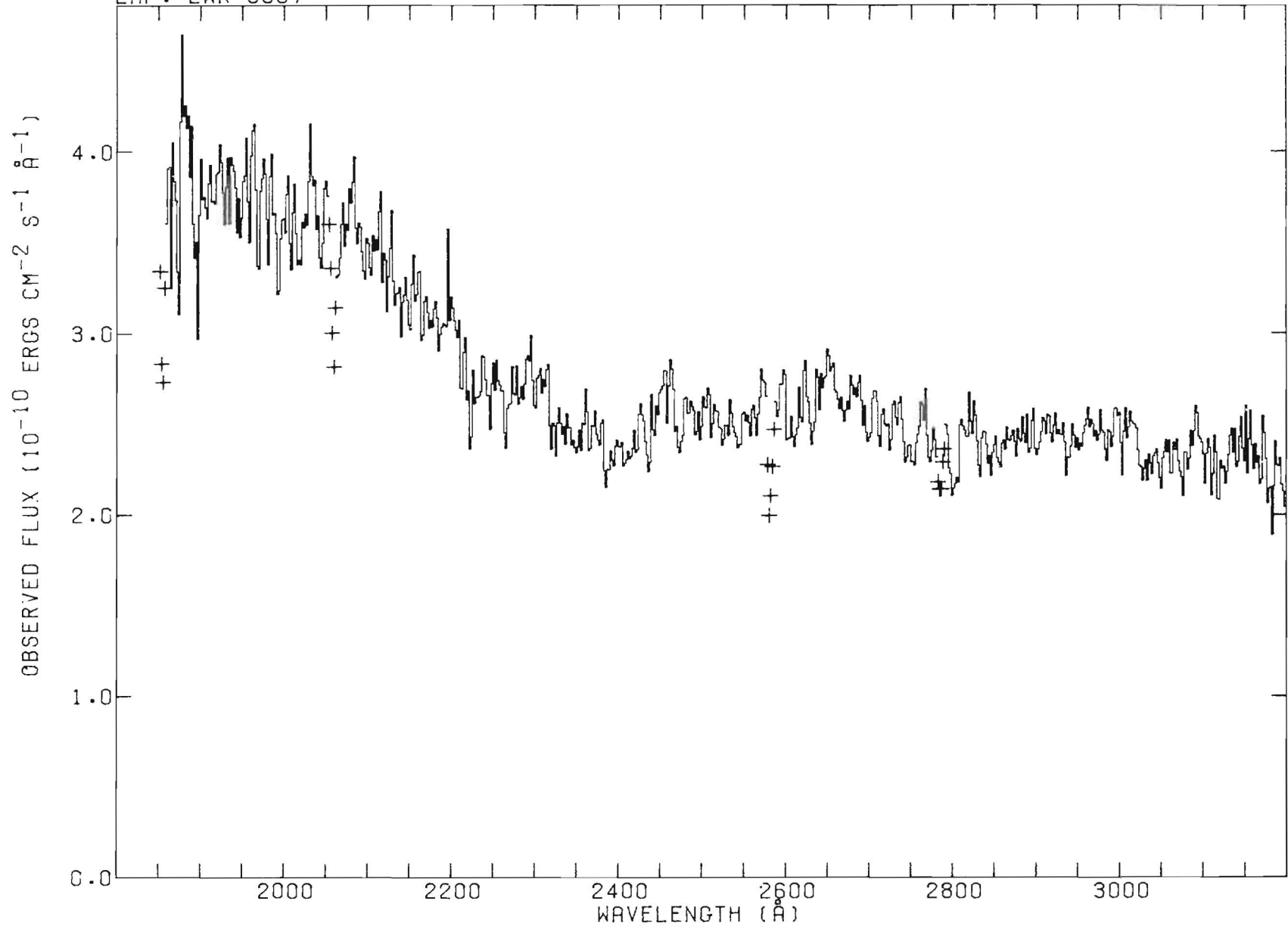
HD 10205 B8 IV
LAP: LWR 15327

V=4.94 (B-V)=-0.09 E(B-V)=0.01



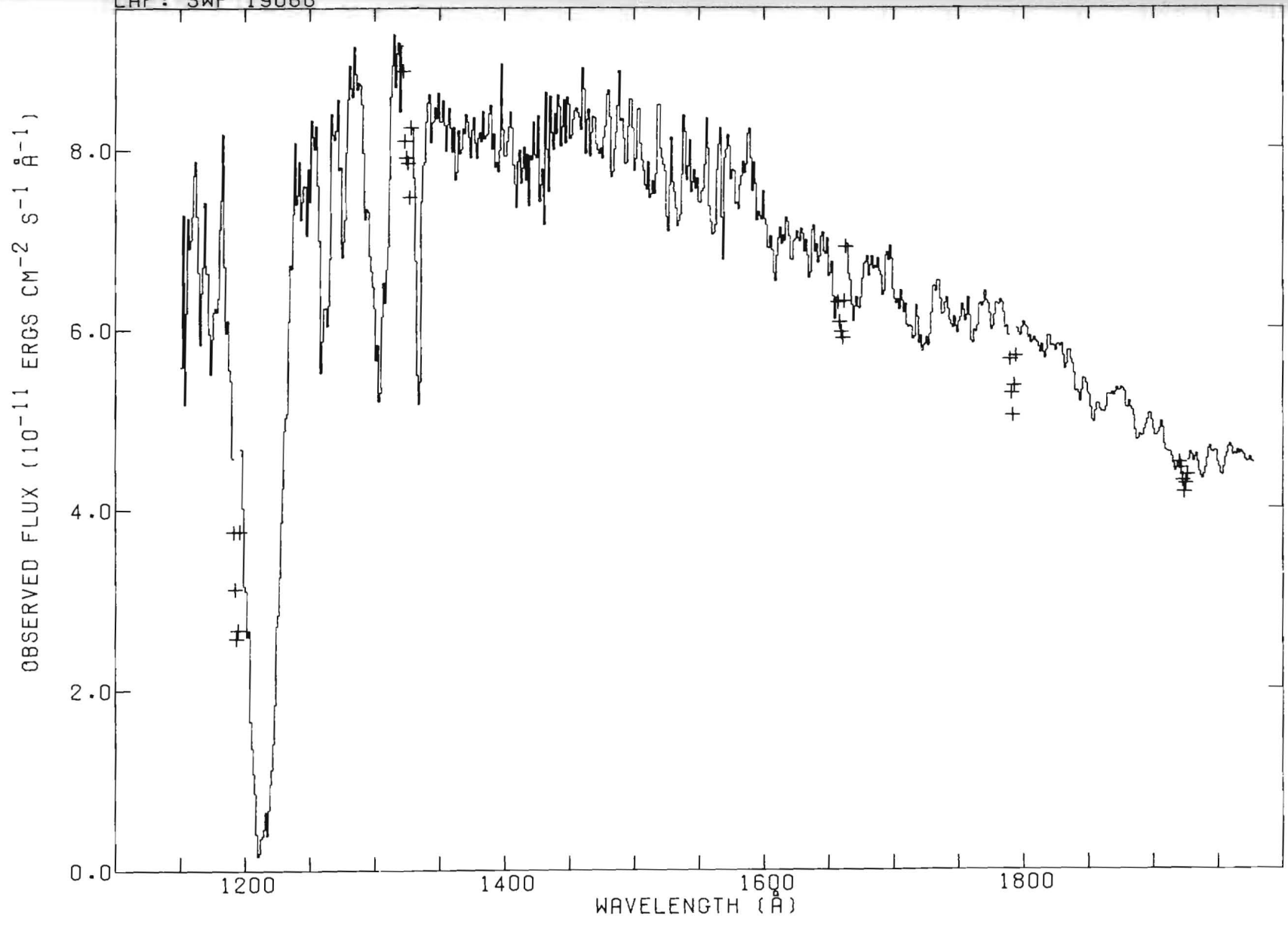


HD 23850 B8 III + V=3.63 (B-V)=-0.09 E(B-V)=0.01
LAP: LWR 9867



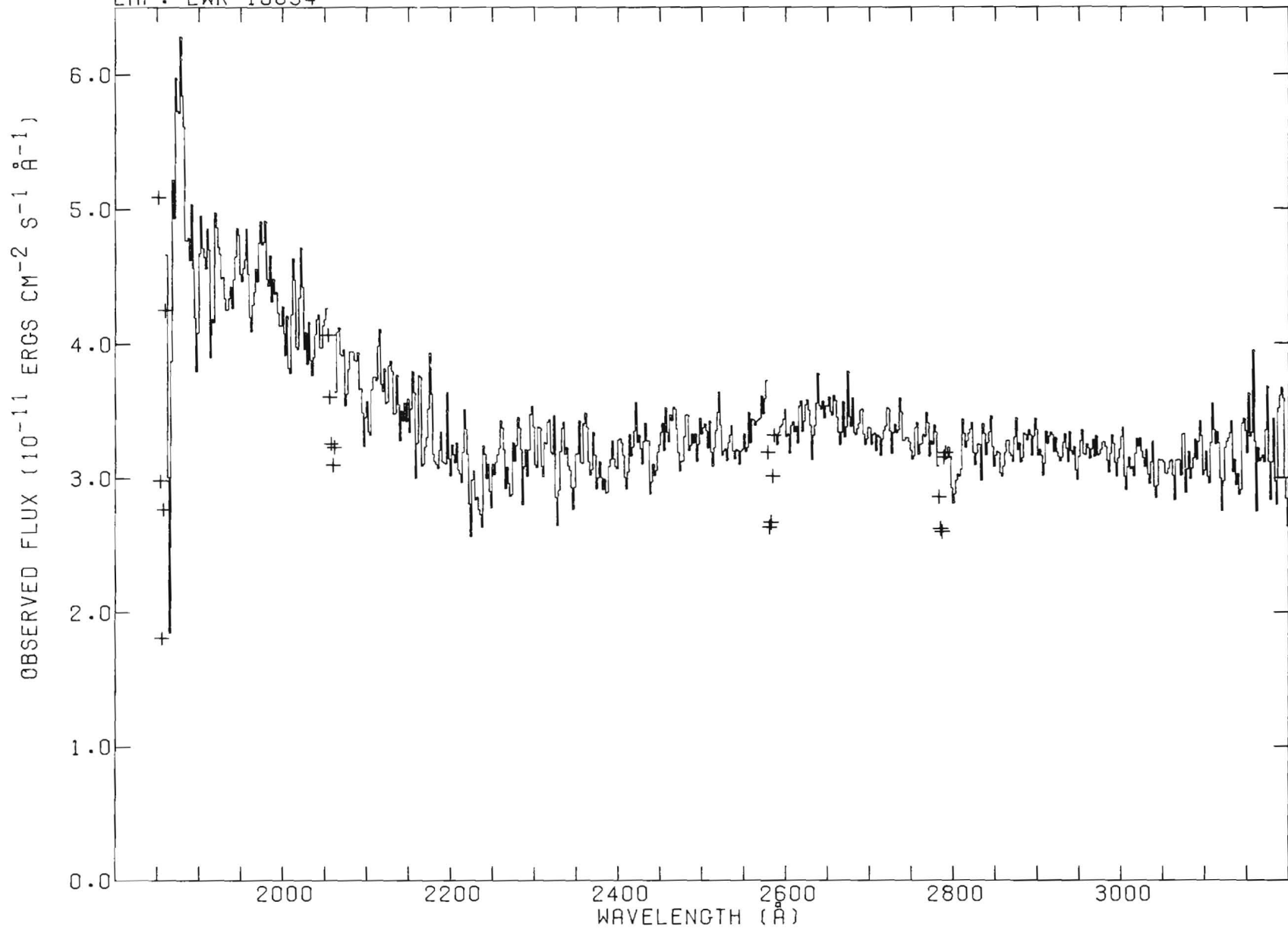
HD 46769 B8 IB
LAP: SWP 19066

V=5.80 (B-V)=0.00 E(B-V)=0.02



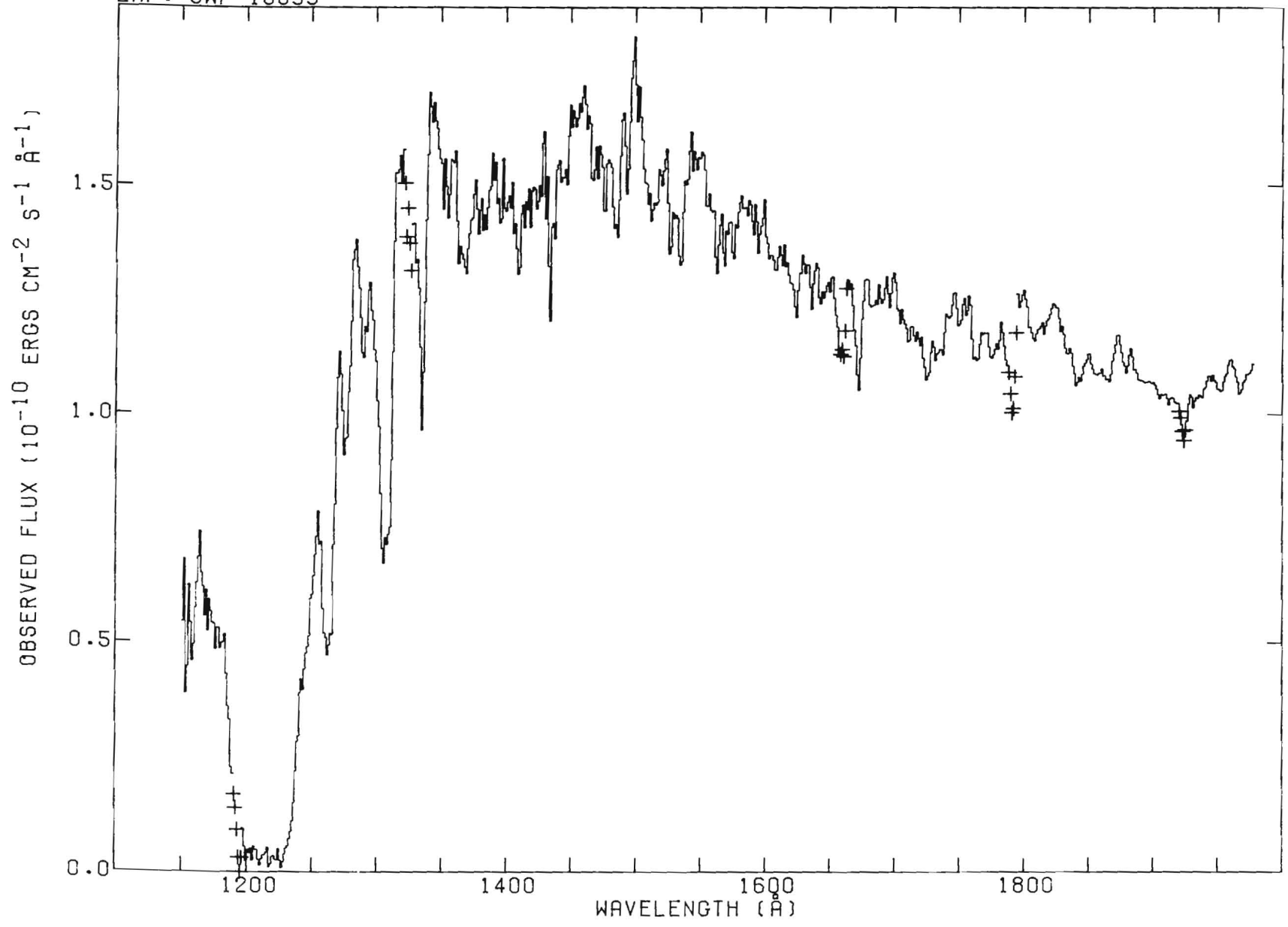
HD 46769 B8 IB
LAP: LWR 15094

V=5.80 (B-V)=0.00 E(B-V)=0.02



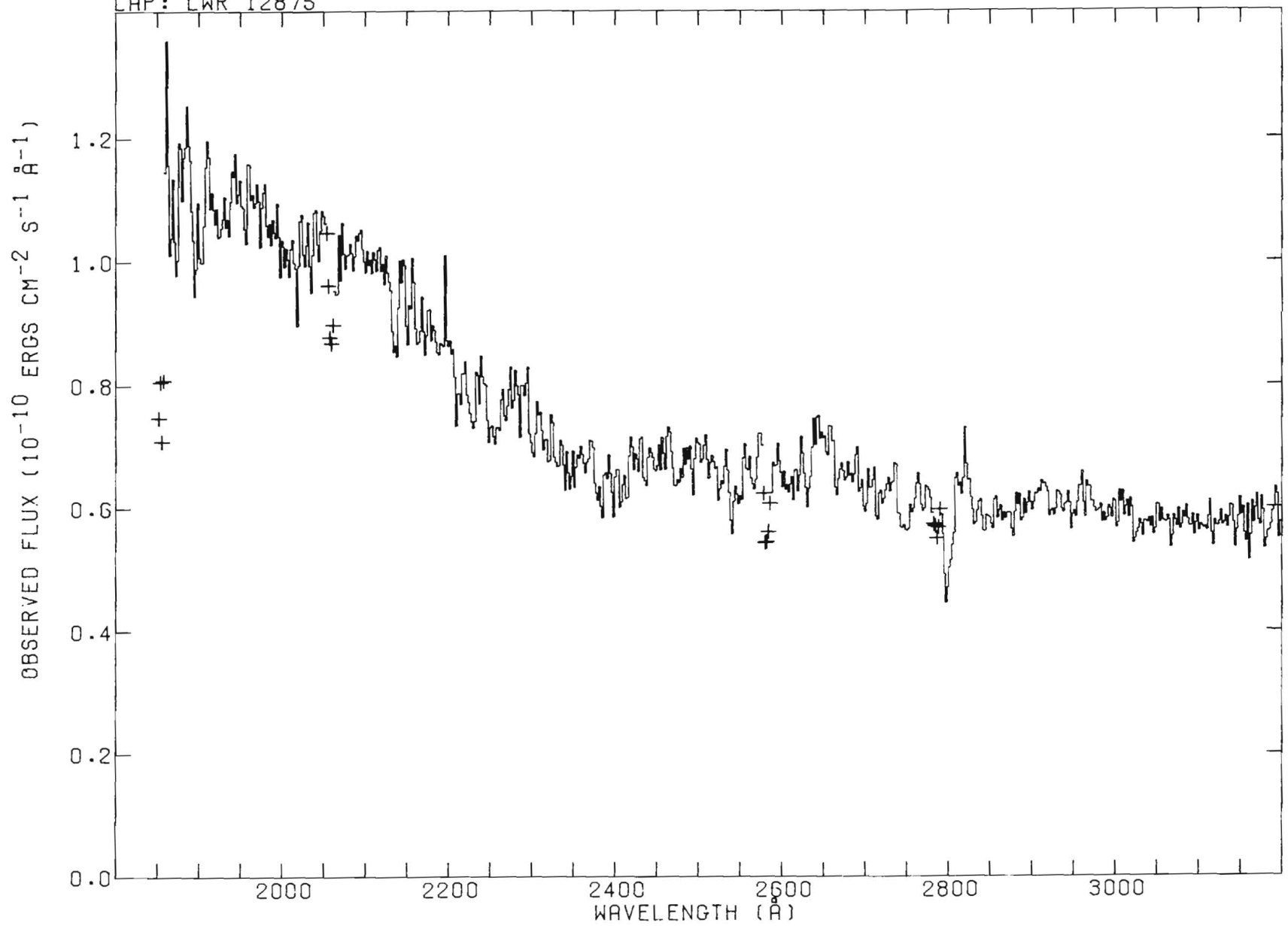
HD 38899 B9 V
LAP: SWP 16639

V=4.91 (B-V)=-0.07 E(B-V)=0.00



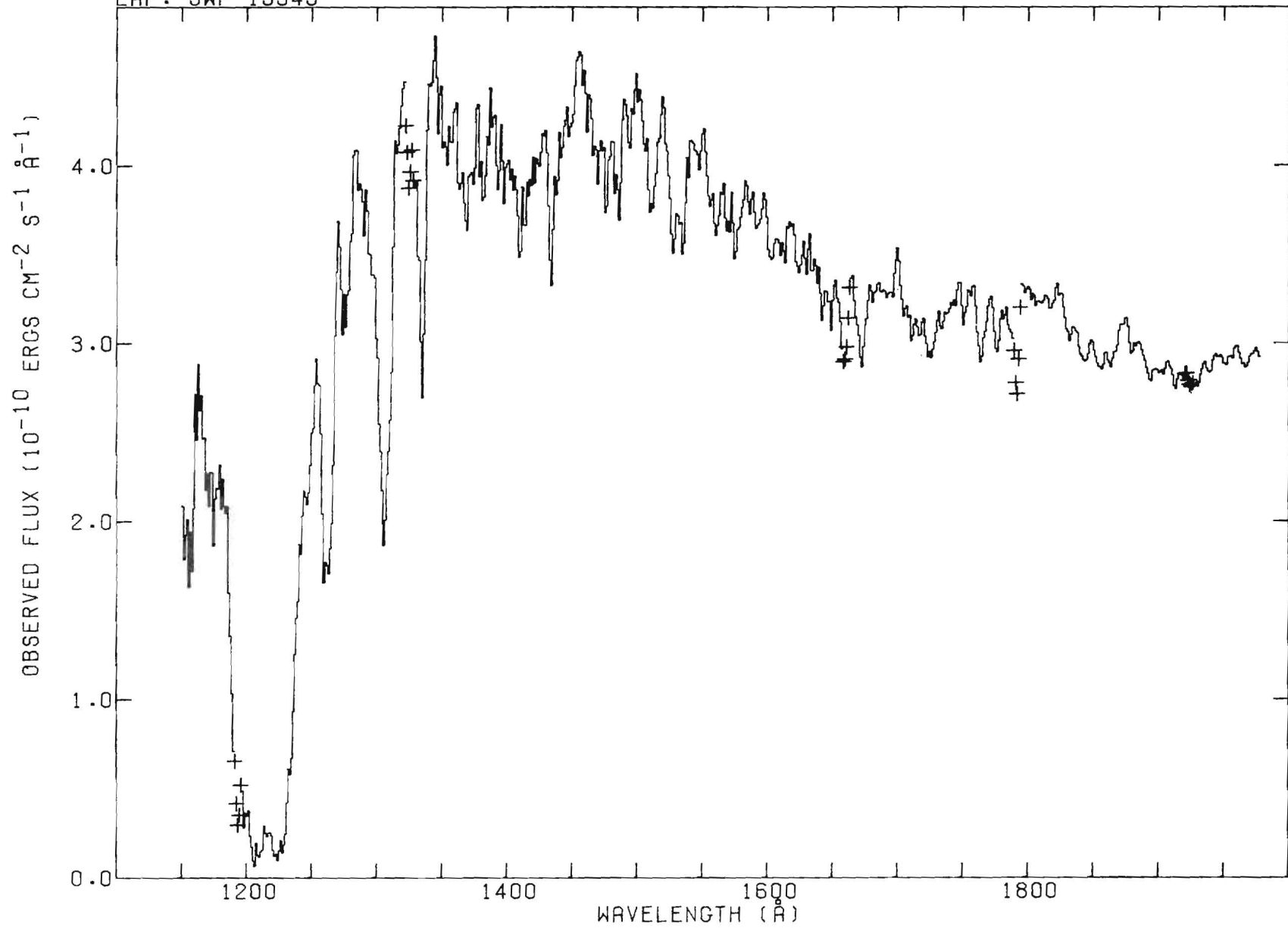
HD 38899 B9 V
LAP: LWR 12875

V=4.91 (B-V)=-0.07 E(B-V)=0.00



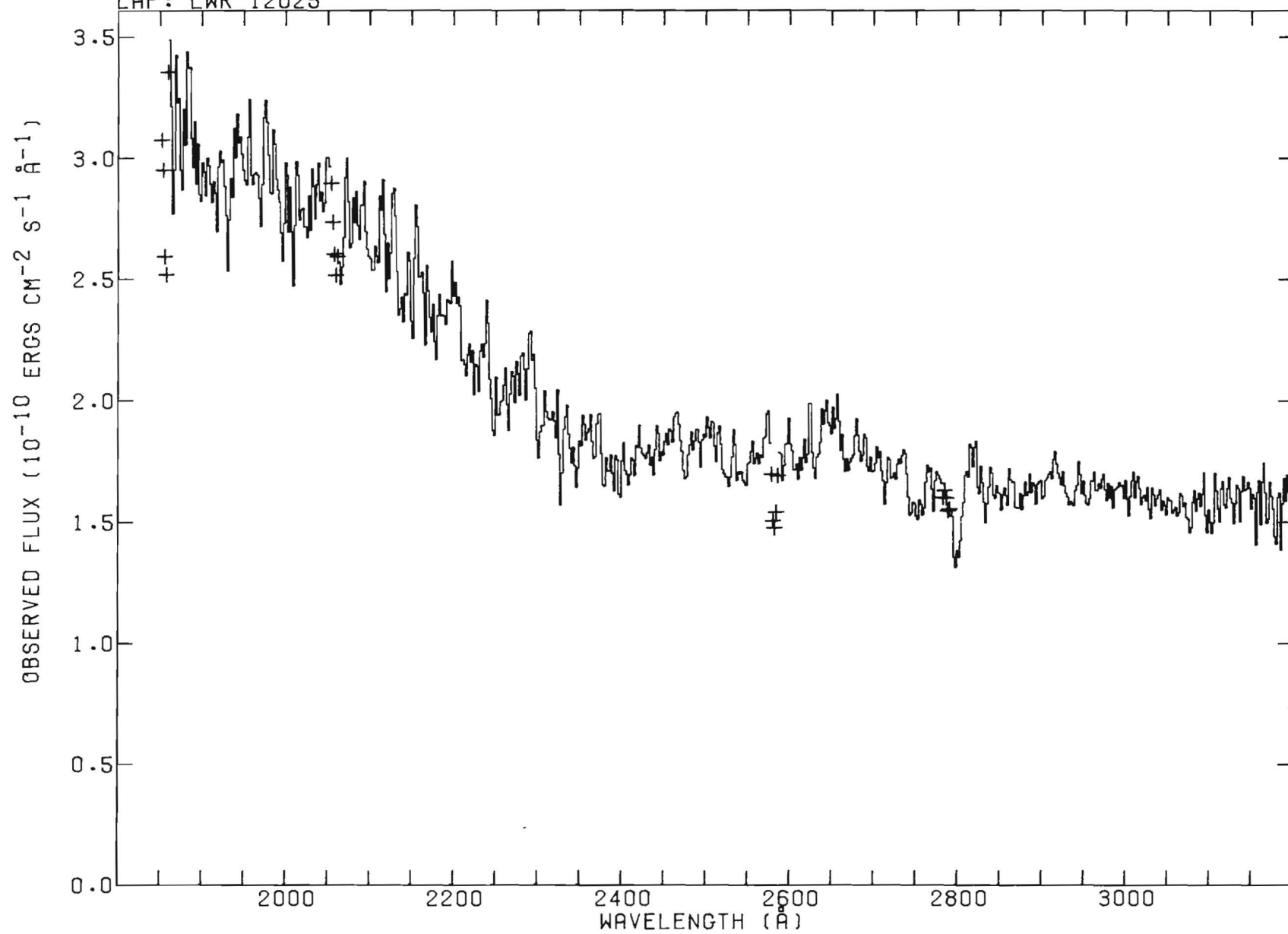
HD 196867 B9 IV
LAP: SWP 15545

V=3.77 (B-V)=-0.06 E(B-V)=0.01



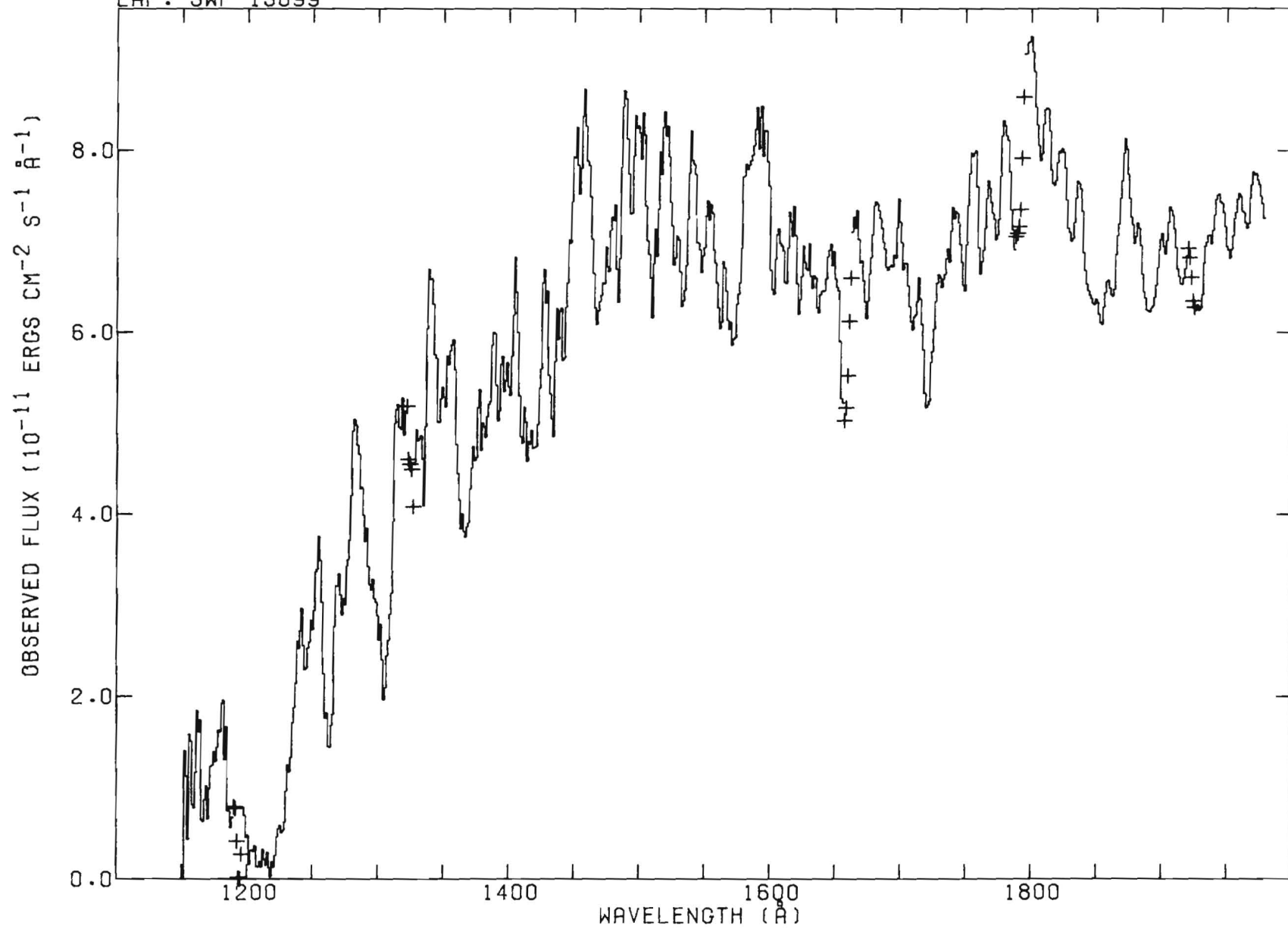
HD 196867 B9 IV
LAP: LWR 12025

V=3.77 (B-V)=-0.06 E(B-V)=0.01



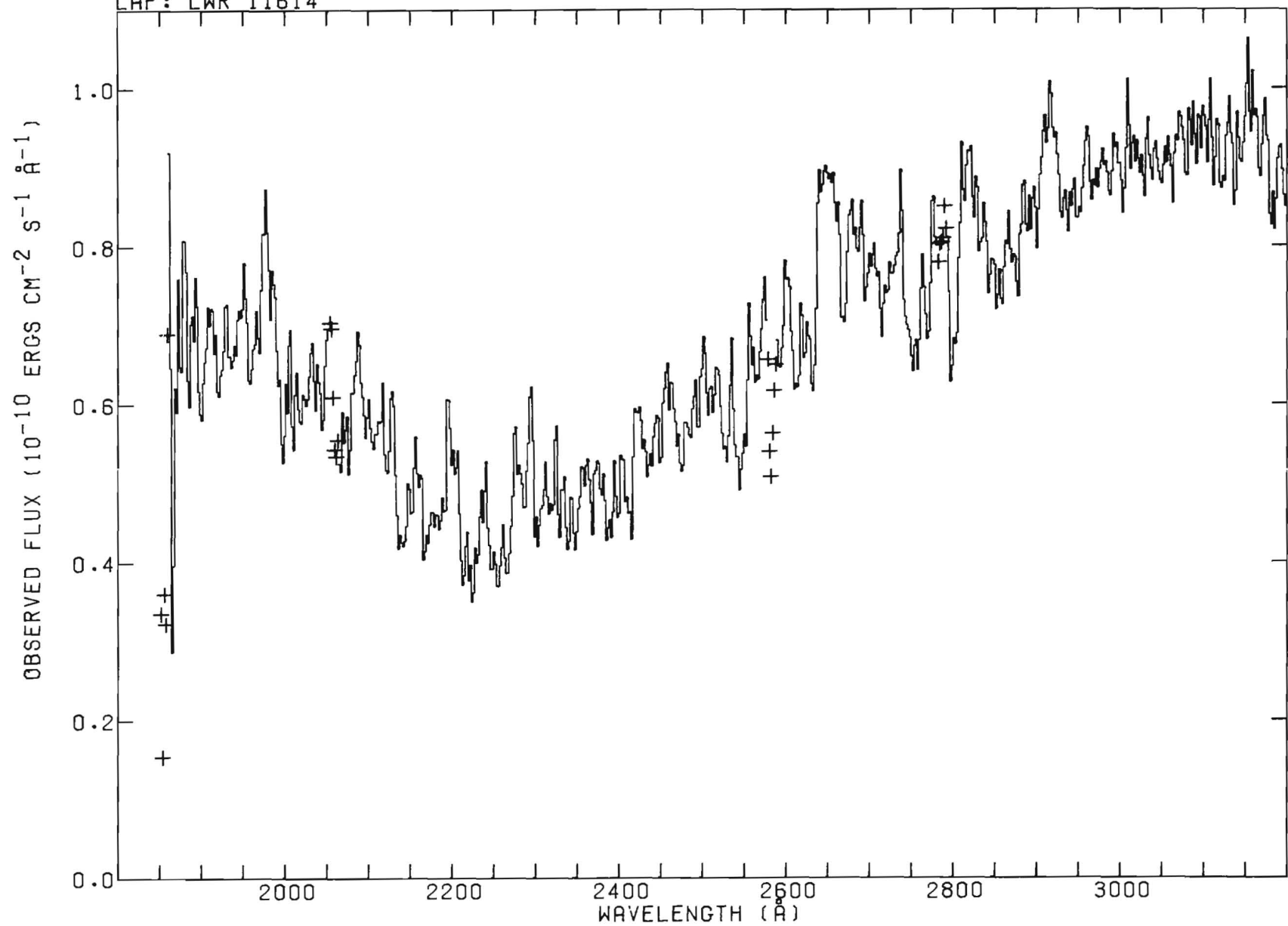
HD 202850 B9 IAB
LAP: SWP 15099

V=4.23 (B-V)=0.12 E(B-V)=0.12



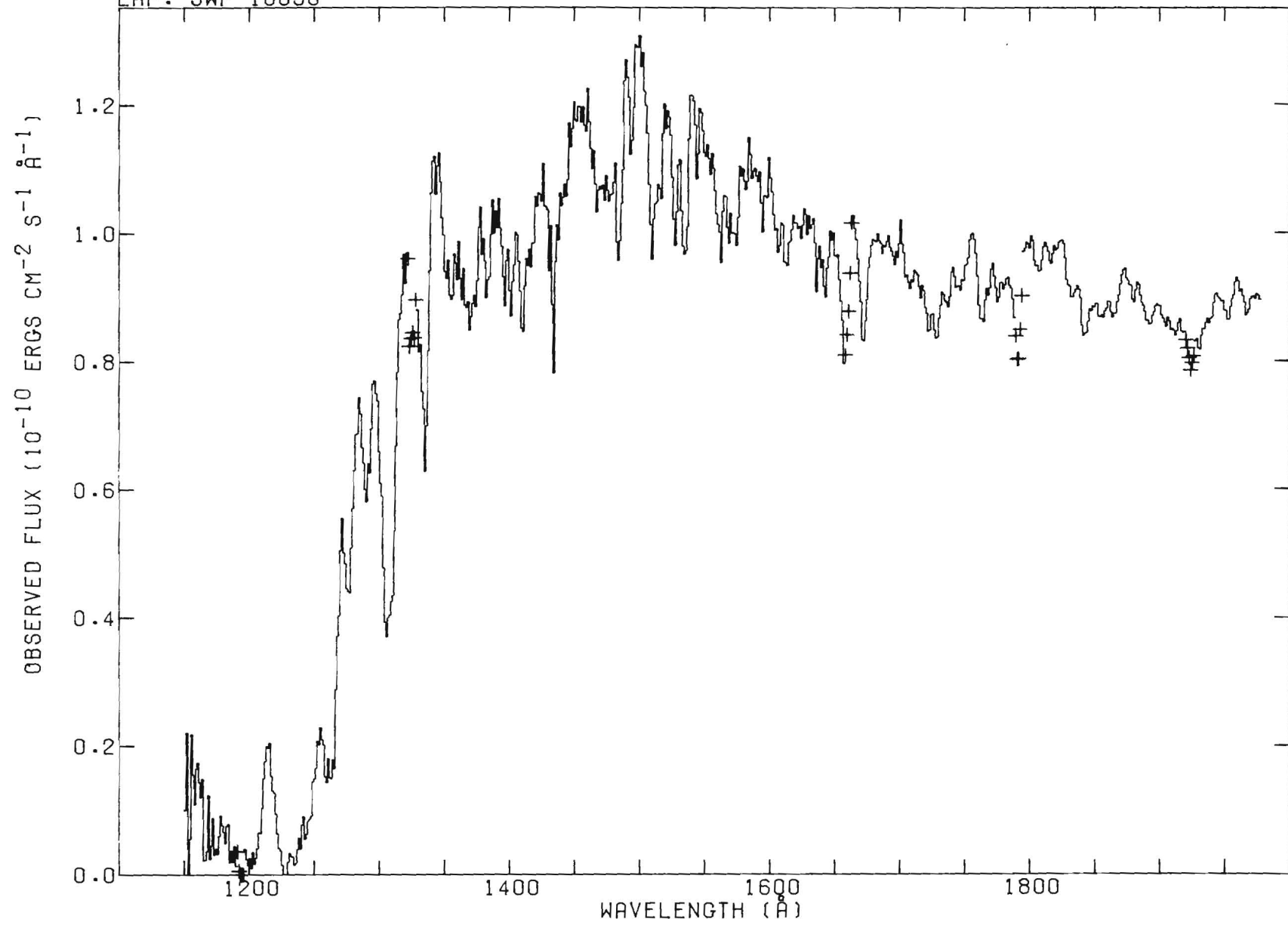
HD 202850 B9 IAB
LAP: LWR 11614

V=4.23 (B-V)=0.12 E(B-V)=0.12



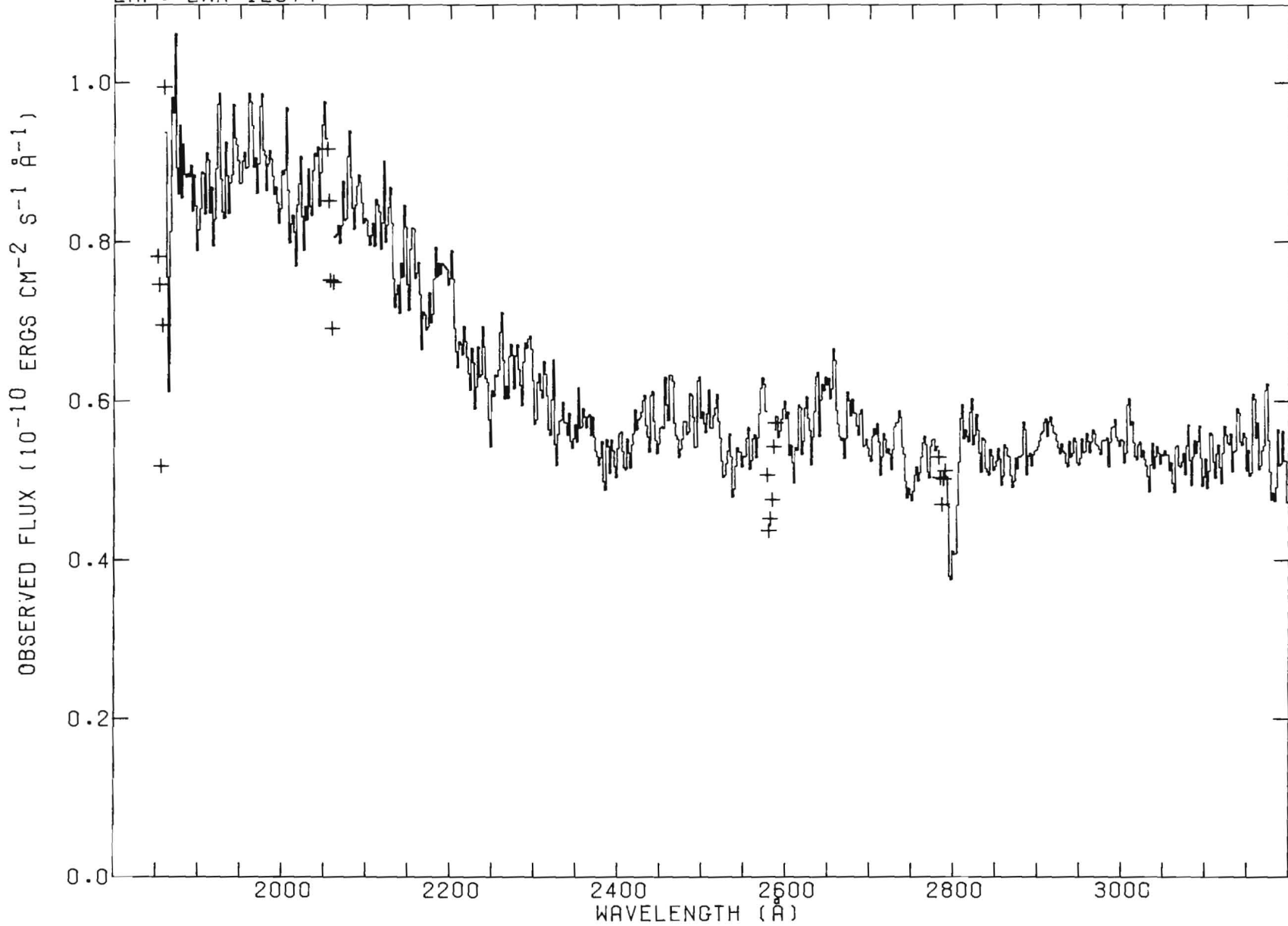
HD 193432 B9.5 V
LAP: SWP 16850

V=4.76 (B-V)=-0.05 E(B-V)=-0.01



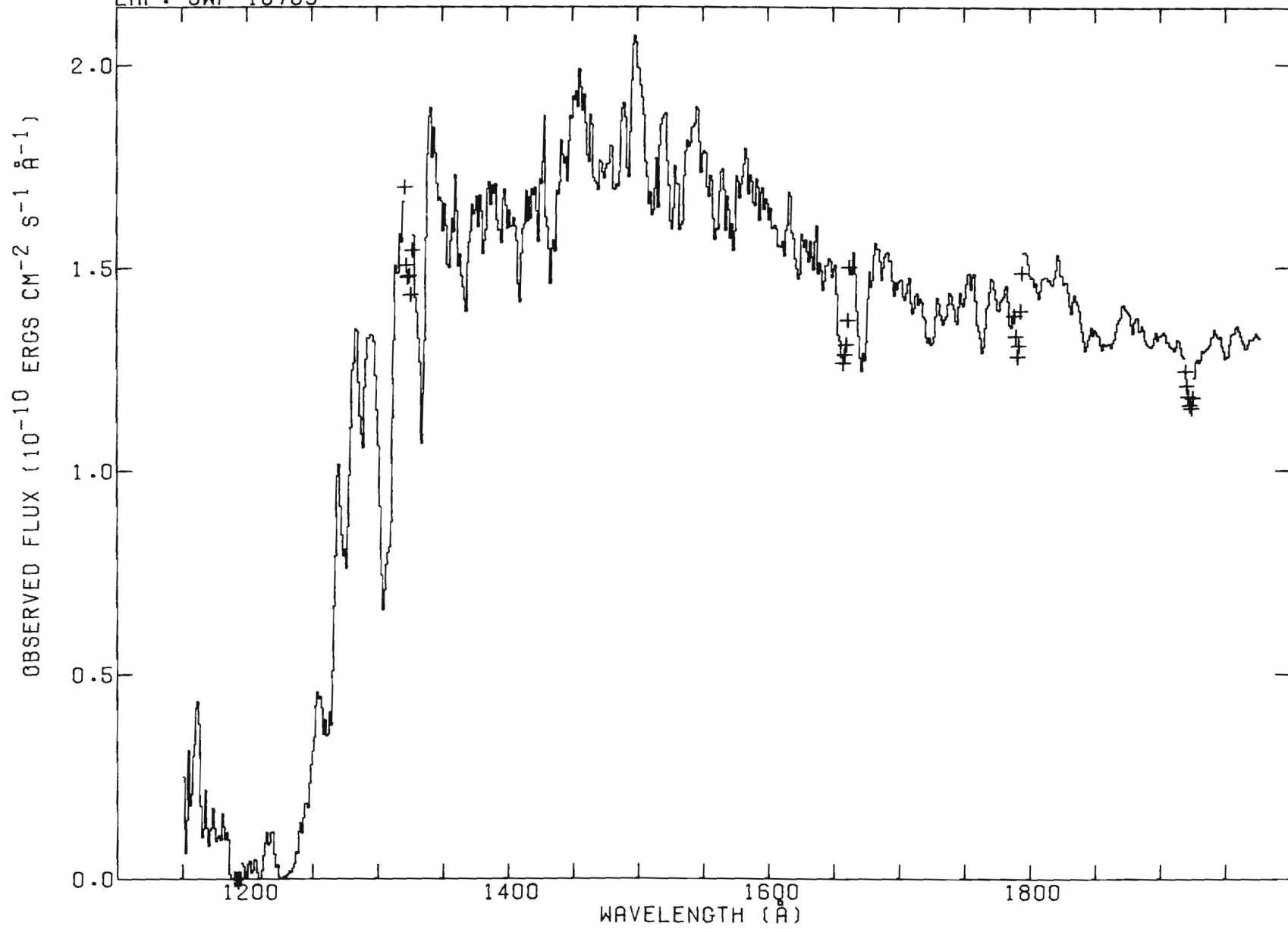
HD 193432 B9.5 V
LAP: LWR 12874

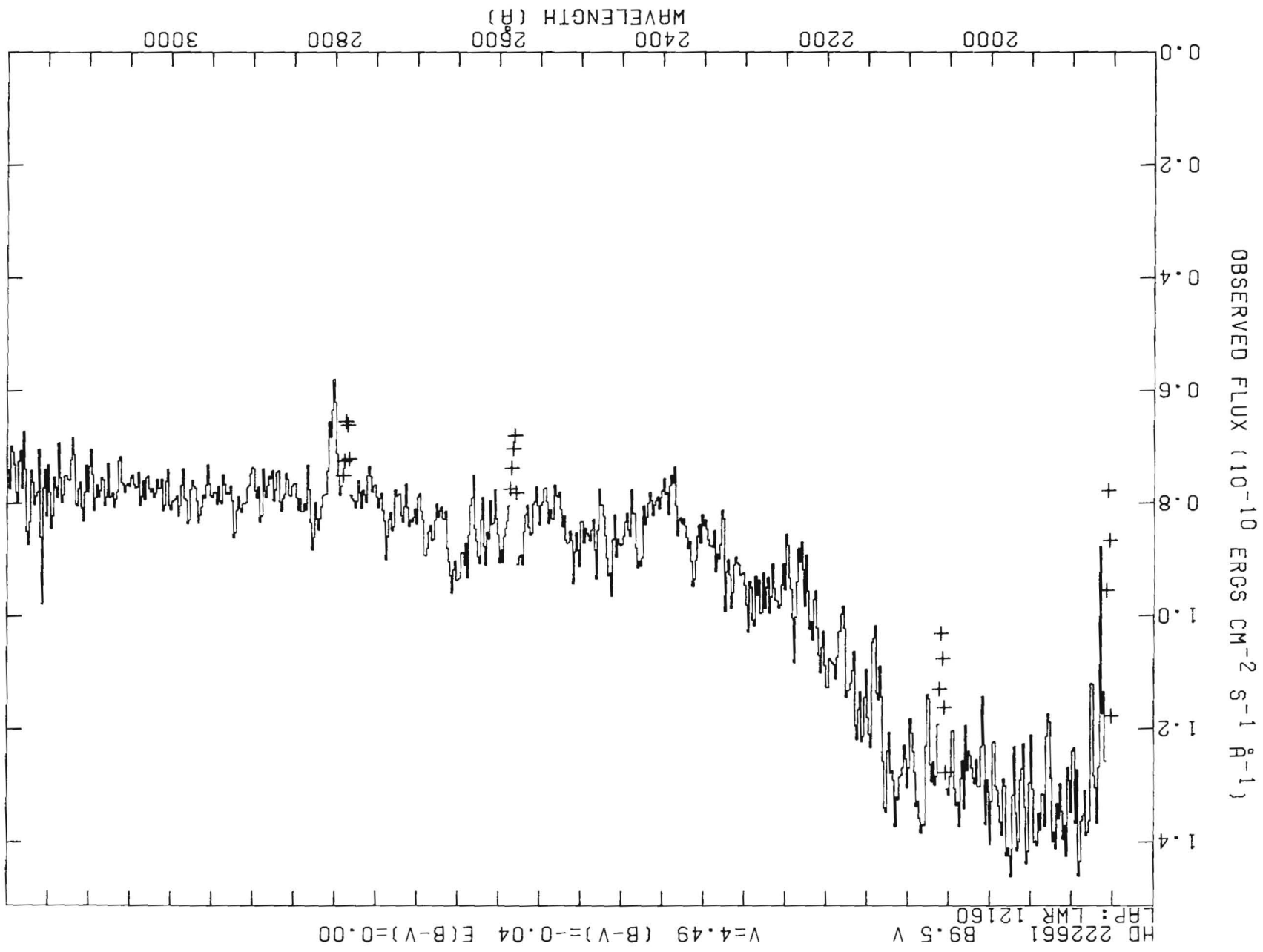
V=4.76 (B-V)=-0.05 E(B-V)=-0.01



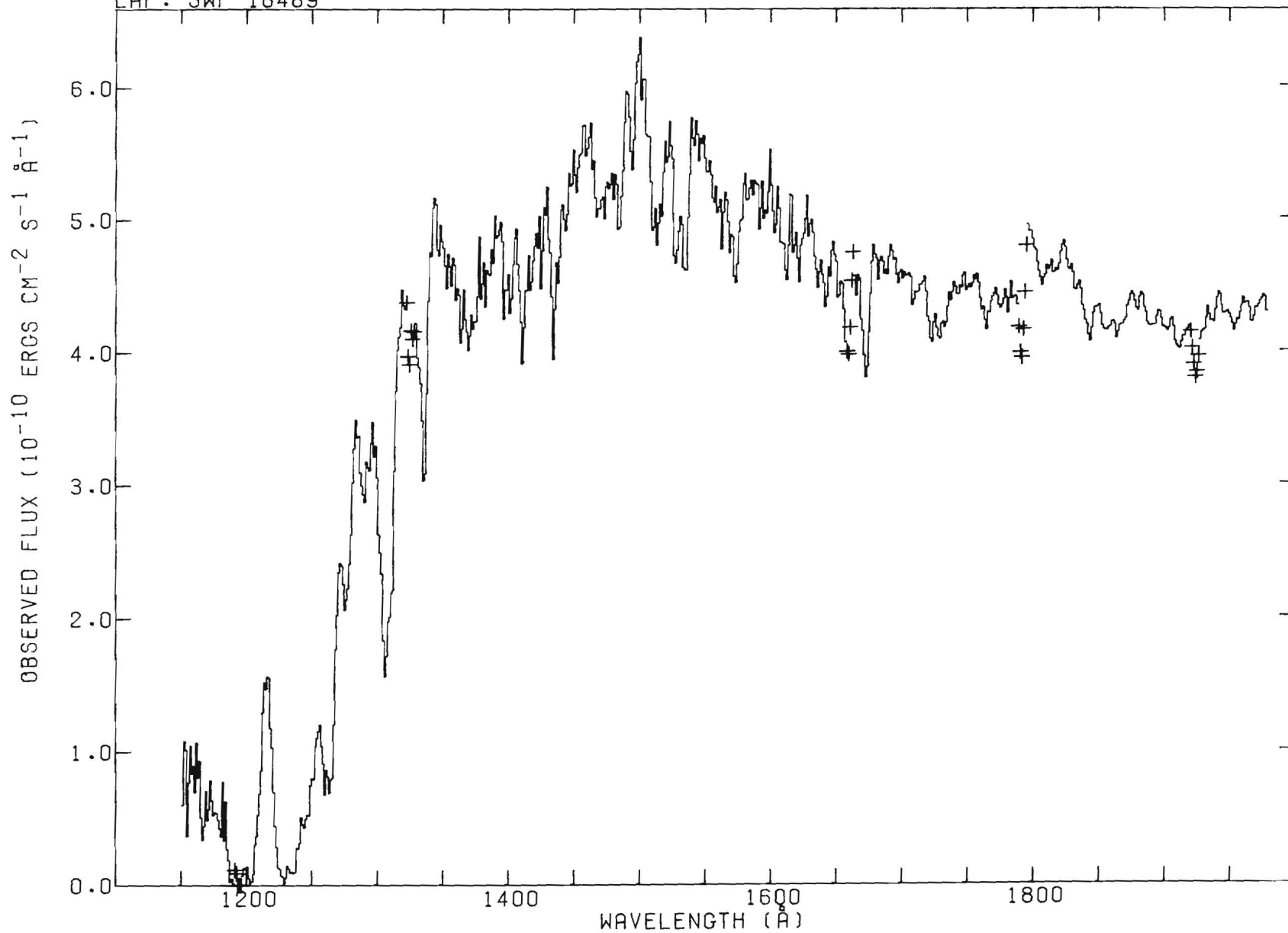
HD 222661 B9.5 V
LAP: SWP 15789

V=4.49 (B-V)=-0.04 E(B-V)=0.00

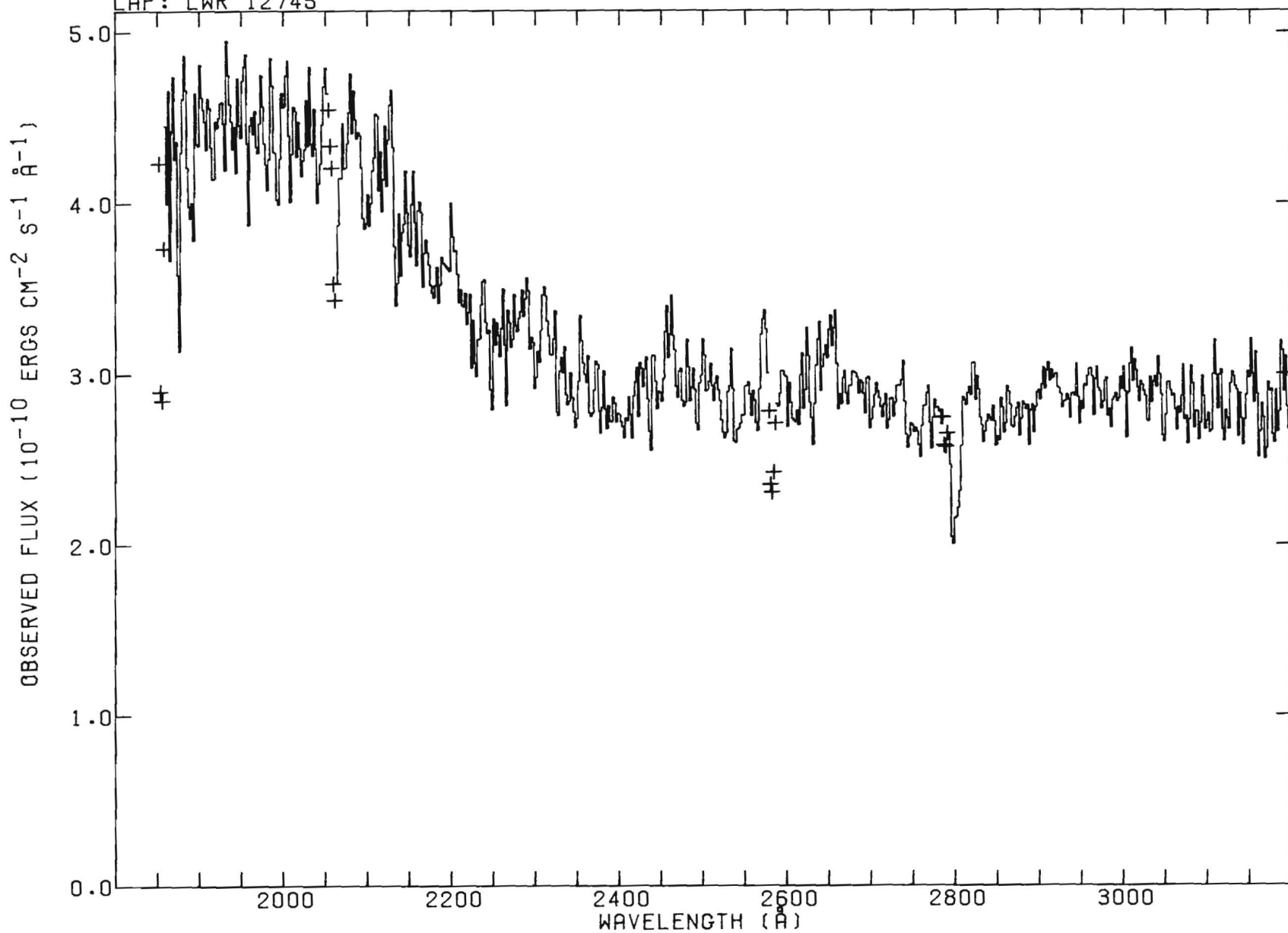




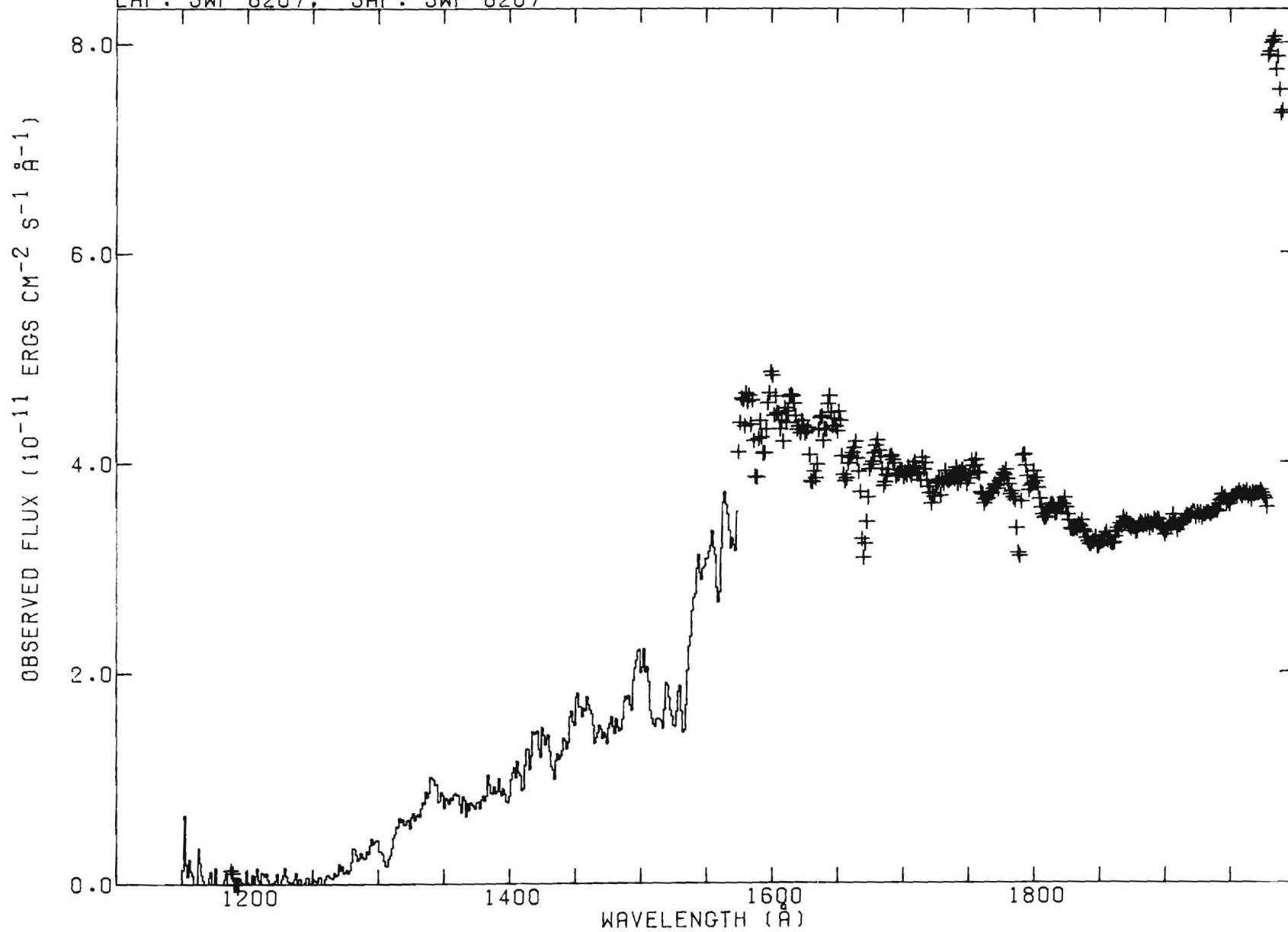
HD 186882 B9.5 III V=2.87 (B-V)=-0.03 E(B-V)=0.02
LAP: SWP 16489



HD 186882 B9.5 III V=2.87 (B-V)=-0.03 E(B-V)=0.02
LAP: LWR 12745



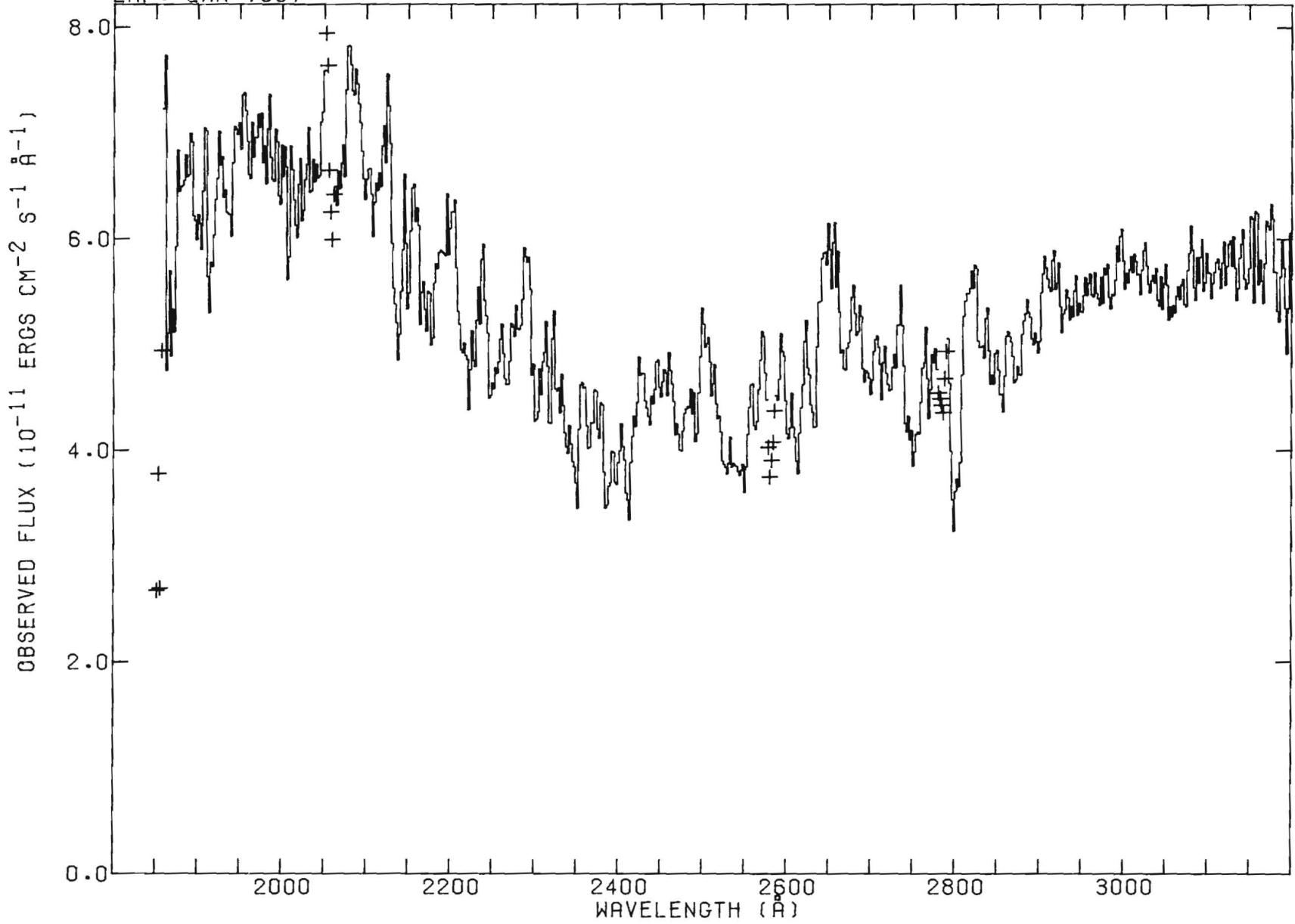
HD 95608 AD V V=4.42 (B-V)=0.05 E(B-V)=0.06
LAP: SWP 8207; SAP: SWP 8207



HD 95608
LAP: LWR 7007

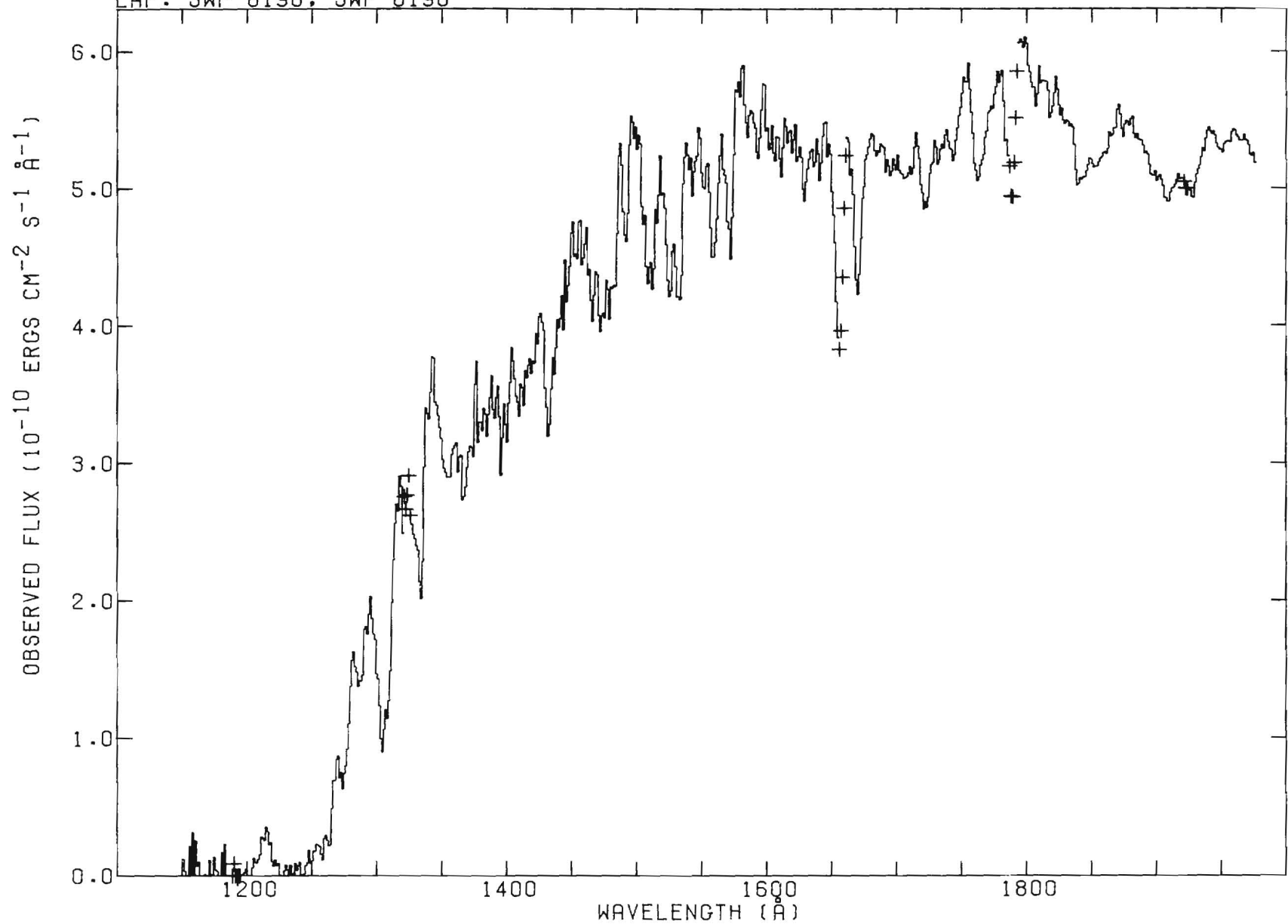
A0 V

$V=4.42$ $(B-V)=0.05$ $E(B-V)=0.06$

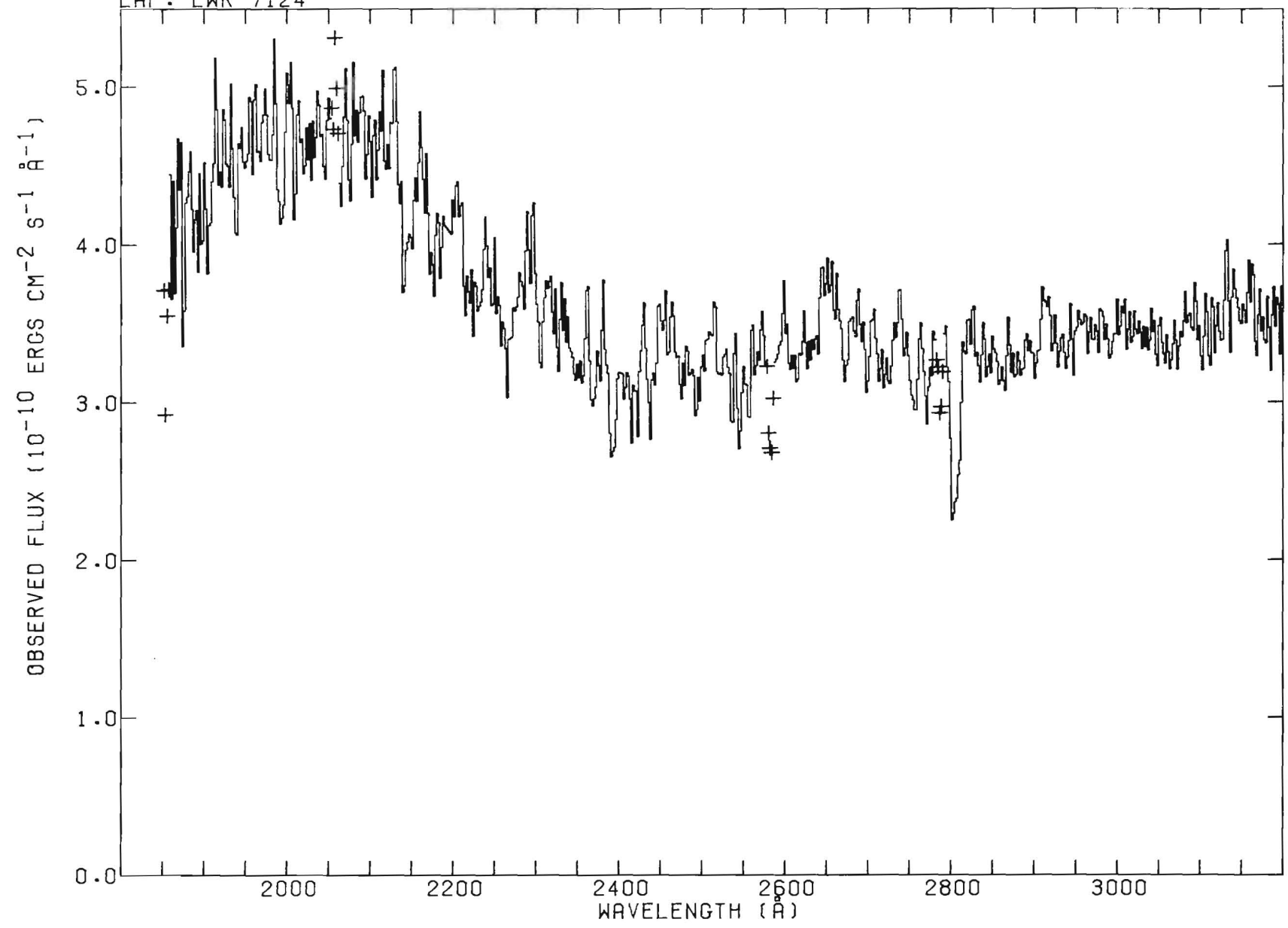


HD 103287 AO V +
LAP: SWP 8196, SWP 8198

V=2.44 (B-V)=0.00 E(B-V)=0.01

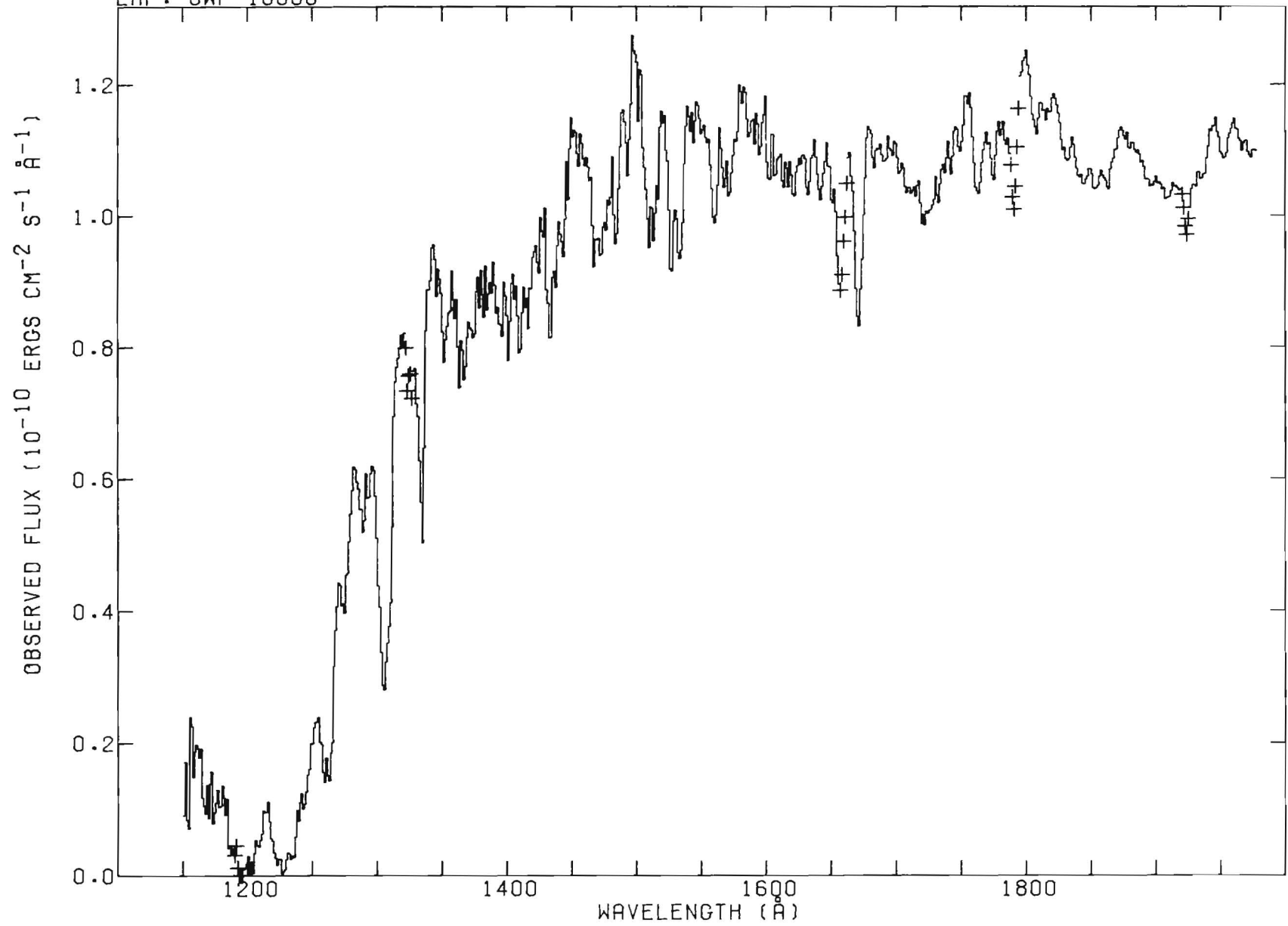


HD 103287 AO V † V=2.44 (B-V)=0.00 E(B-V)=0.01
LAP: LWR 7124



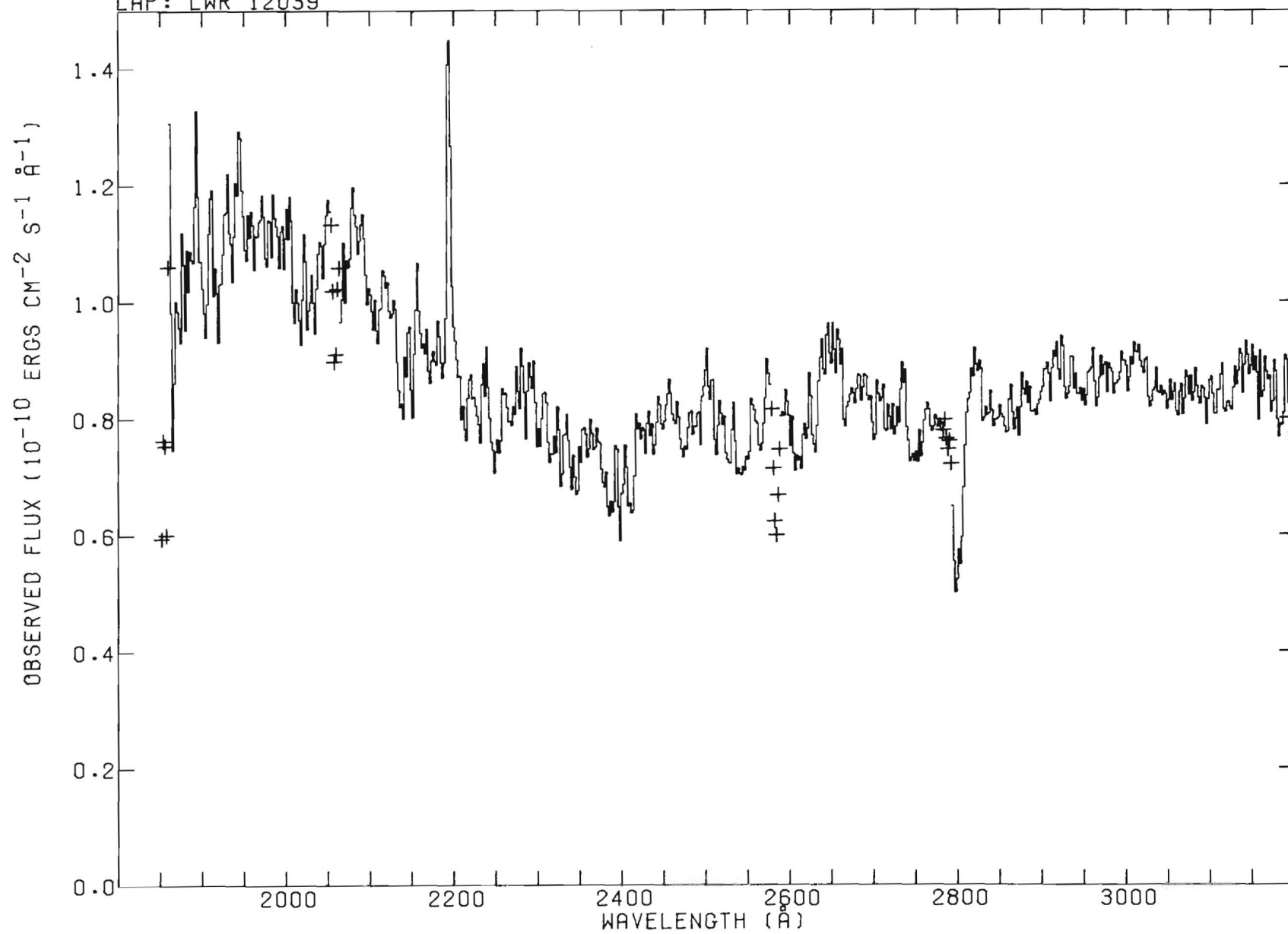
HD 199629 AO V
LAP: SWP 15556

V=3.94 (B-V)=0.02 E(B-V)=0.03



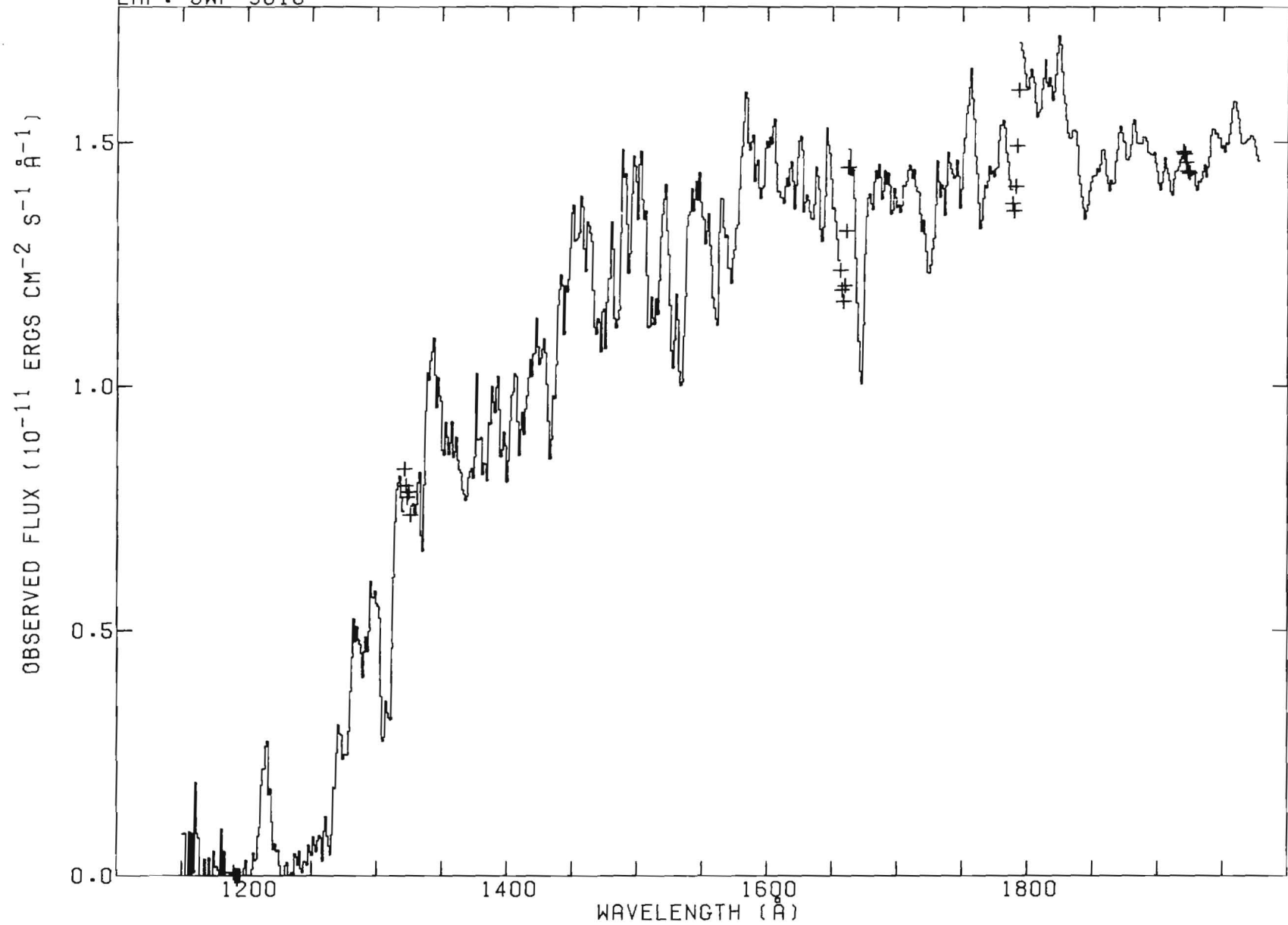
HD 199629 AO V
LAP: LWR 12039

V=3.94 (B-V)=0.02 E(B-V)=0.03



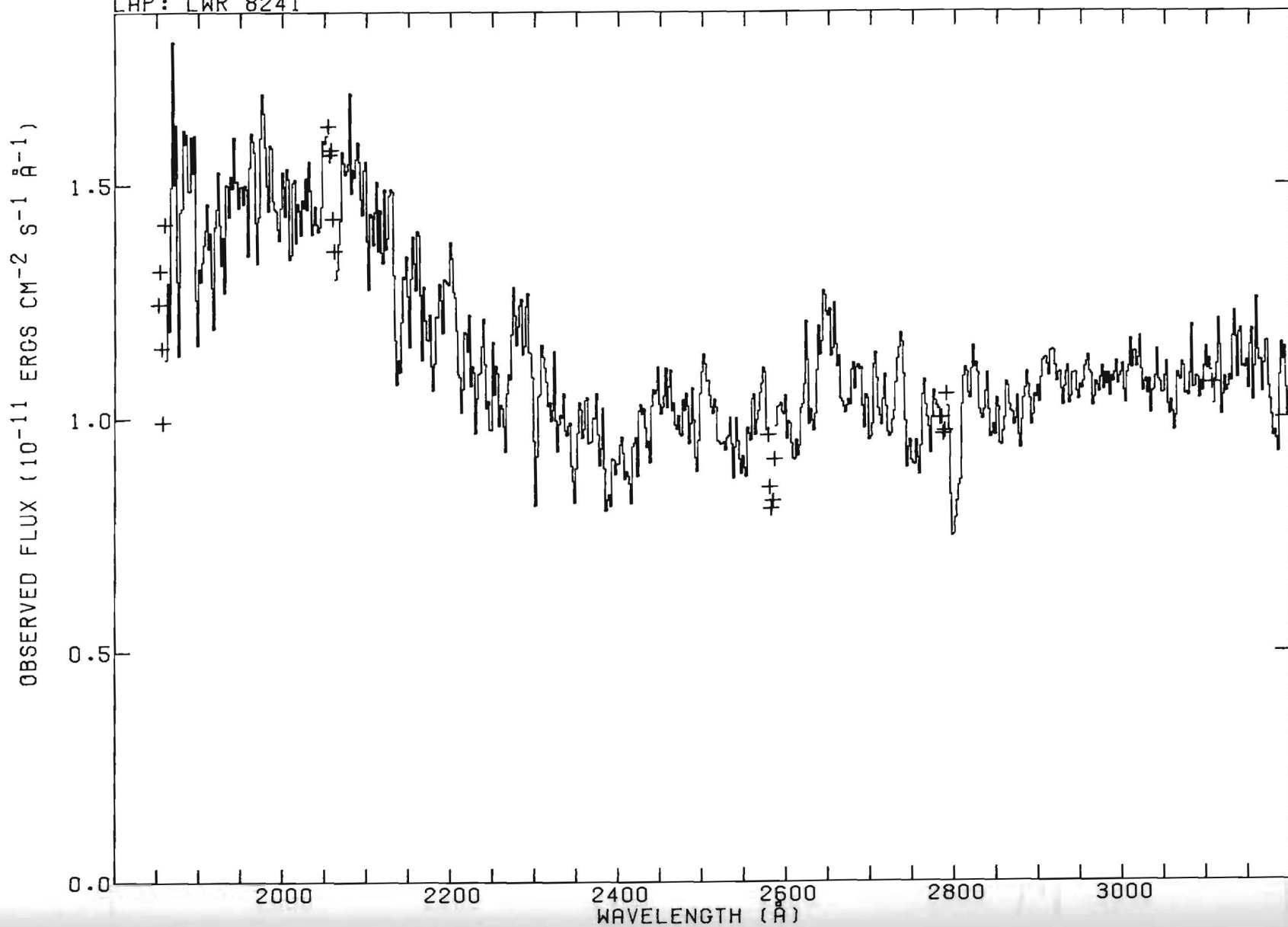
HD 111775 AO II
LAP: SWP 9515

V=6.33 (B-V)=0.03 E(B-V)=0.03



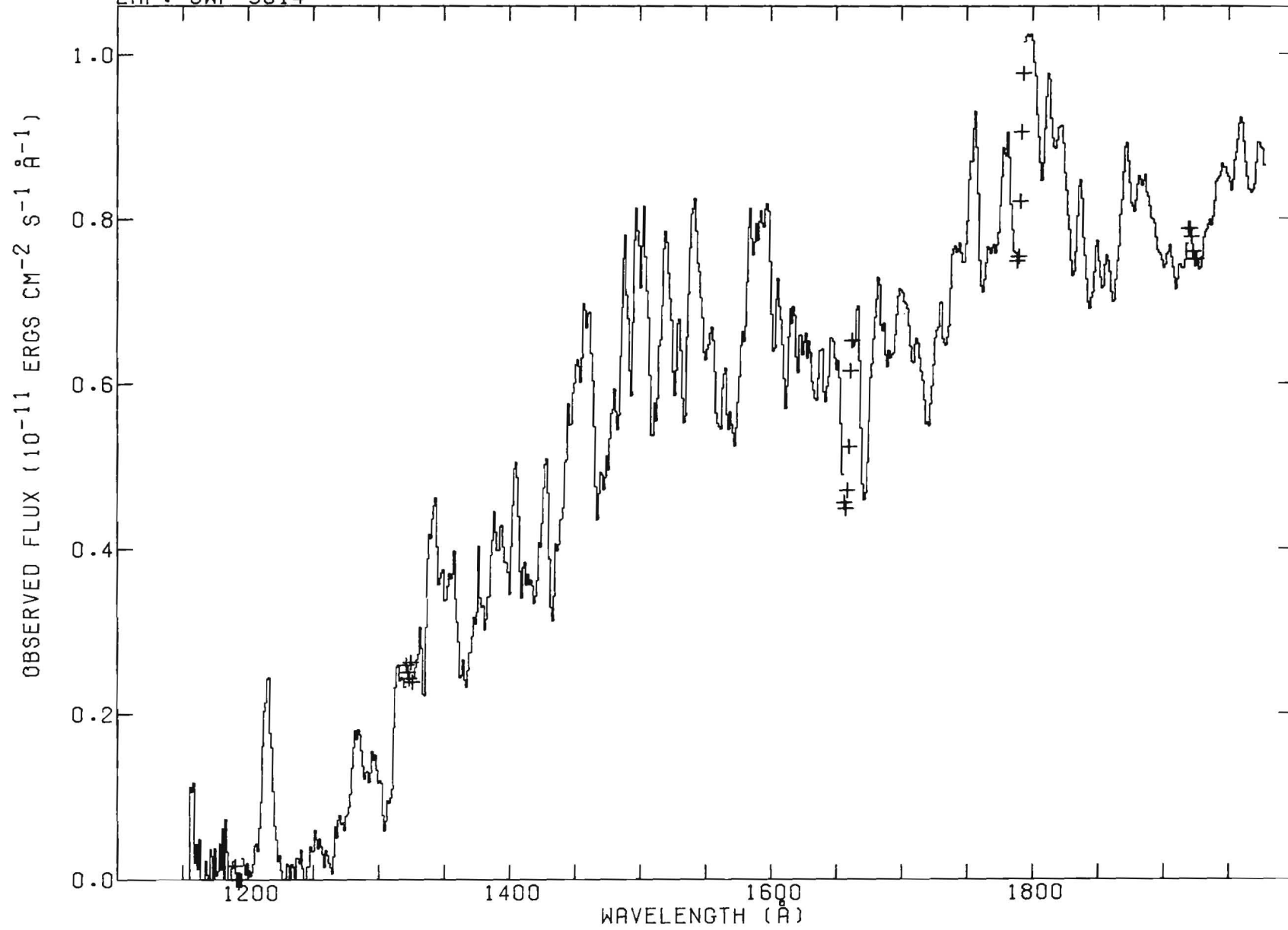
HD 111775 AO II
LAP: LWR 8241

V=6.33 (B-V)=0.03 E(B-V)=0.03



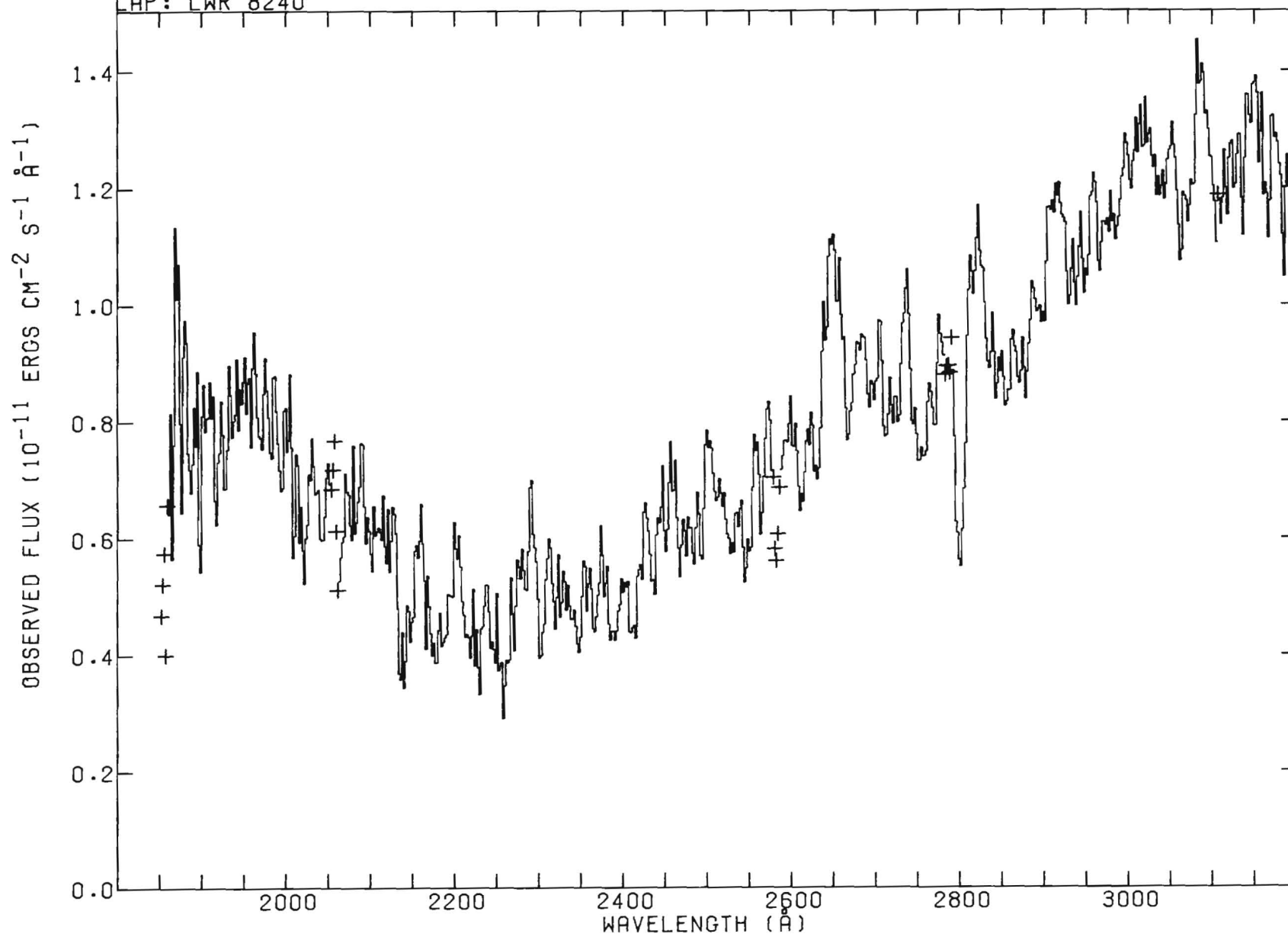
HD 104035 AO 1A
LAP: SWP 9514

V=5.61 (B-V)=0.18 E(B-V)=0.16



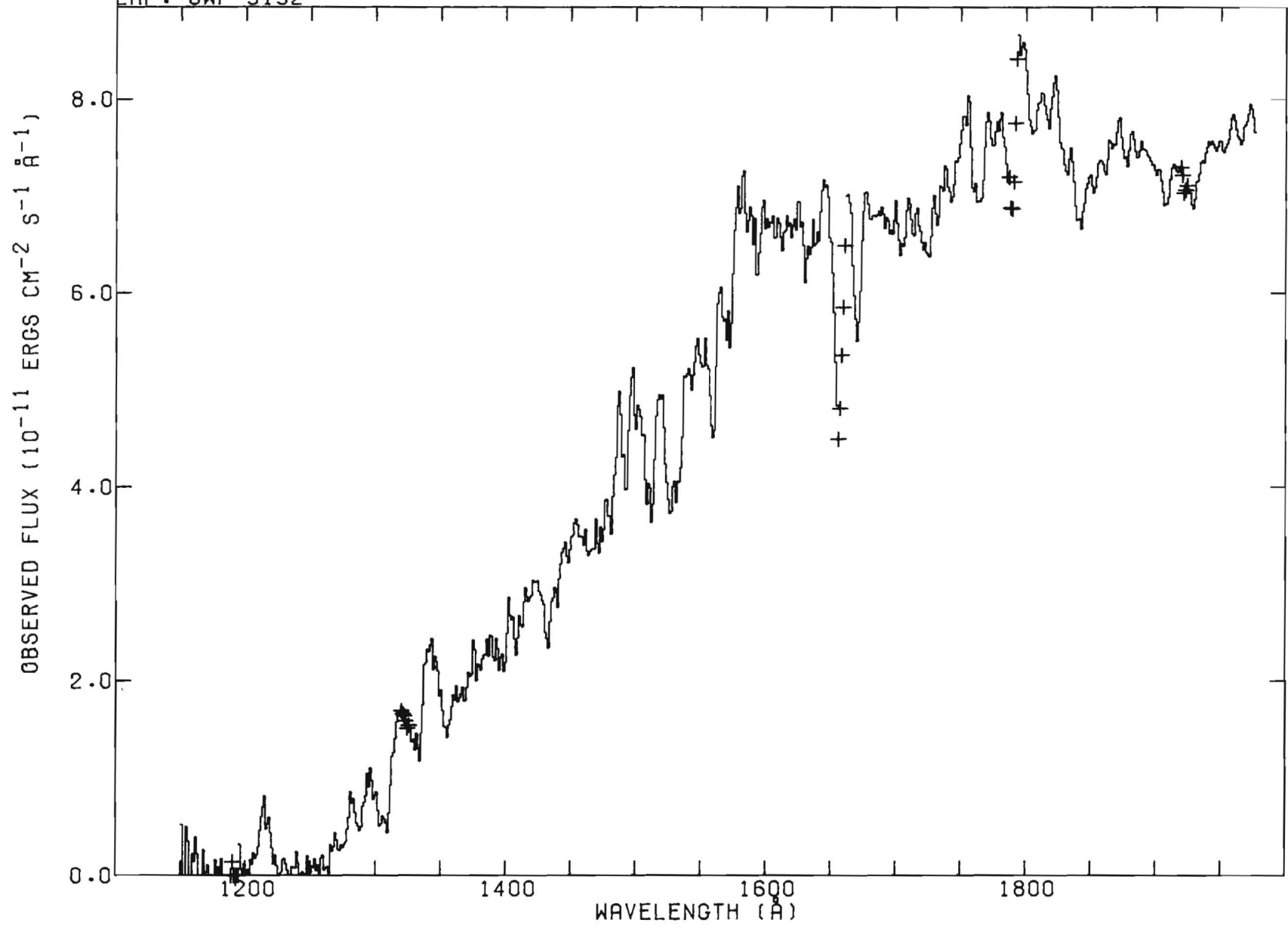
HD 104035 AO IA
LAP: LWR 8240

V=5.61 (B-V)=0.18 E(B-V)=0.16



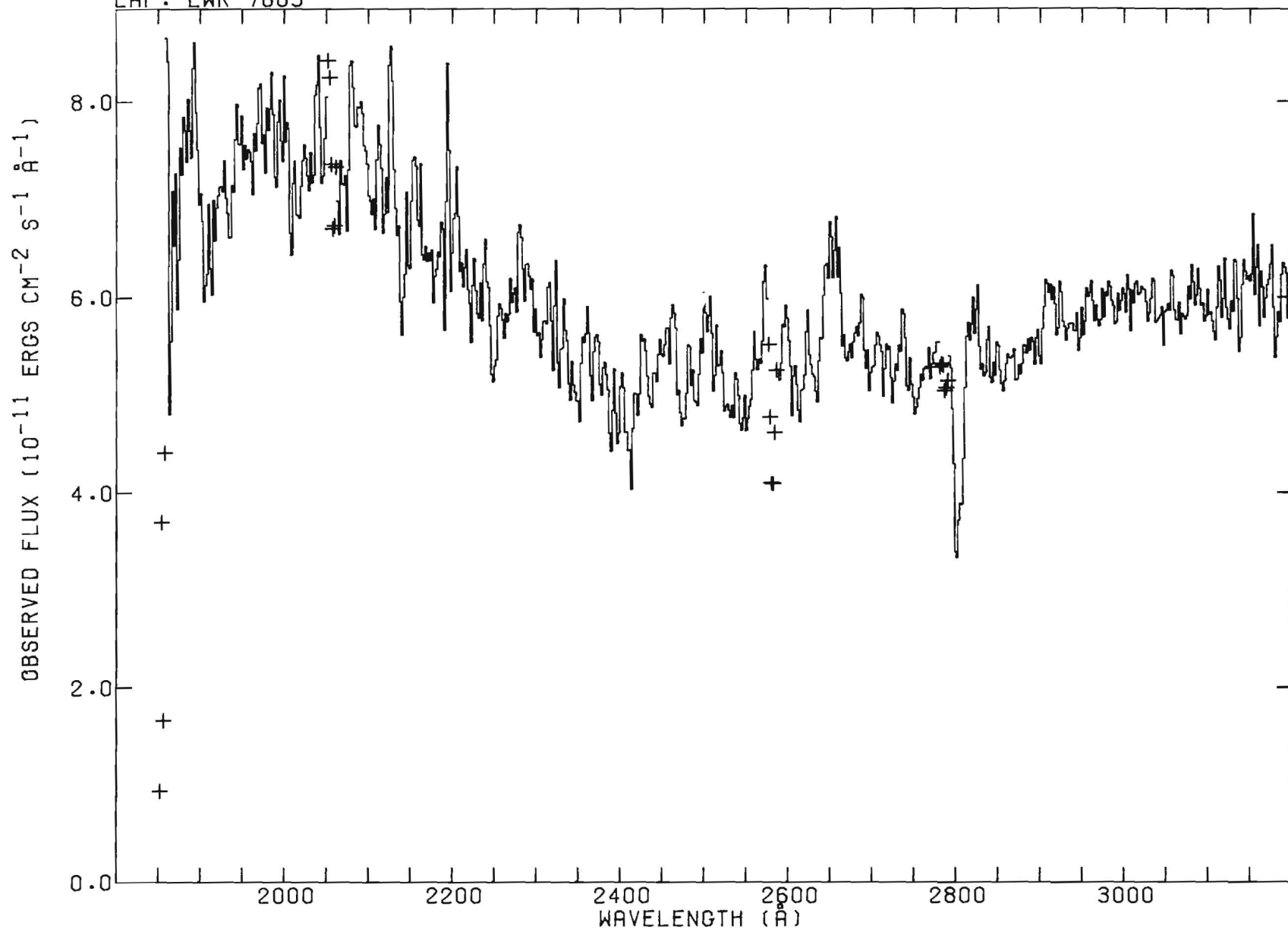
HD 166205 A1 V
LAP: SWP 9132

V=4.36 (B-V)=0.02 E(B-V)=0.00

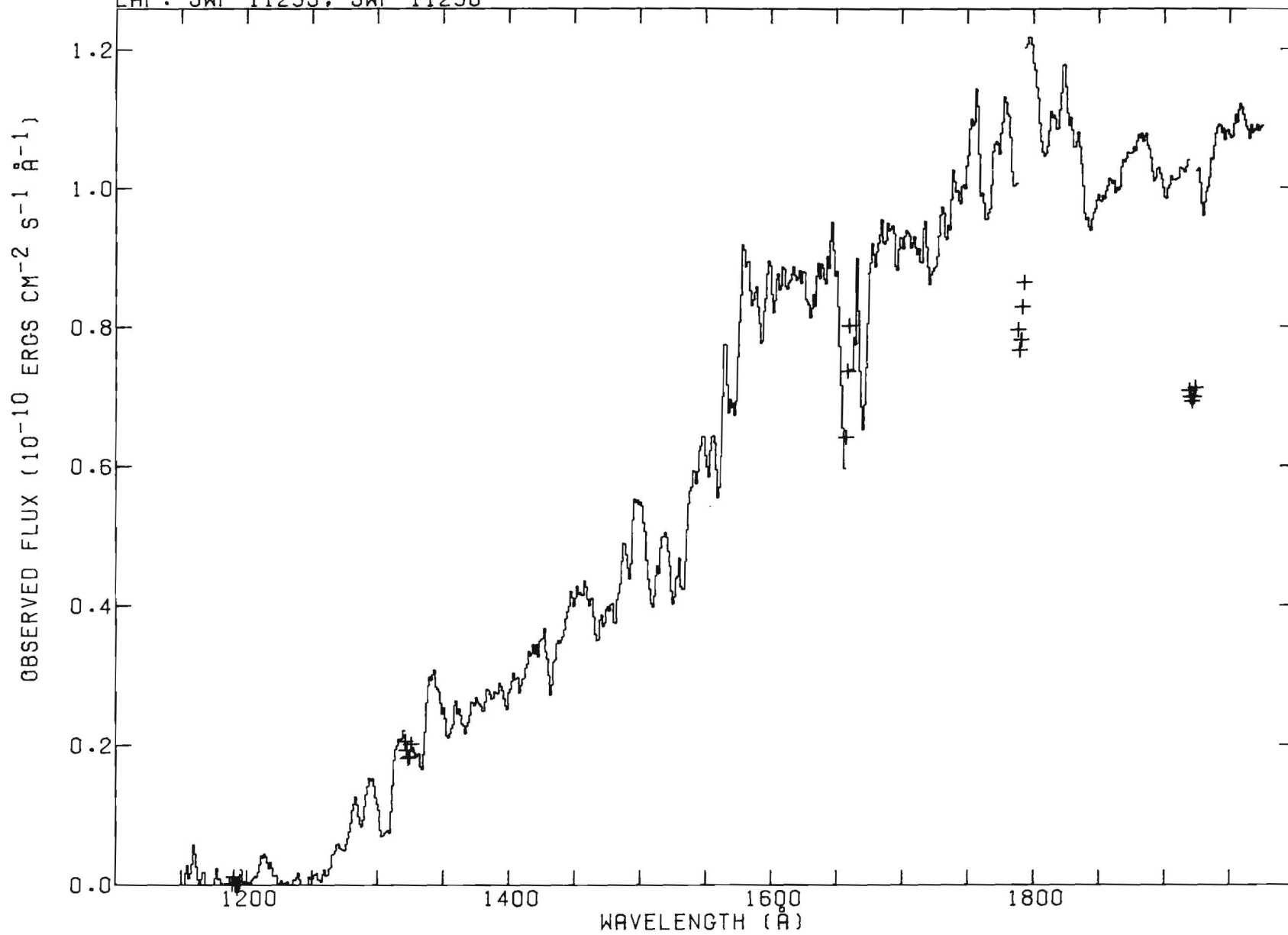


HD 166205 A1 V
LAP: LWR 7863

V=4.36 (B-V)=0.02 E(B-V)=0.00

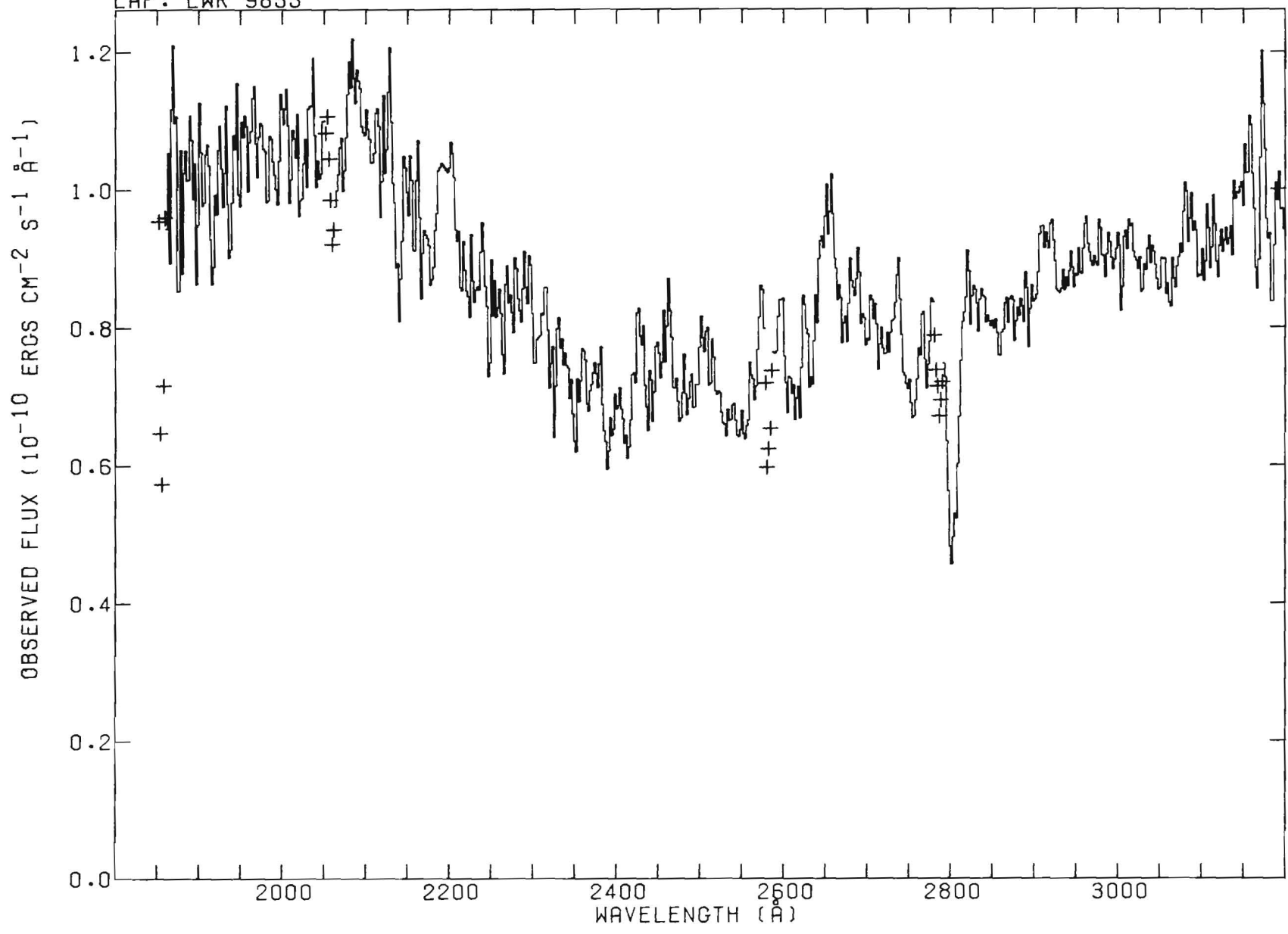


HD 80081 A2 V V=3.82 (B-V)=0.06 E(B-V)=0.01
LAP: SWP 11235, SWP 11236

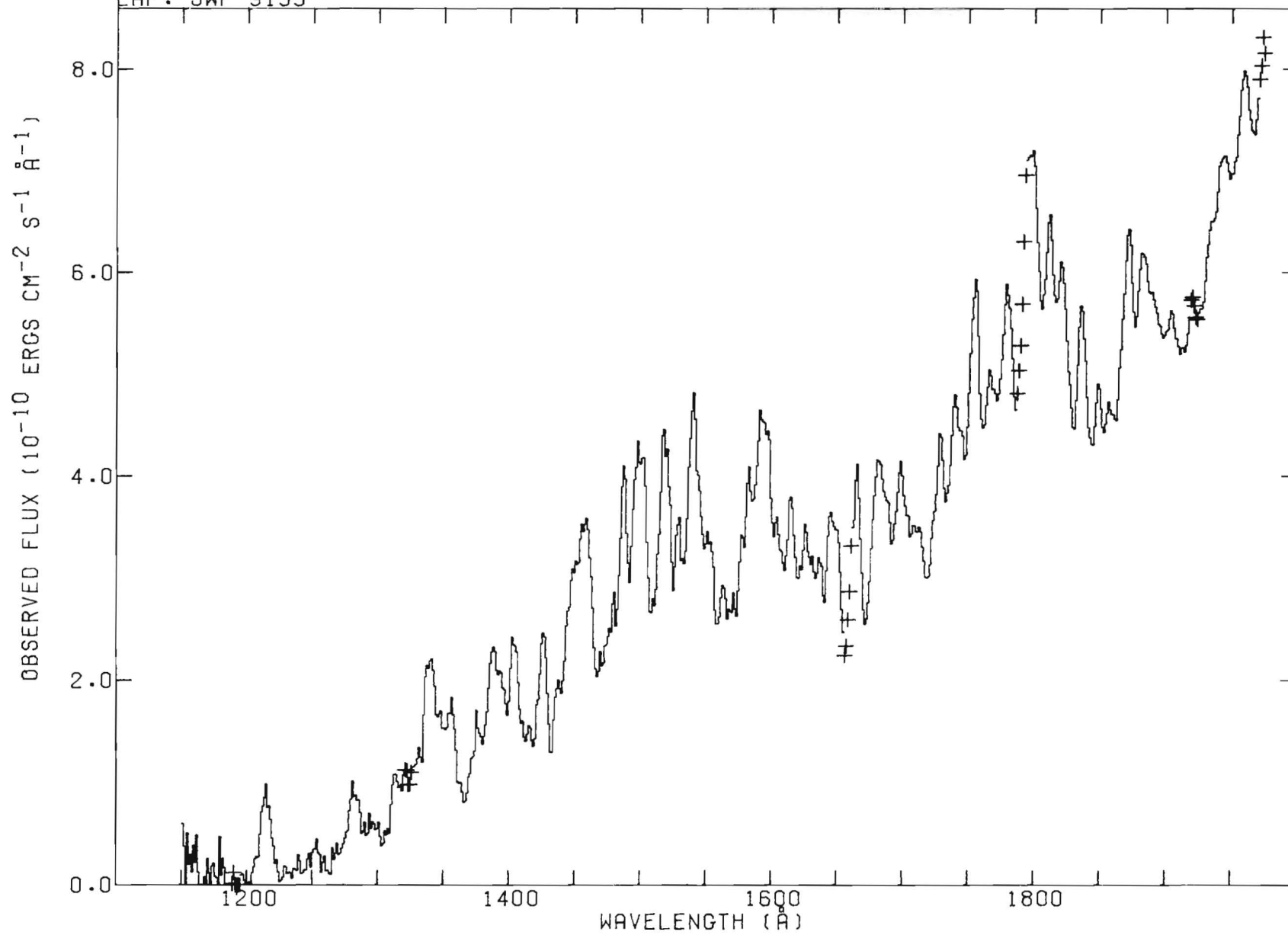


HD 80081 A2 V
LAP: LWR 9855

V=3.82 (B-V)=0.06 E(B-V)=0.01

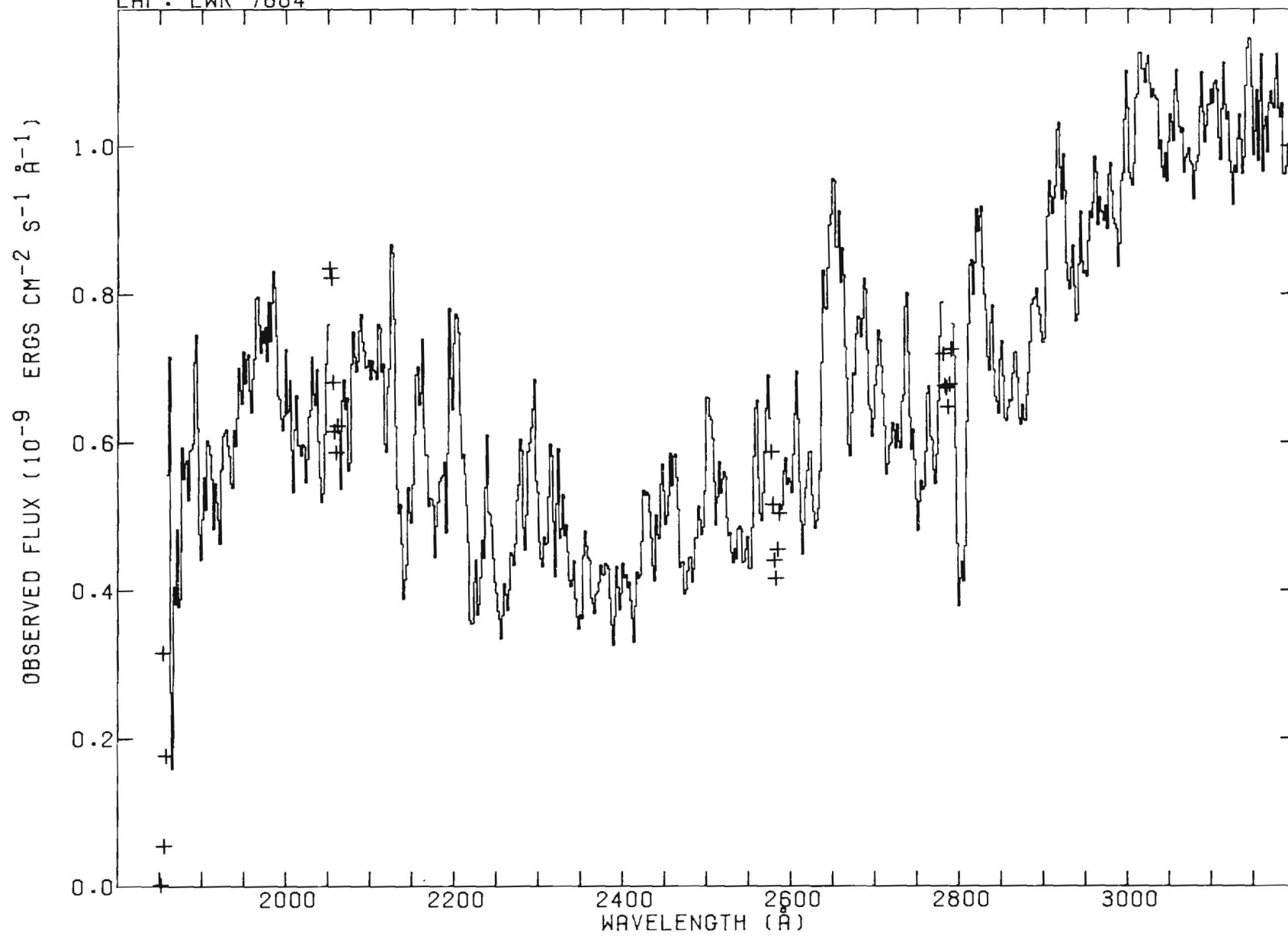


HD 197345 A2 IA + V=1.25 (B-V)=0.09 E(B-V)=0.04
LAP: SWP 9133



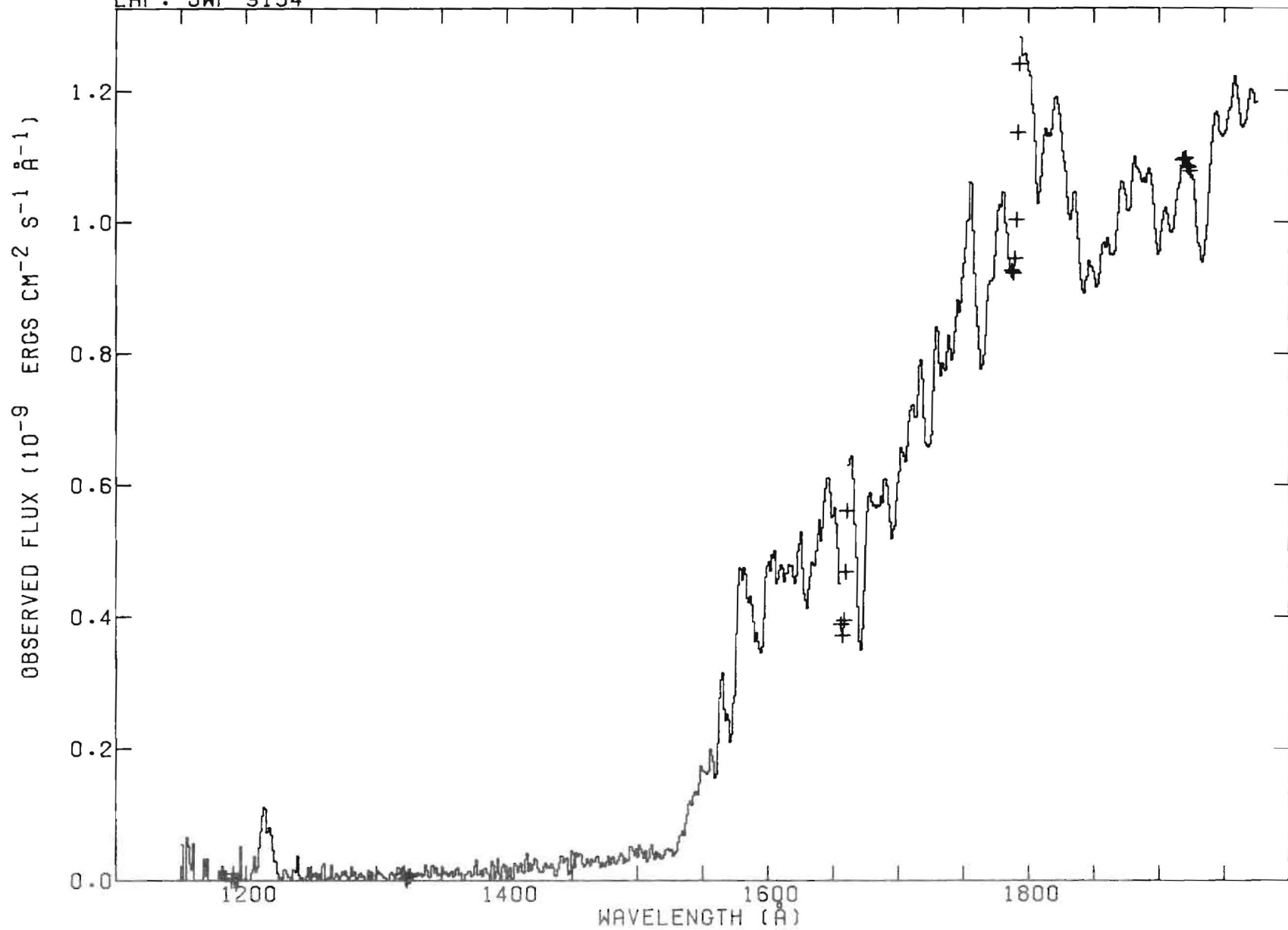
HD 197345 A2 IA †
LAP: LWR 7864

V=1.25 (B-V)=0.09 E(B-V)=0.04



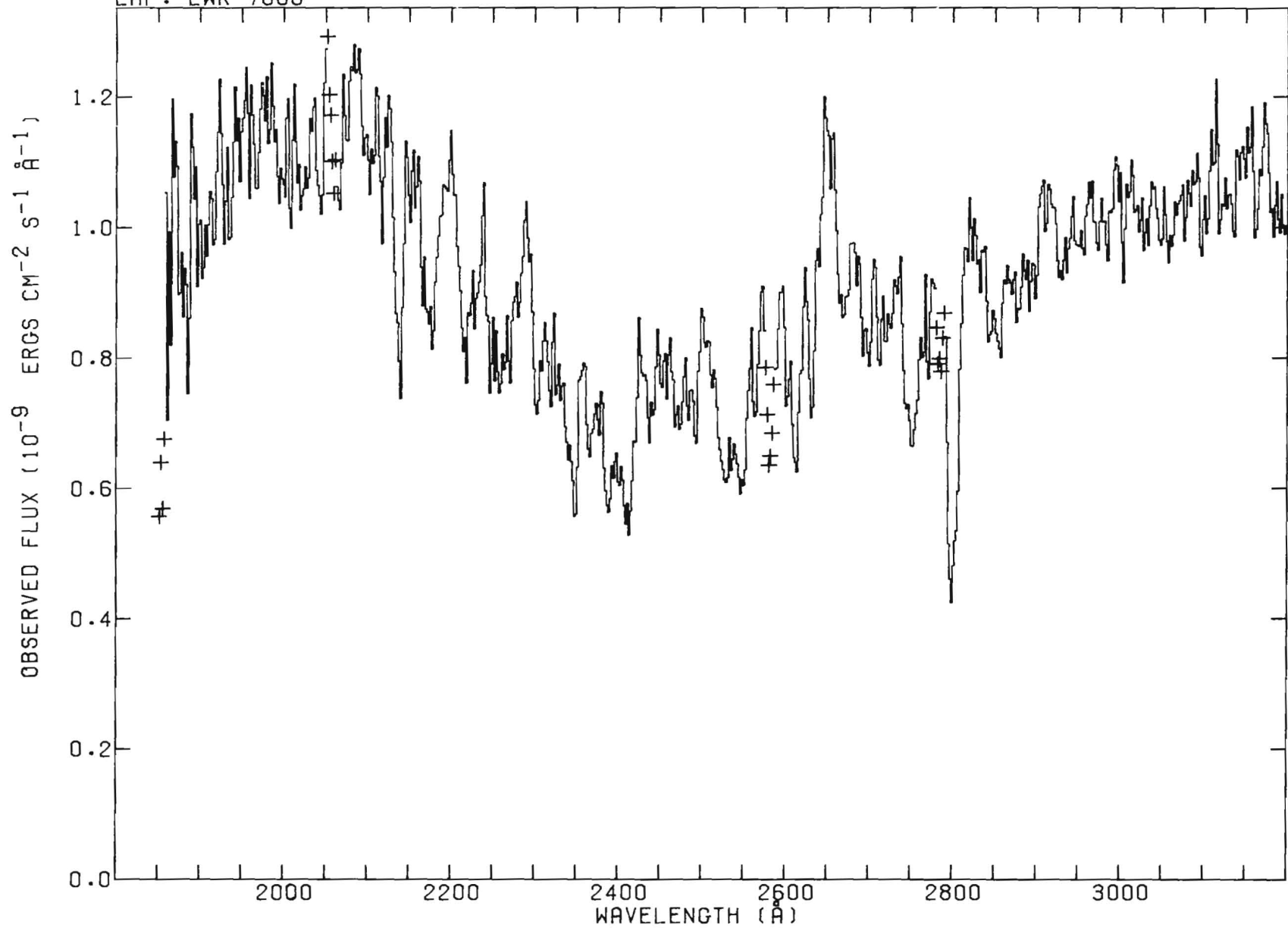
HD 216956 A3 V +
LAP: SWP 9134

V=1.16 (B-V)=0.09 E(B-V)=0.01



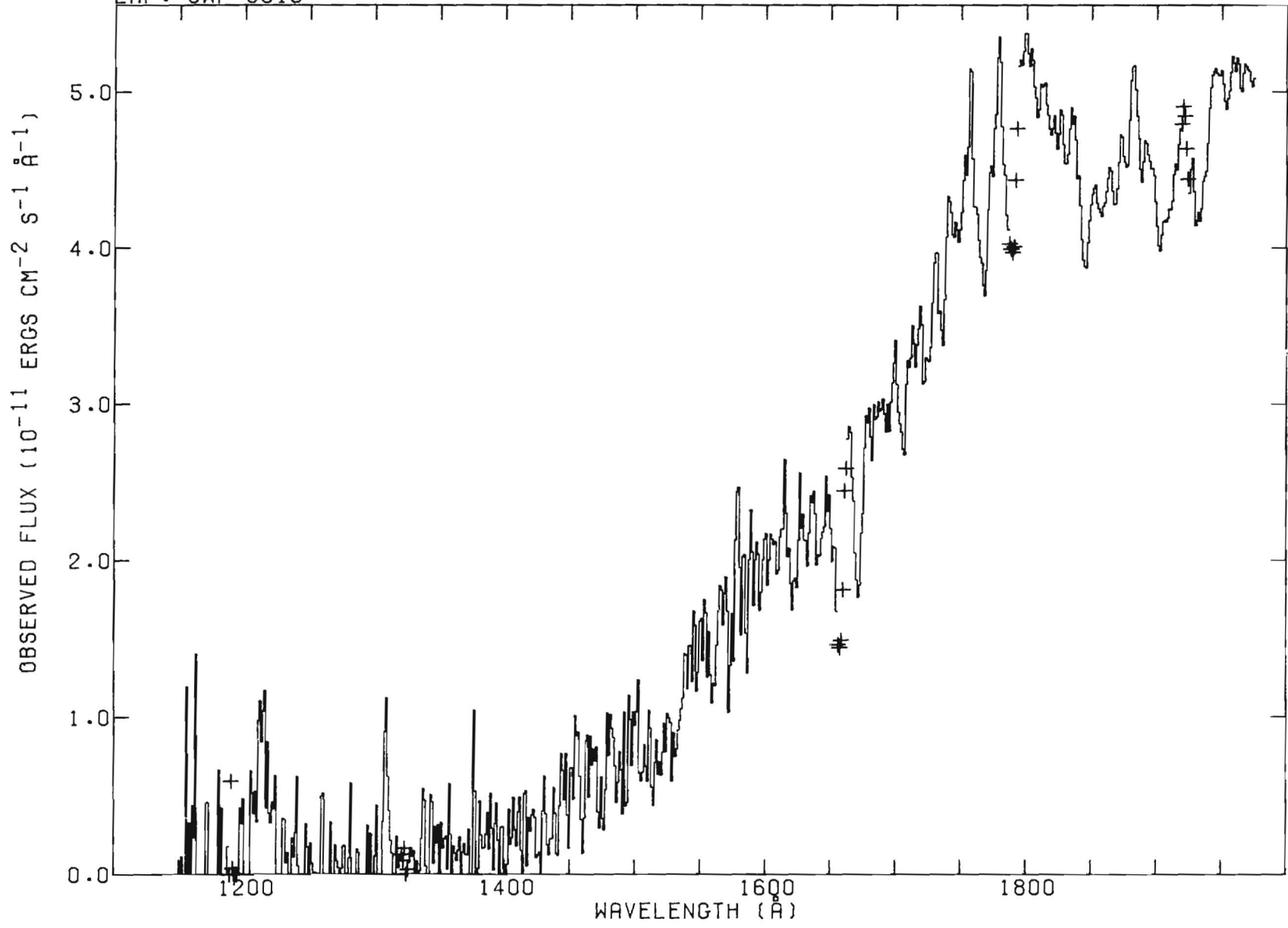
HD 216956 A3 V +
LAP: LWR 7865

V=1.16 (B-V)=0.09 E(B-V)=0.01



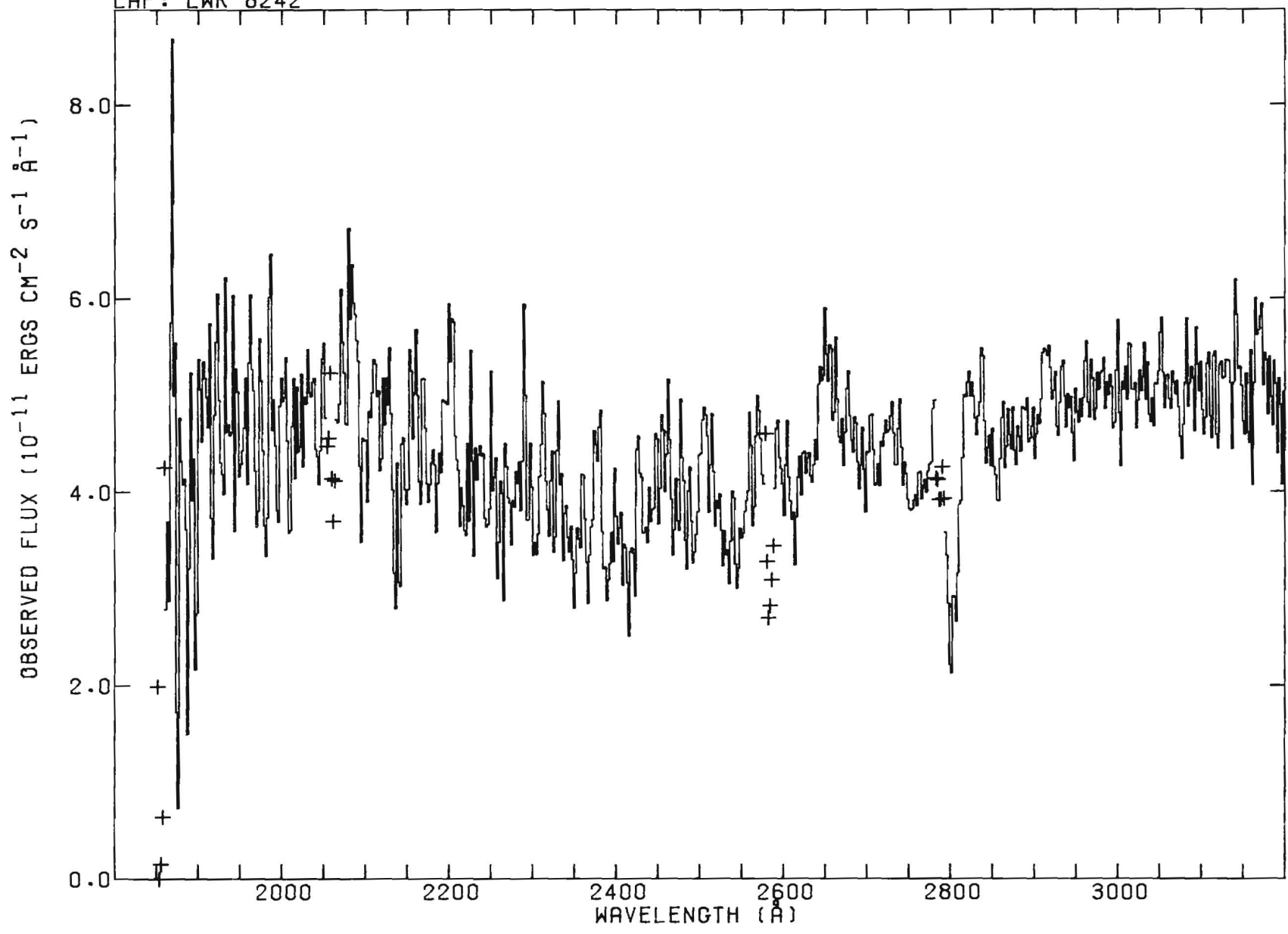
HD 122408 A3 III
LAP: SWP 9516

V=4.26 (B-V)=0.10 E(B-V)=0.01



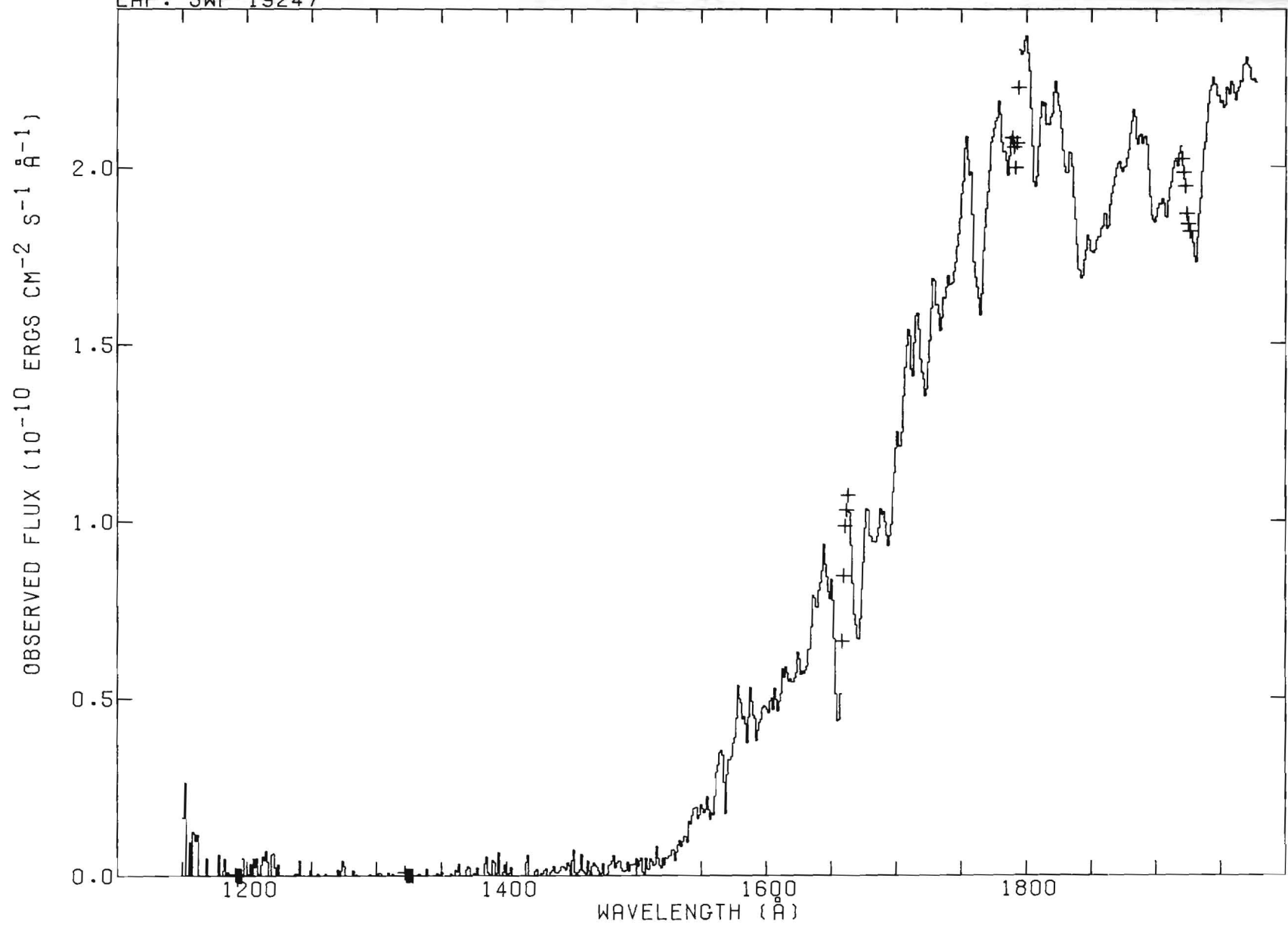
HD 122408 A3 III
LAP: LWR 8242

V=4.26 (B-V)=0.10 E(B-V)=0.01



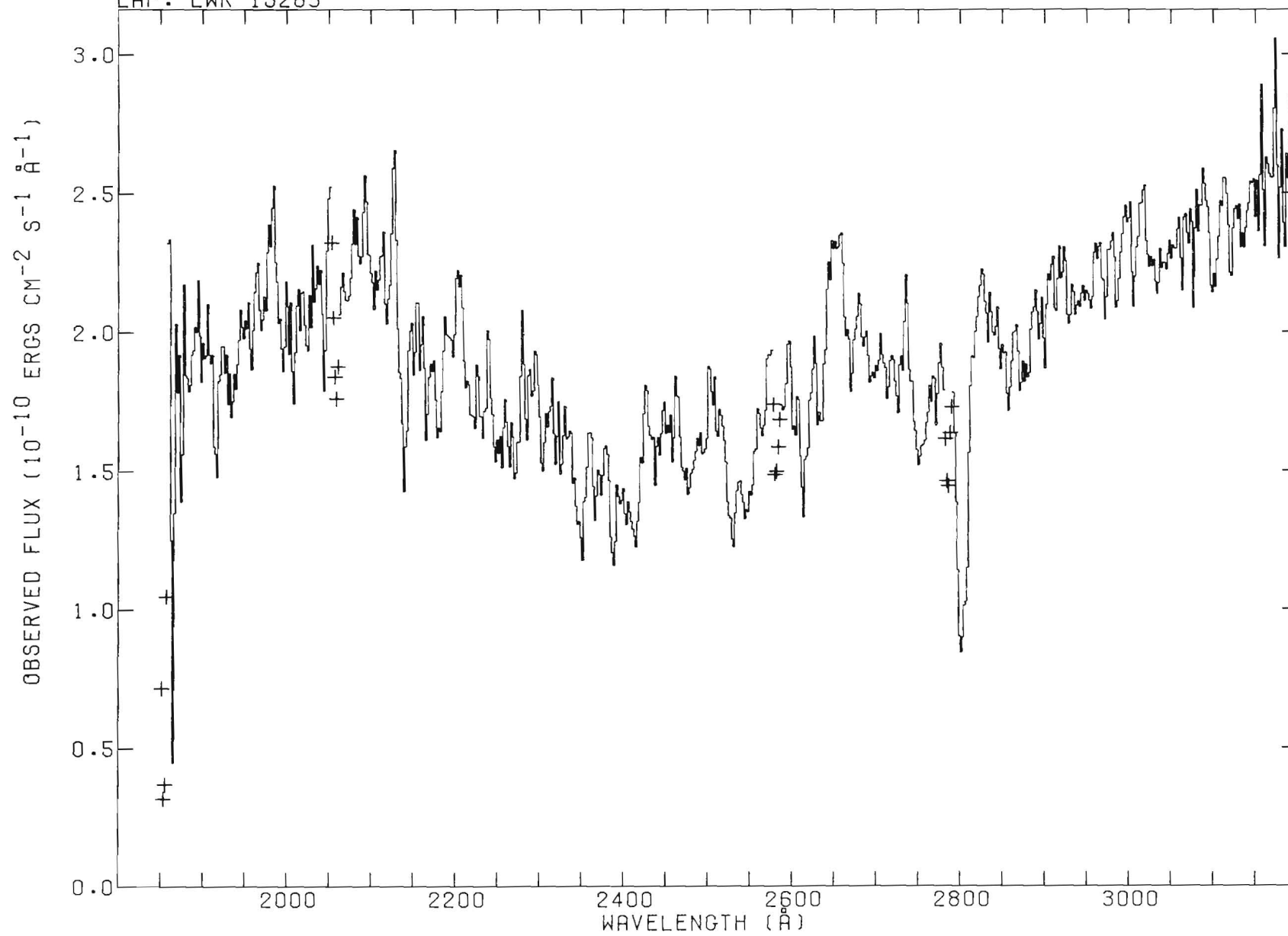
HD 97603 R4 V
LAP: SWP 19247

V=2.56 (B-V)=0.12 E(B-V)=0.00

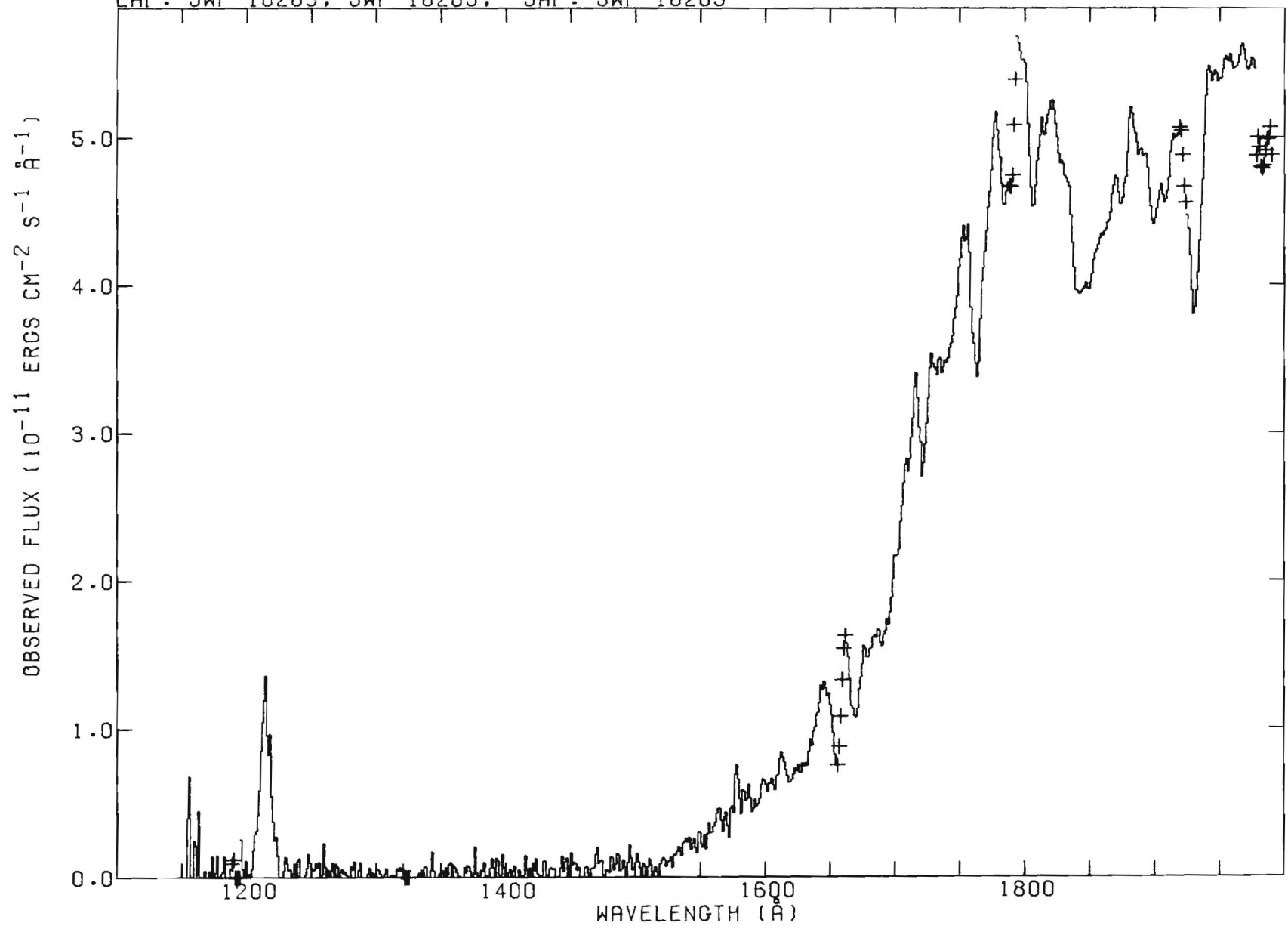


HD 97603 A4 V
LAP: LWR 15283

V=2.56 (B-V)=0.12 E(B-V)=0.00

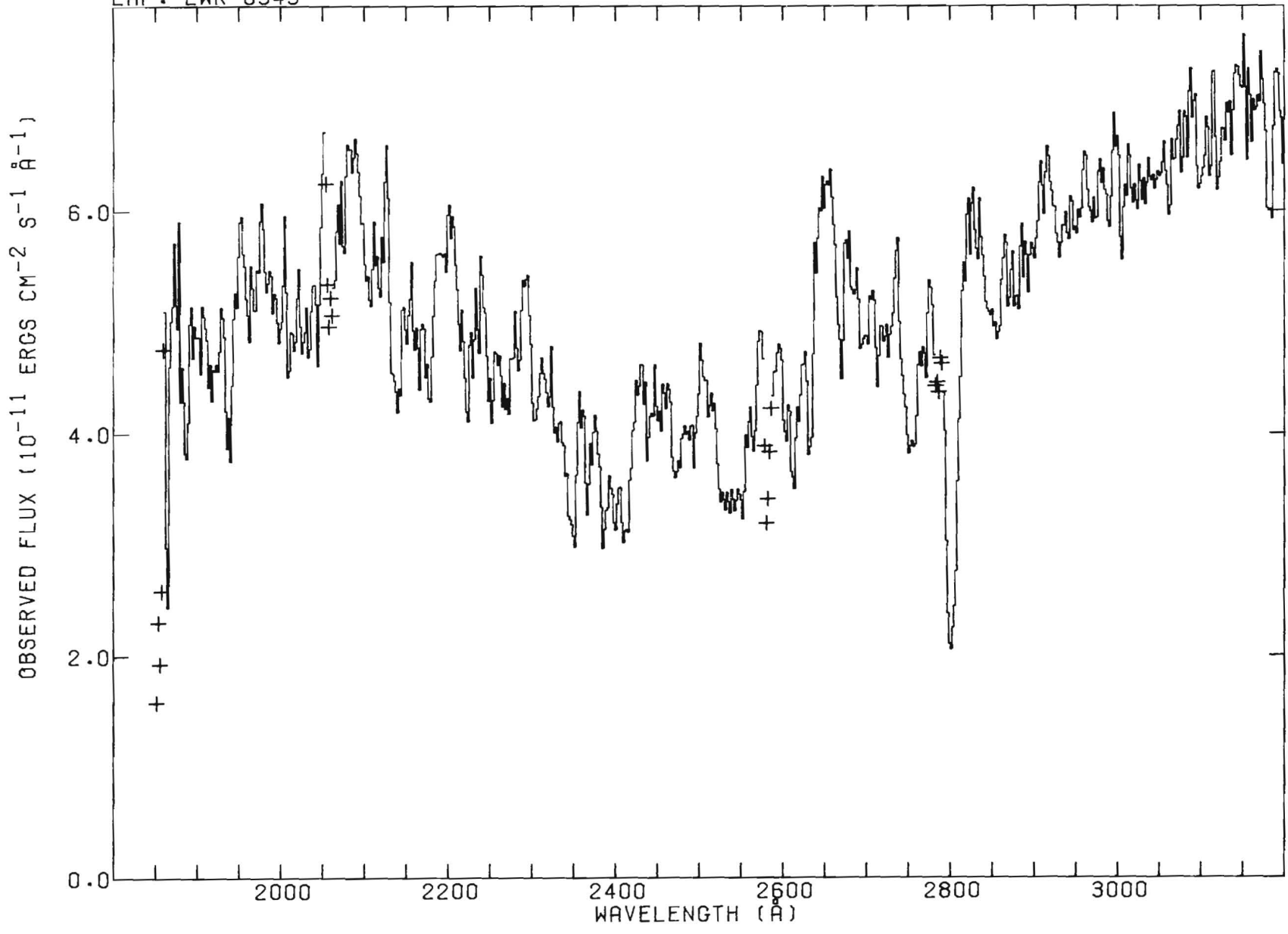


HD 116842 A5 V V=4.01 (B-V)=0.16 E(B-V)=0.01
LAP: SWP 10283, SWP 10285; SAP: SWP 10285



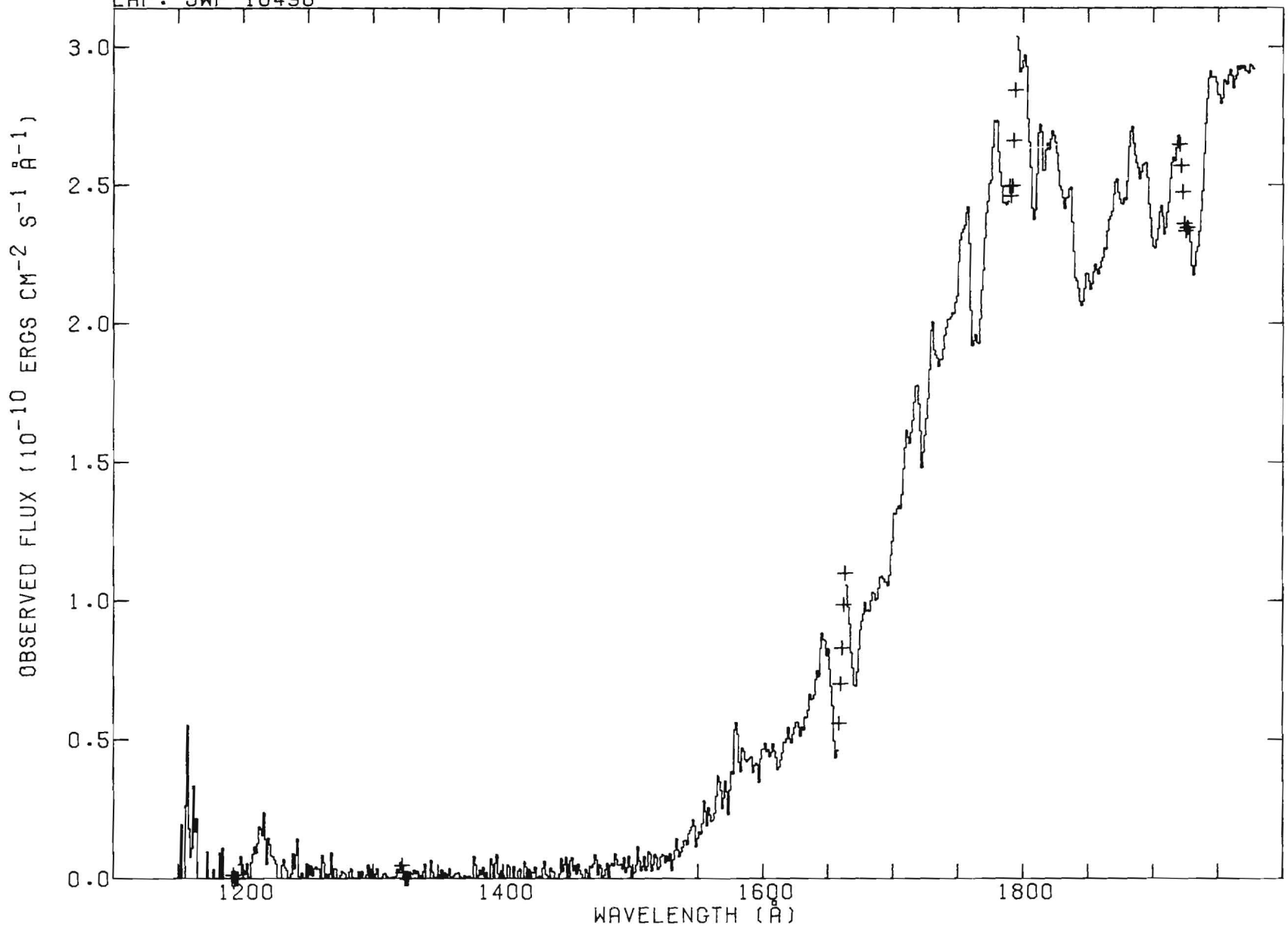
HD 116842 A5 V
LAP: LWR 8949

V=4.01 (B-V)=0.16 E(B-V)=0.01



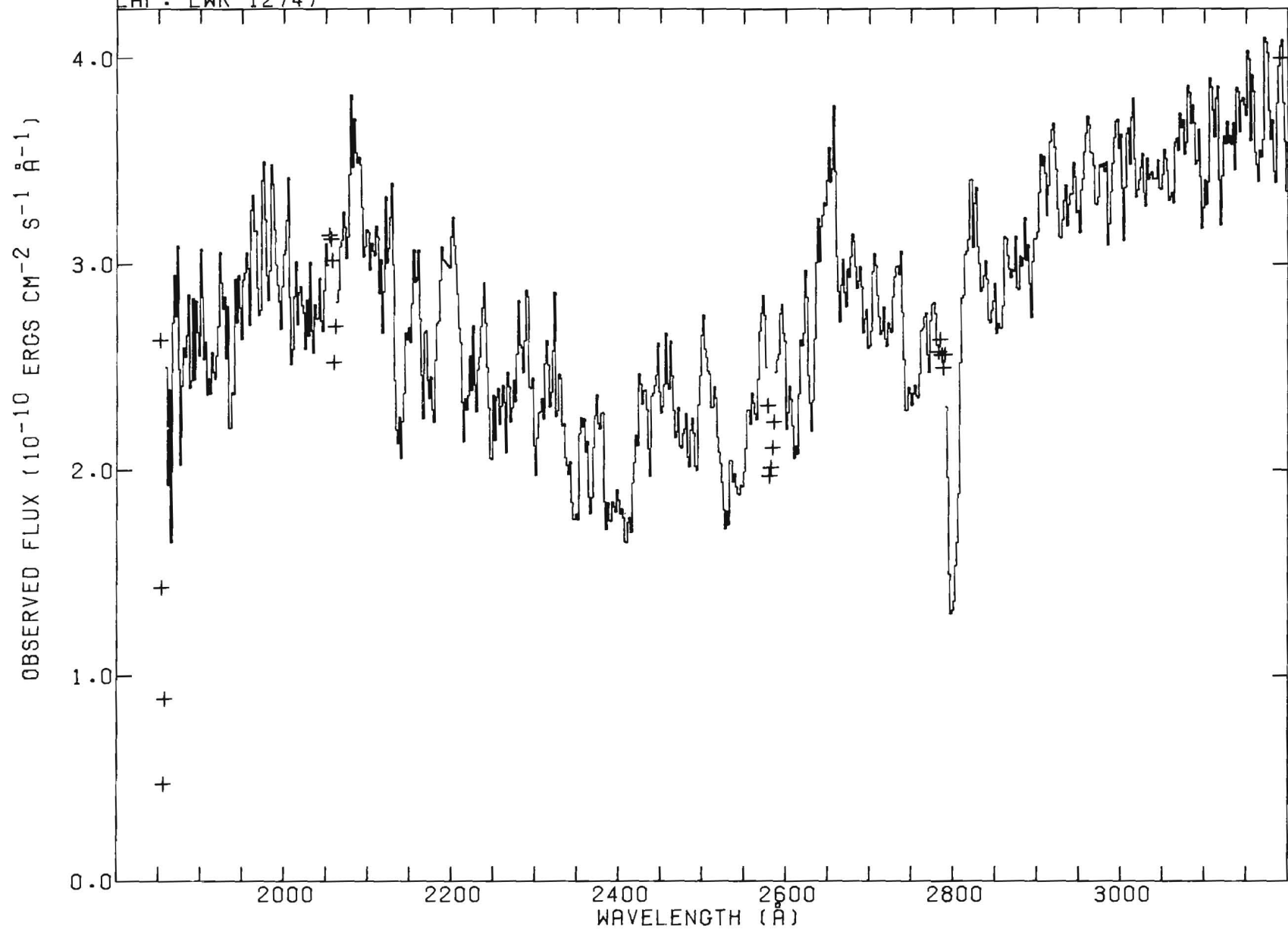
HD 159561 A5 III
LAP: SWP 16490

V=2.08 (B-V)=0.15 E(B-V)=0.00

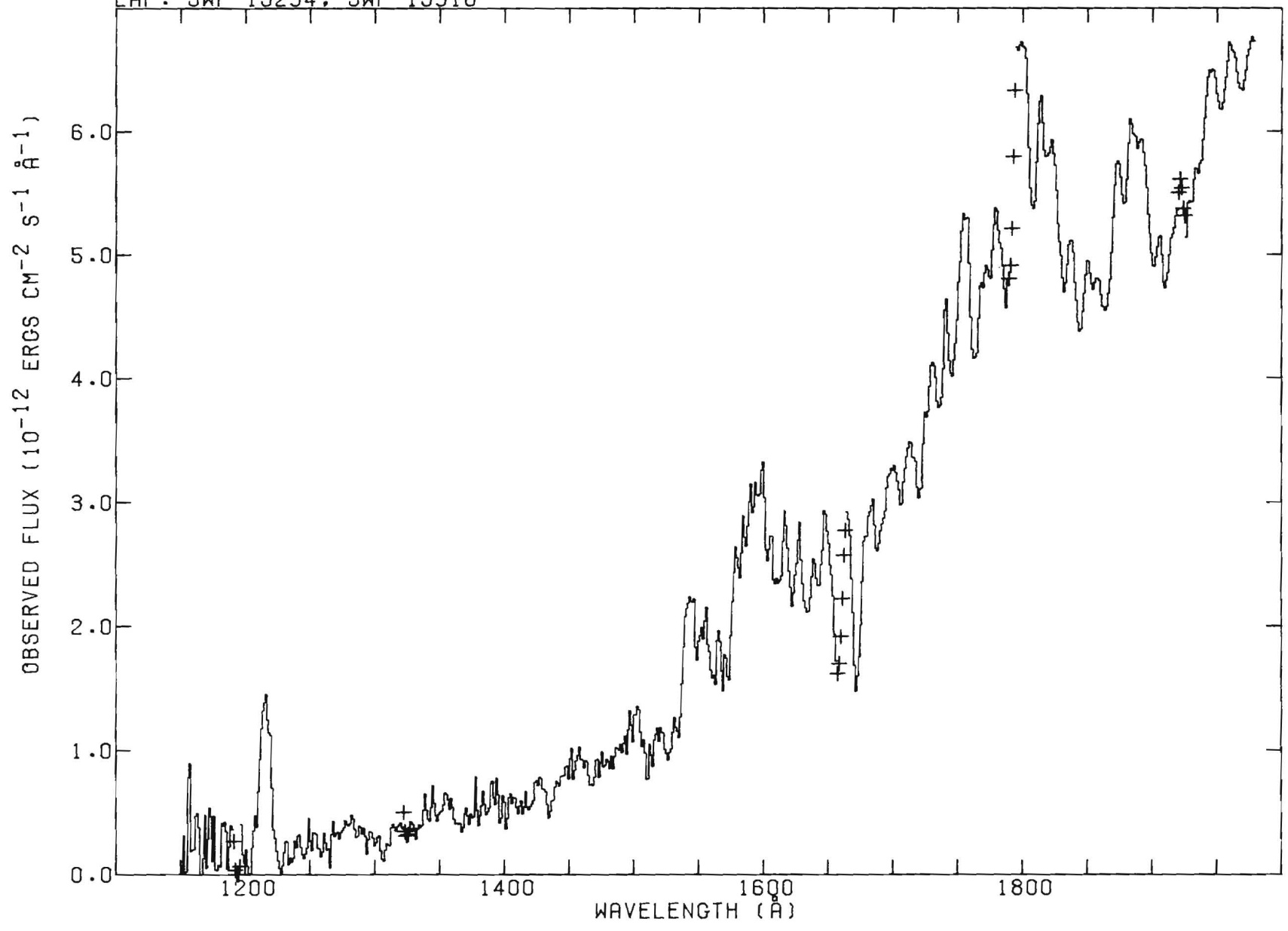


HD 159561 A5 III
LAP: LWR 12747

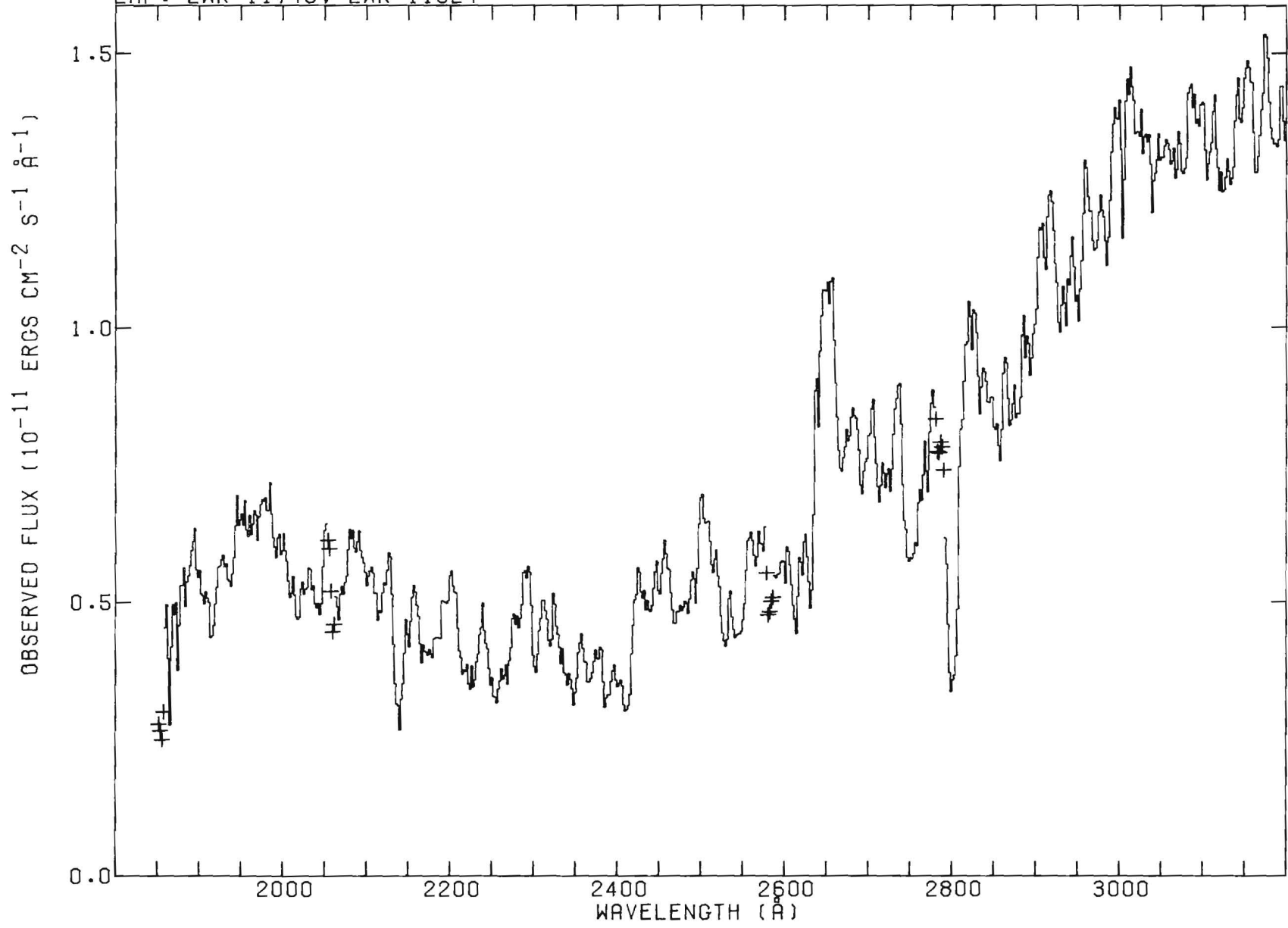
V=2.08 (B-V)=0.15 E(B-V)=0.00



HD 59612 A5 IB V=4.85 (B-V)=0.23 E(B-V)=0.13
LAP: SWP 15234, SWP 15318

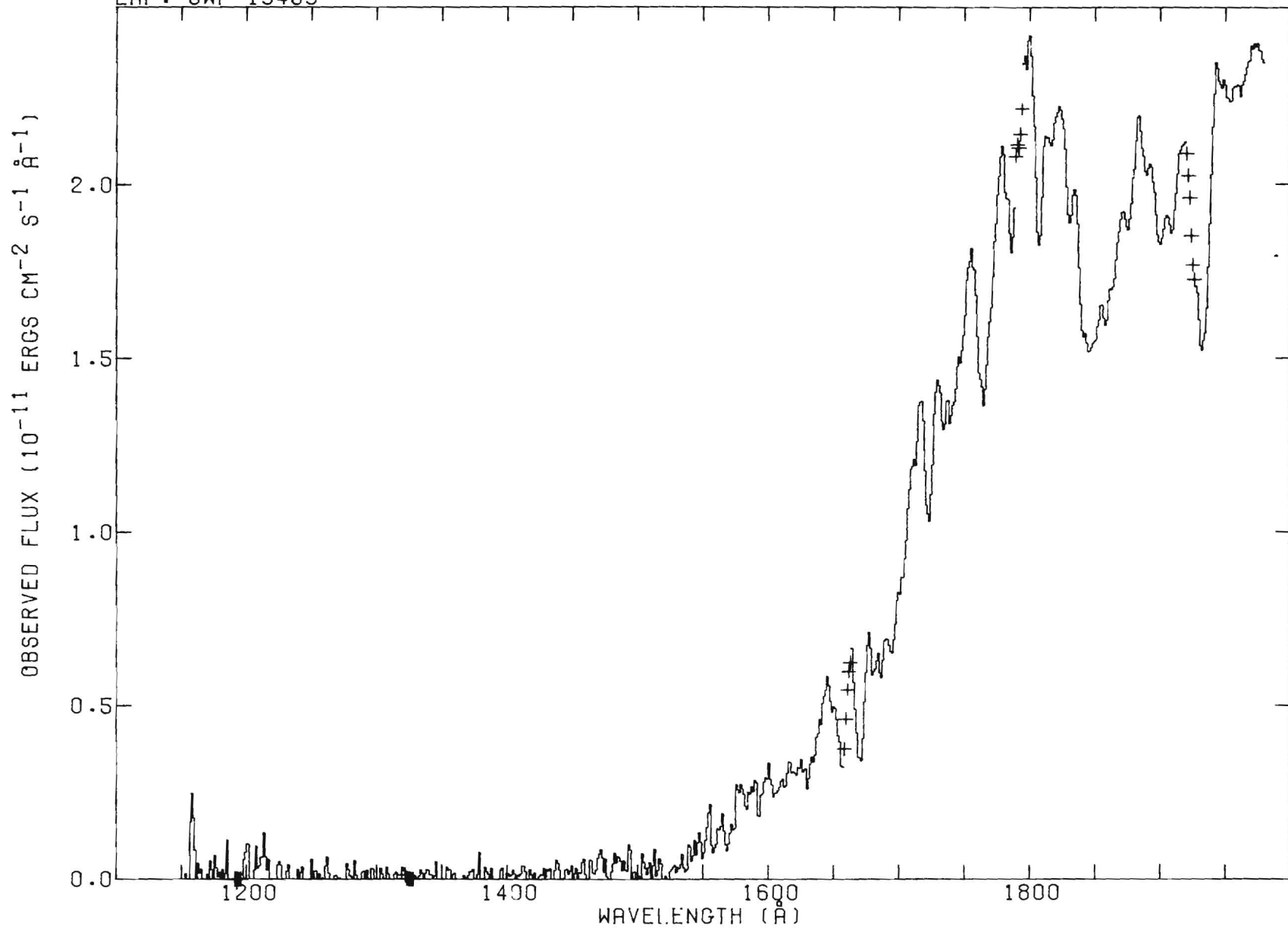


HD 59612 A5 IB V=4.85 (B-V)=0.23 E(B-V)=0.13
LAP: LWR 11748, LWR 11824

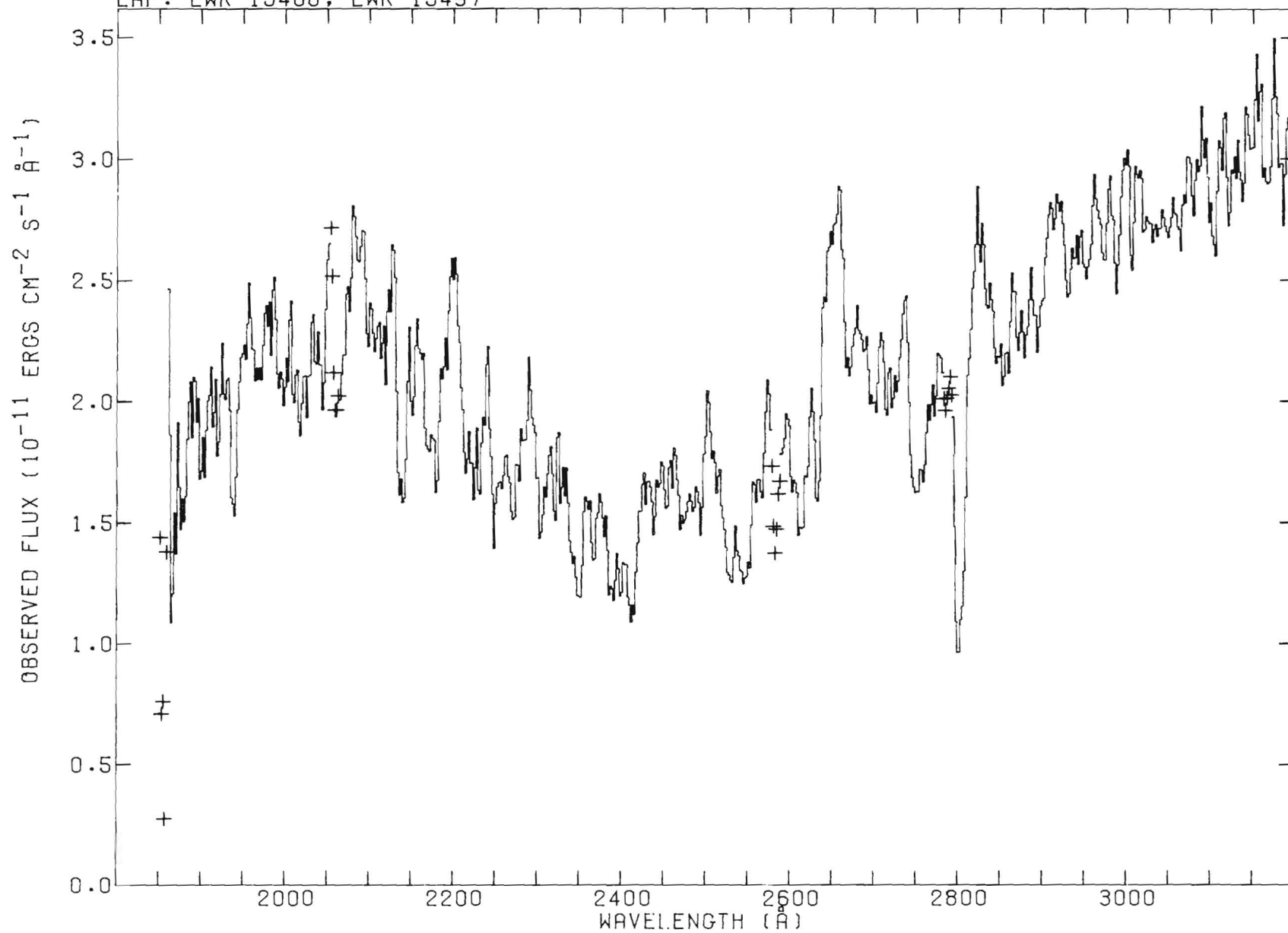


HD 28527 A6 V N
LAP: SWP 19459

V=4.78 (B-V)=0.17 E(B-V)=0.00

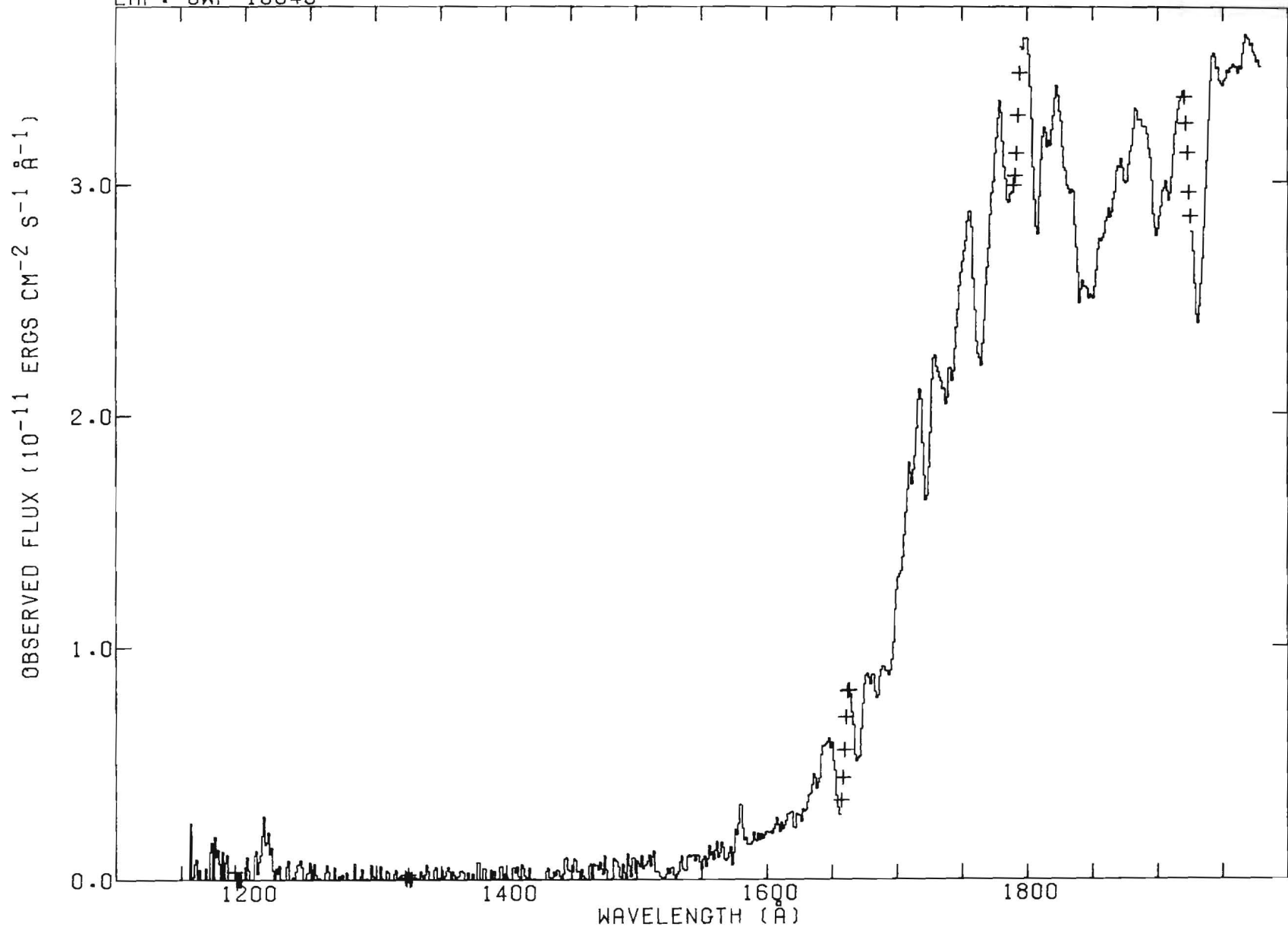


HD 28527 A6 V N V=4.78 (B-V)=0.17 E(B-V)=0.00
LAP: LWR 15488, LWR 15497



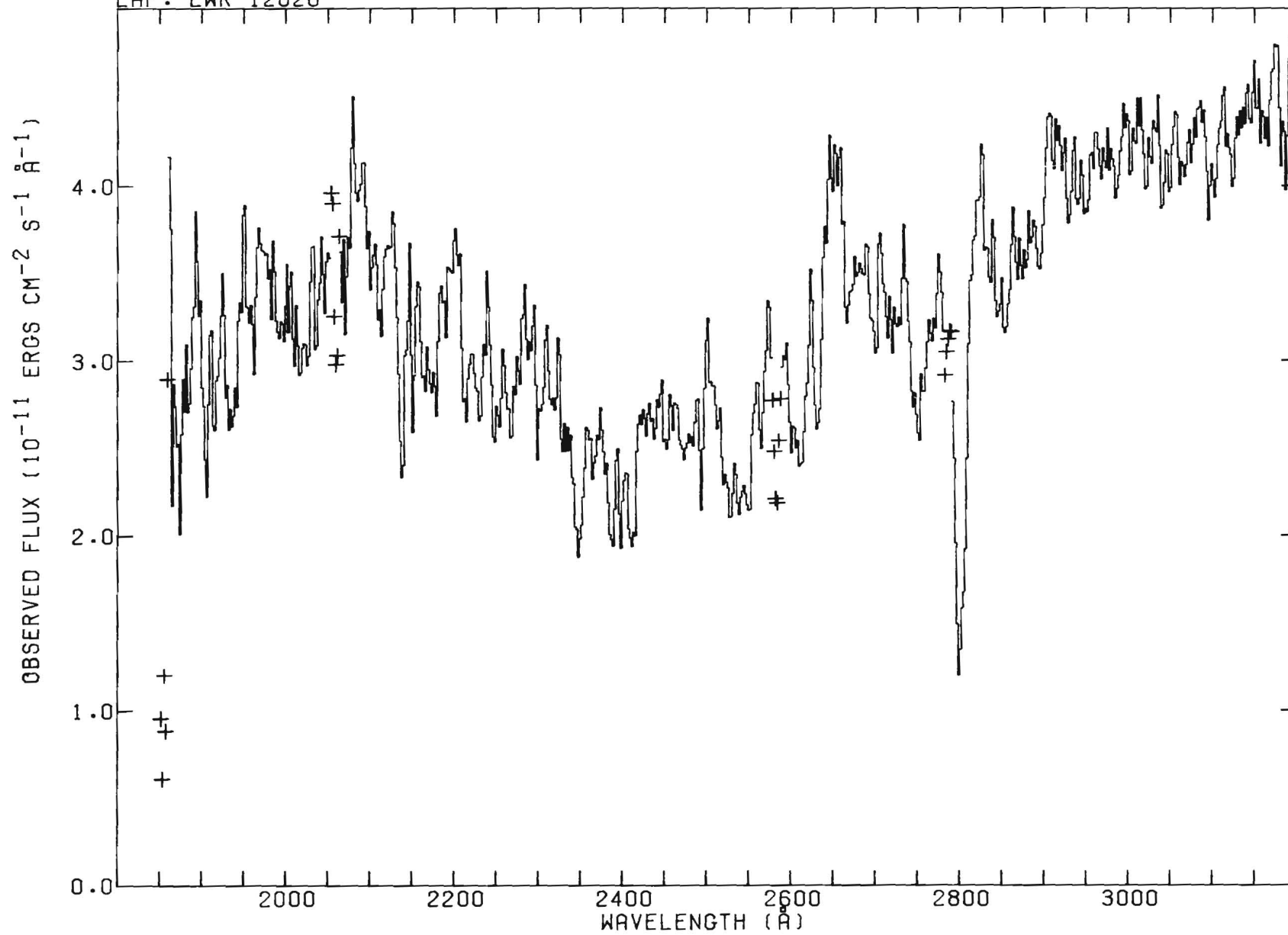
HD 87696 A7 V
LAP: SWP 15548

V=4.48 (B-V)=0.18 E(B-V)=-0.02



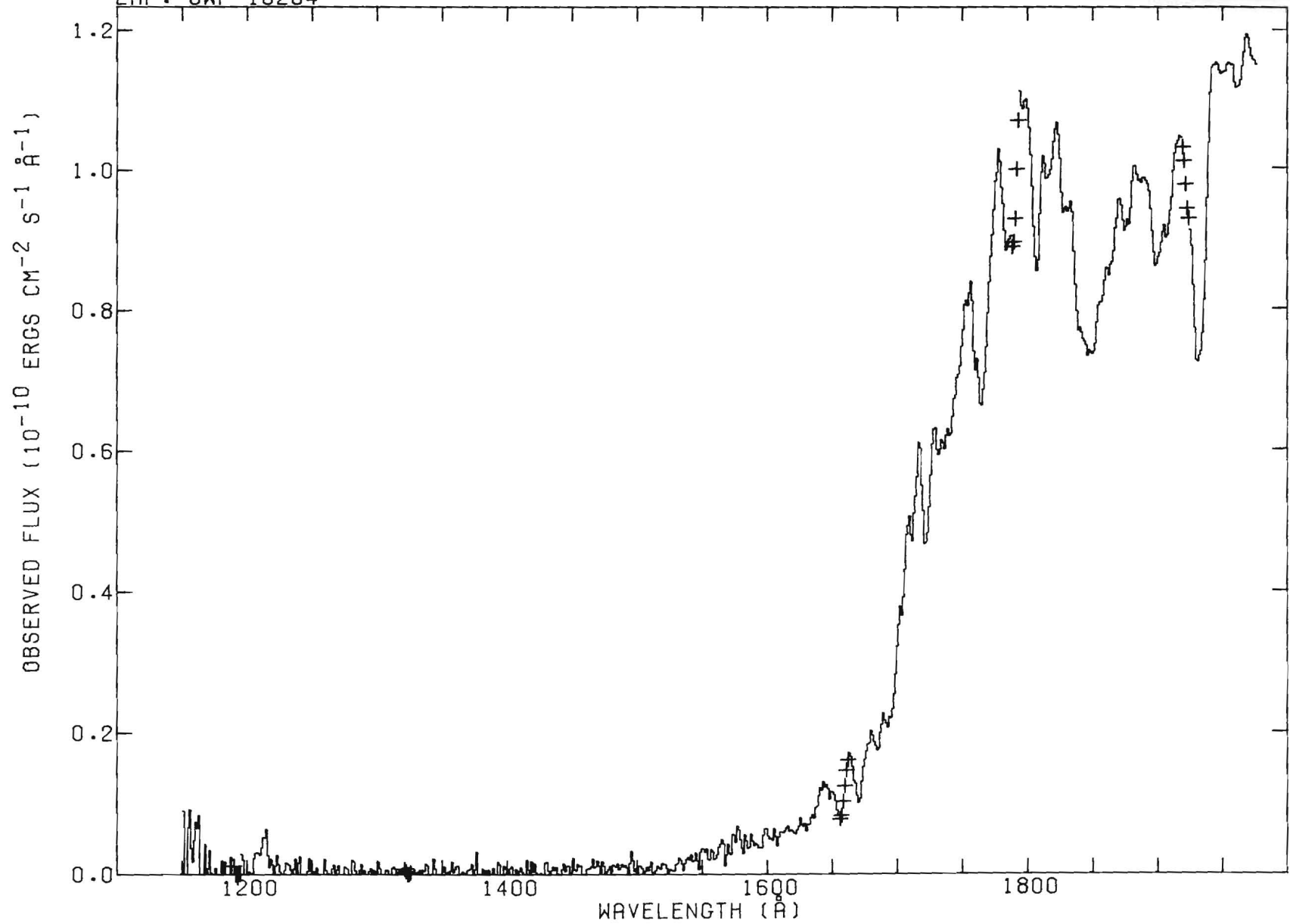
HD 87696 A7 V
LAP: LWR 12028

V=4.48 (B-V)=0.18 E(B-V)=-0.02



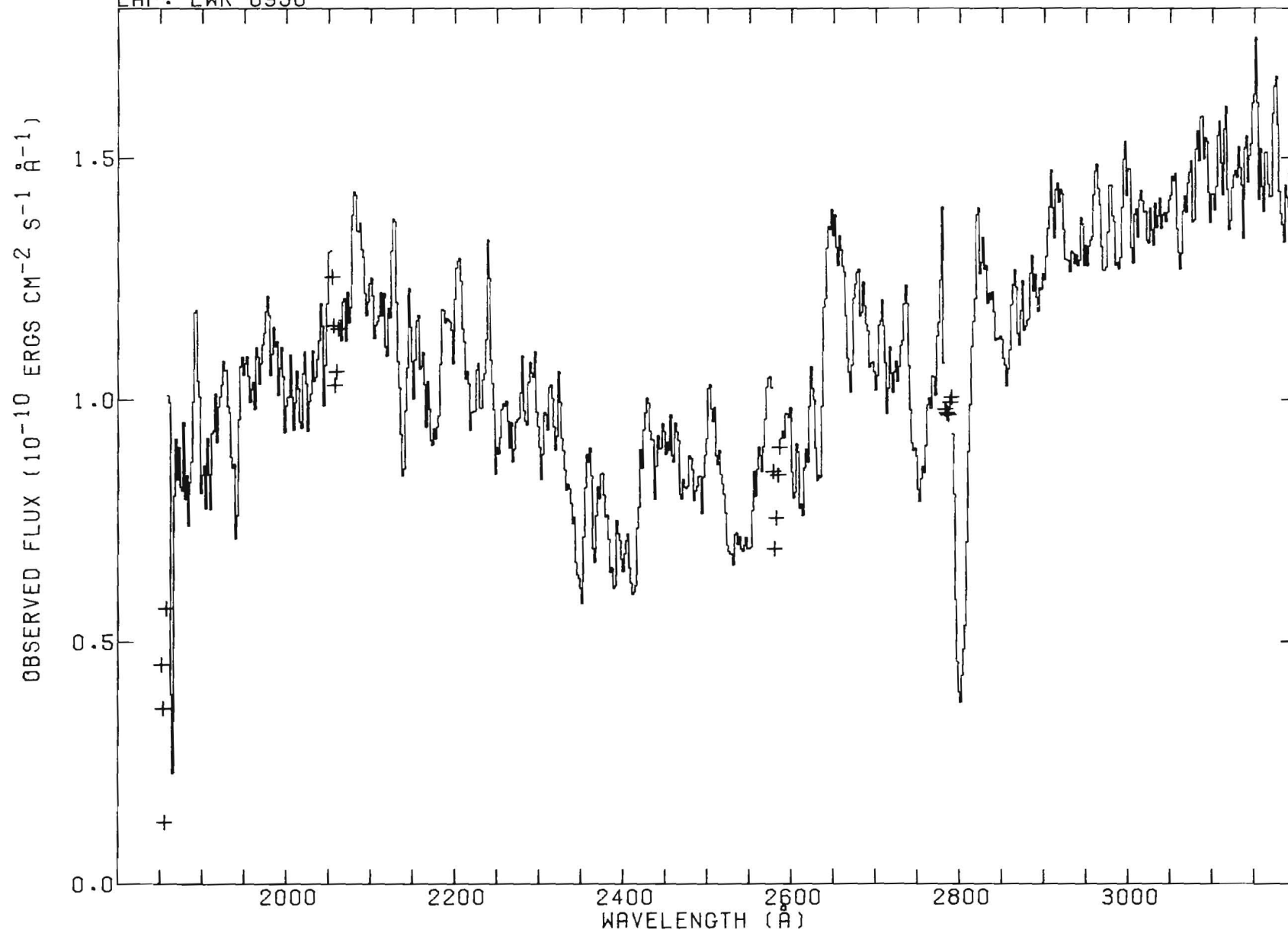
HD 76644 A7 IV +
LAP: SWP 10284

V=3.14 (B-V)=0.19 E(B-V)=-0.03



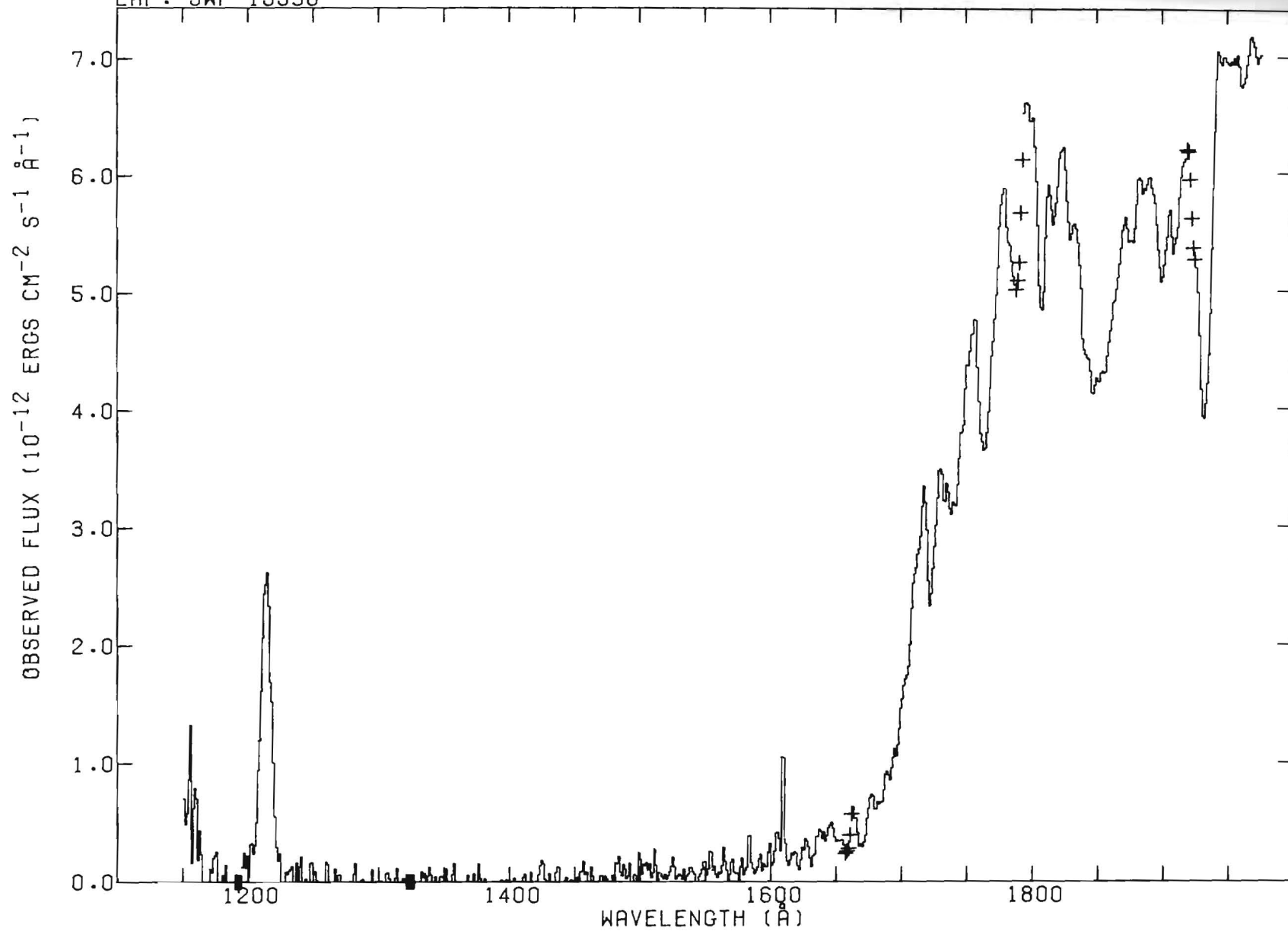
HD 76644 A7 IV +
LAP: LWR 8950

V=3.14 (B-V)=0.19 E(B-V)=-0.03

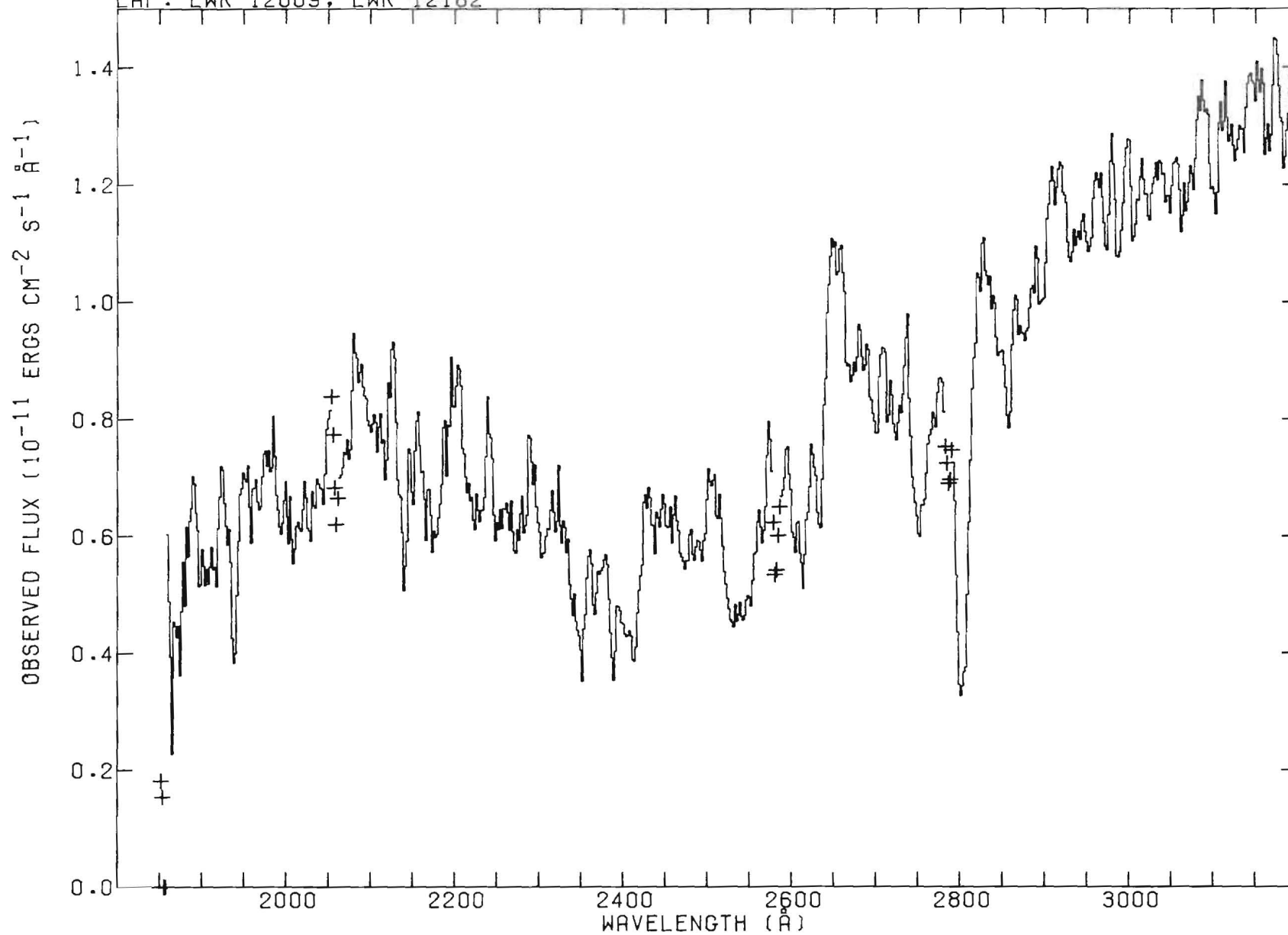


HD 27176 A8 V
LAP: SWP 15538

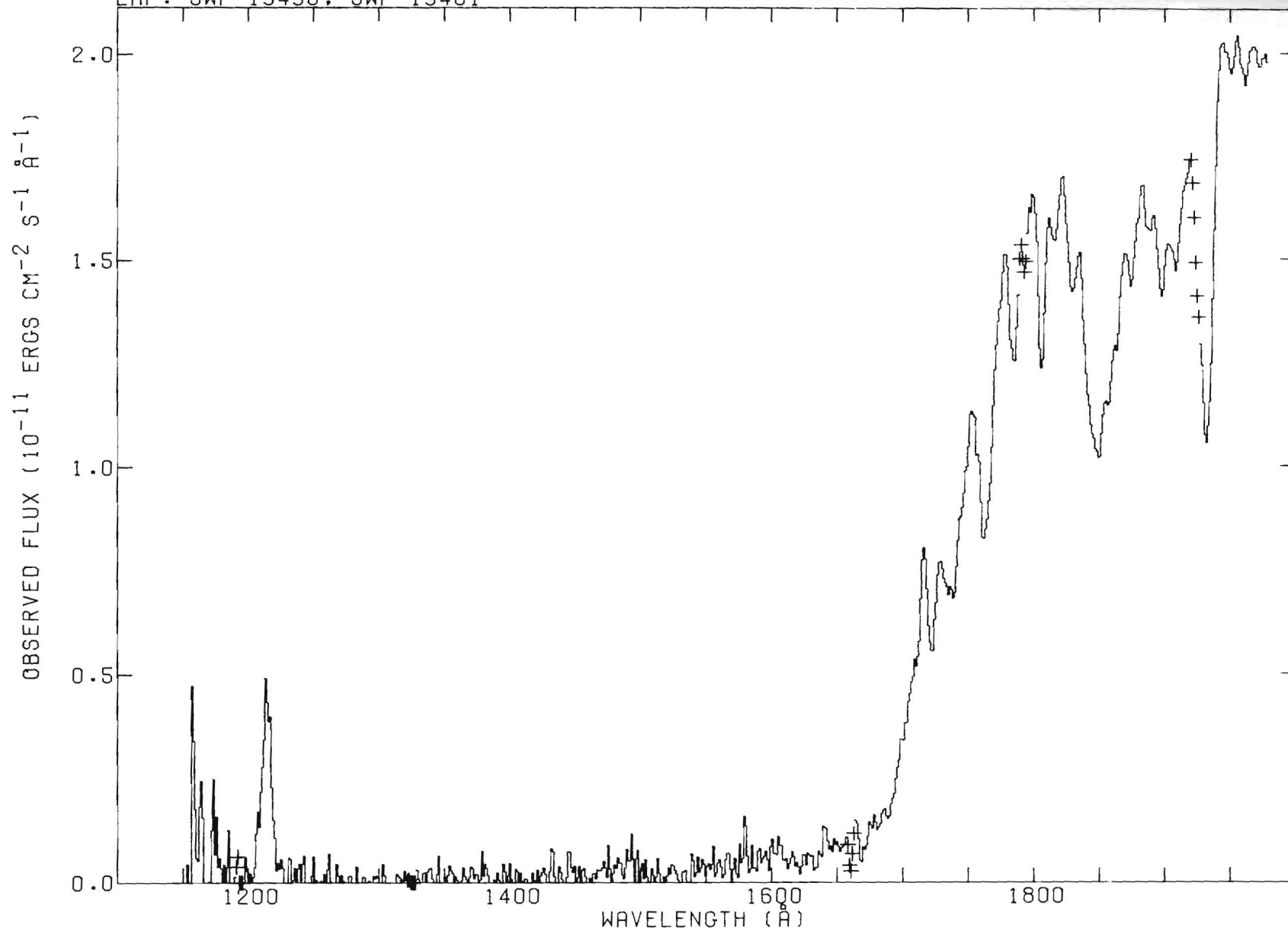
V=5.65 (B-V)=0.28 E(B-V)=0.01



HD 27176 A8 V V=5.65 (B-V)=0.28 E(B-V)=0.01
AP: LWR 12009, LWR 12182

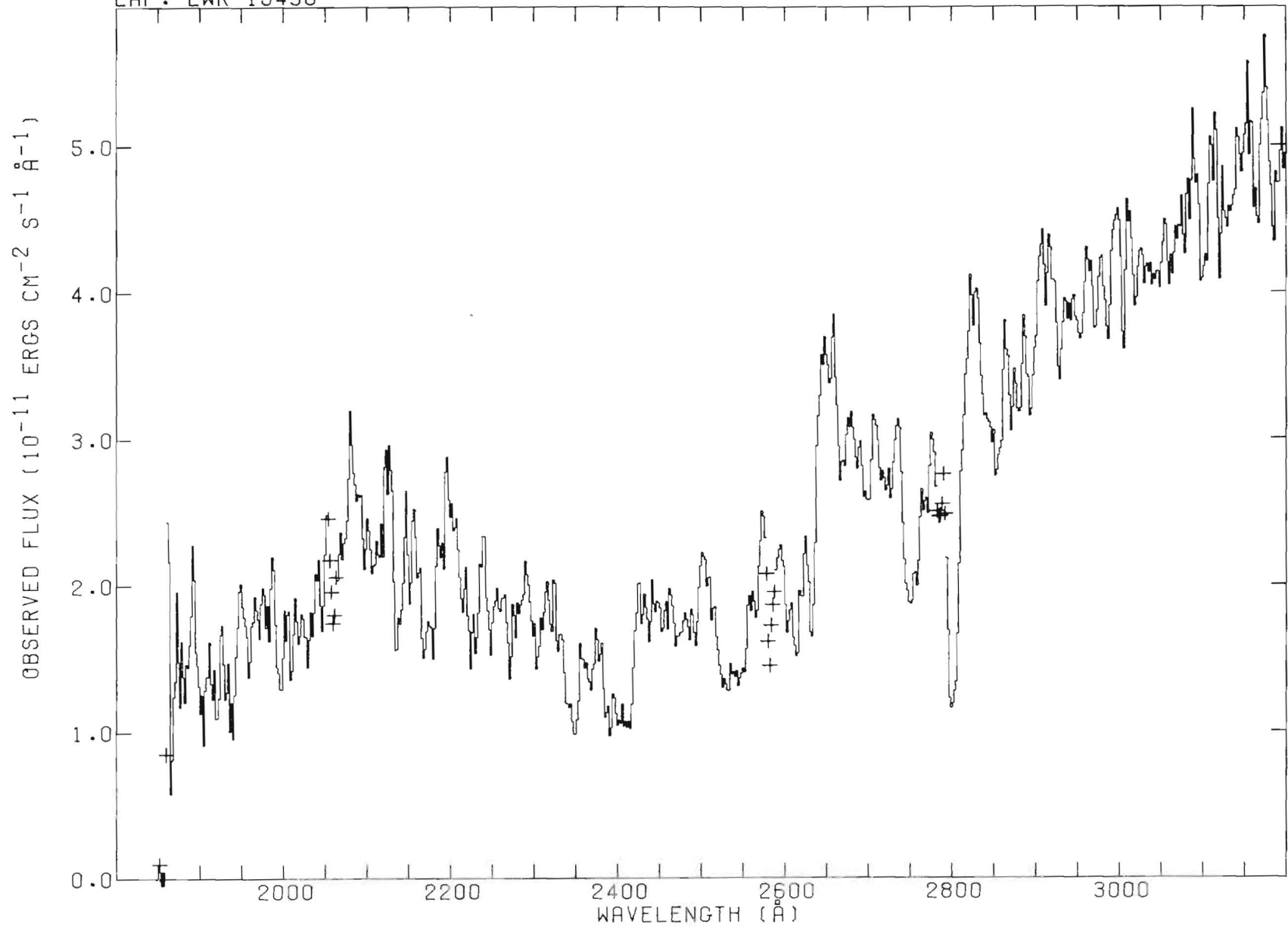


HD 157792 A9 V V=4.17 (B-V)=0.28 E(B-V)=-0.02
LAP: SWP 19498, SWP 19461



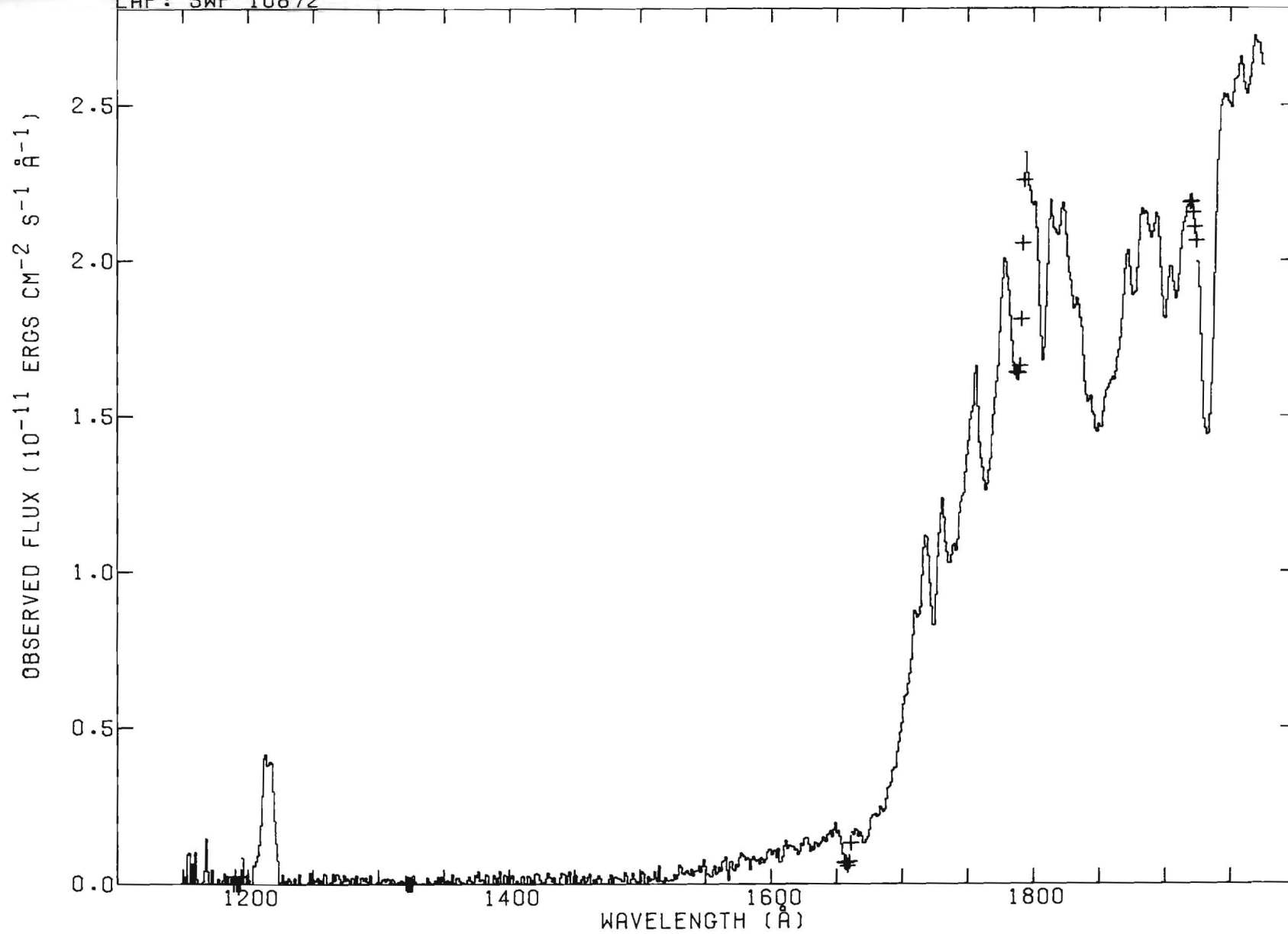
HD 157792 A9 V
LAP: LWR 15490

V=4.17 (B-V)=0.28 E(B-V)=-0.02



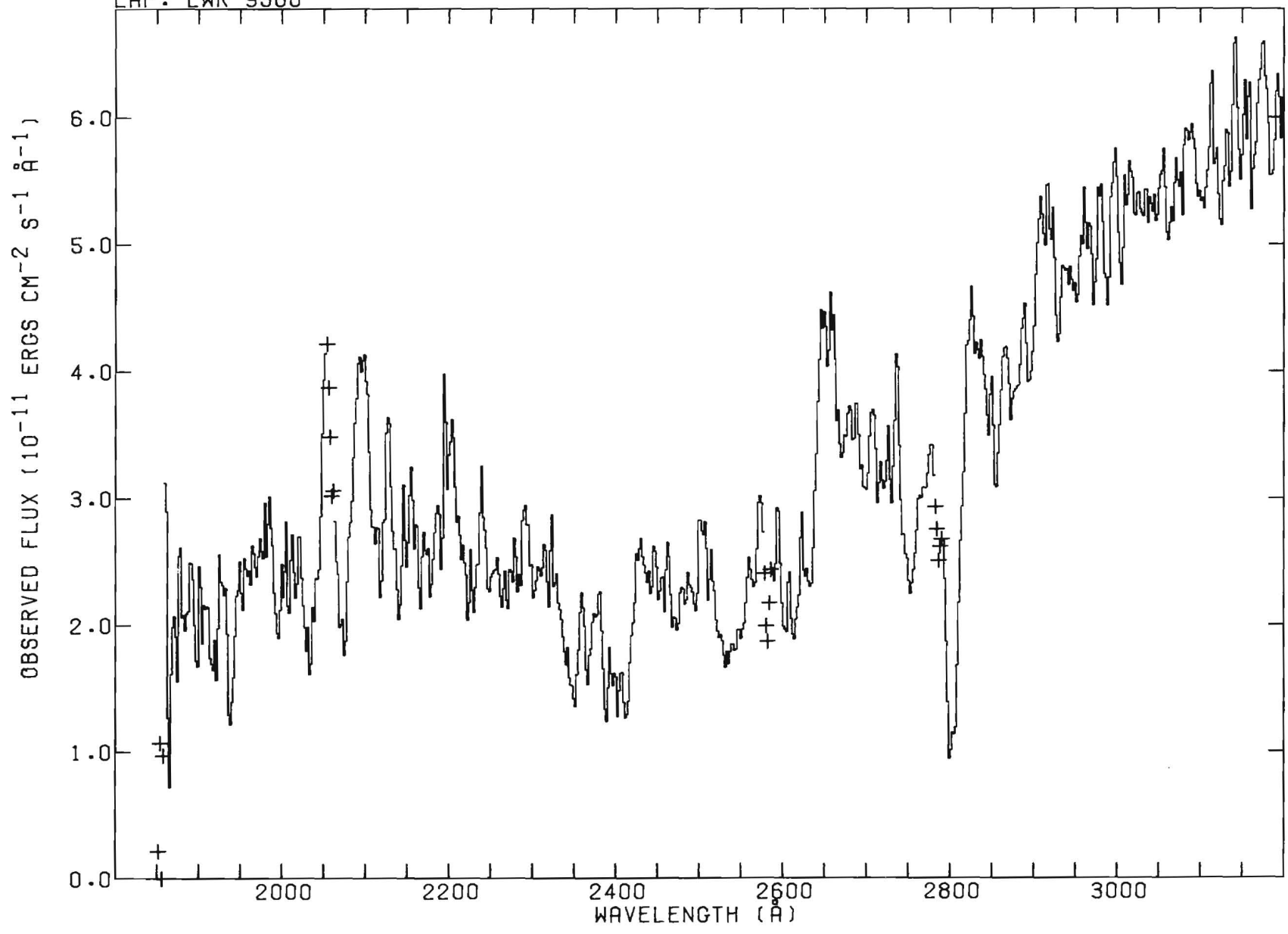
HD 147547 A9 III
LAP: SWP 10872

V=3.75 (B-V)=0.27 E(B-V)=-0.01



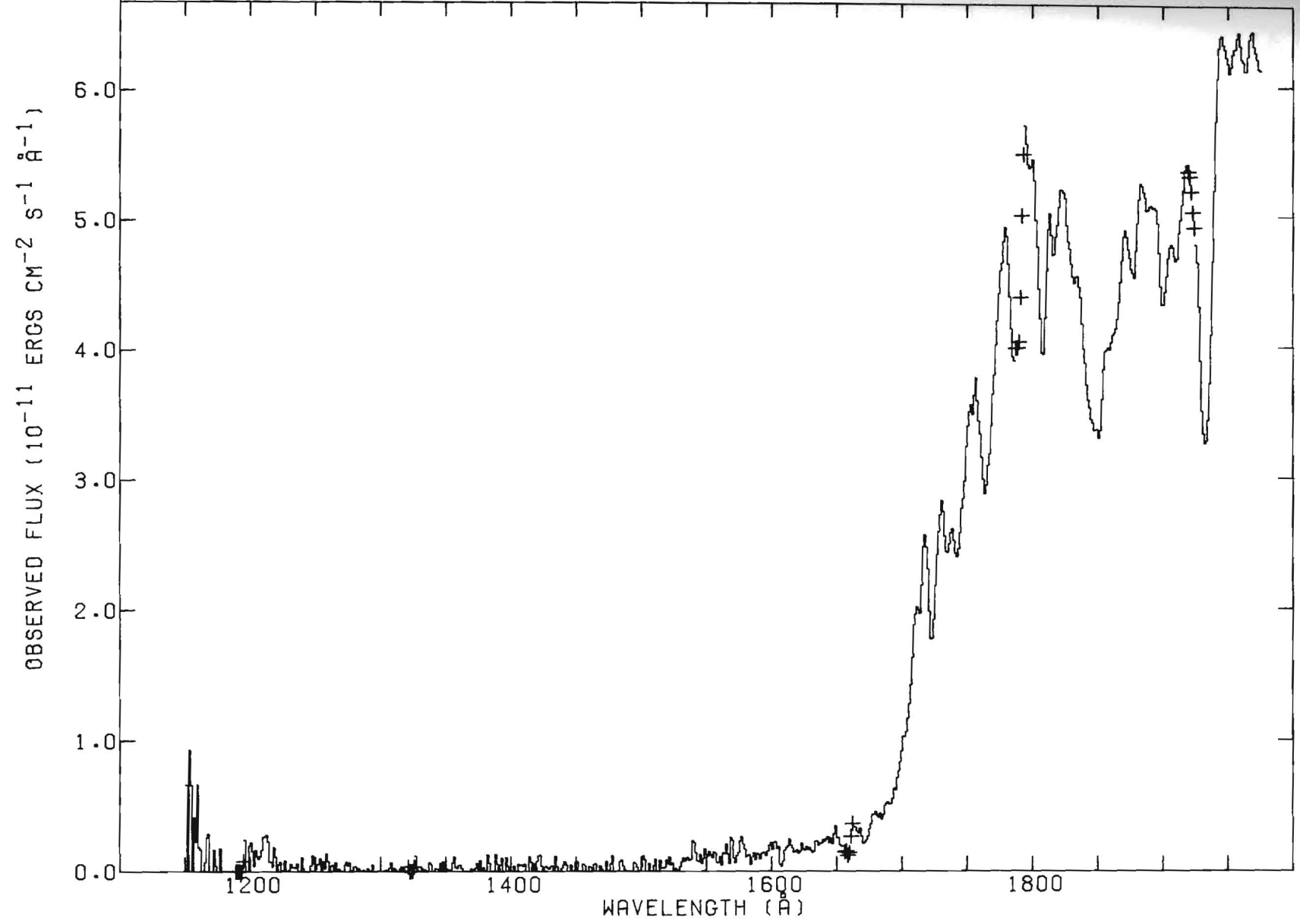
HD 147547 A9 III
LAP: LWR 9560

V=3.75 (B-V)=0.27 E(B-V)=-0.01



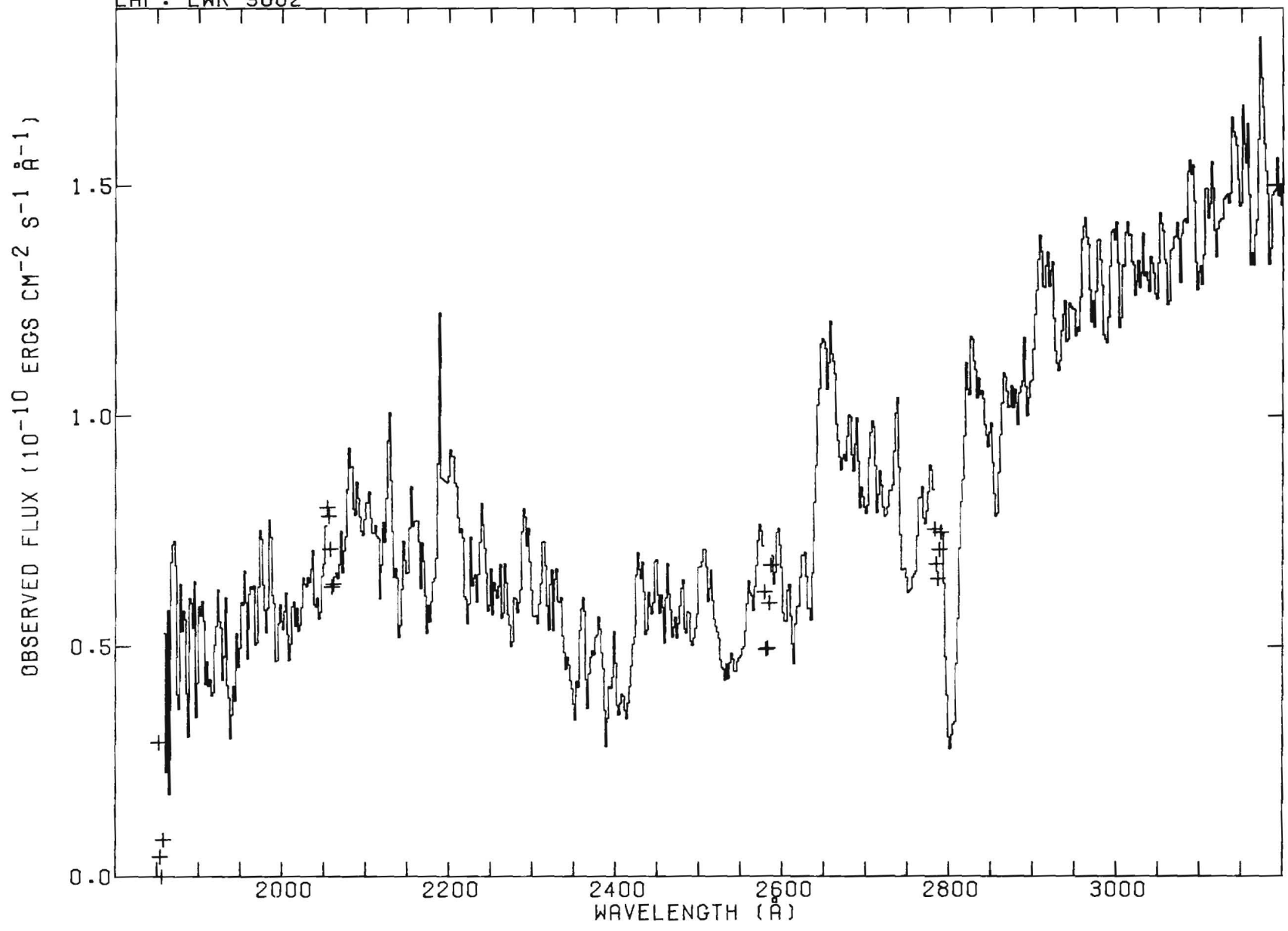
HD 12311 FO V
AP: SWP 11242

V=2.86 (B-V)=0.28 E(B-V)=-0.04

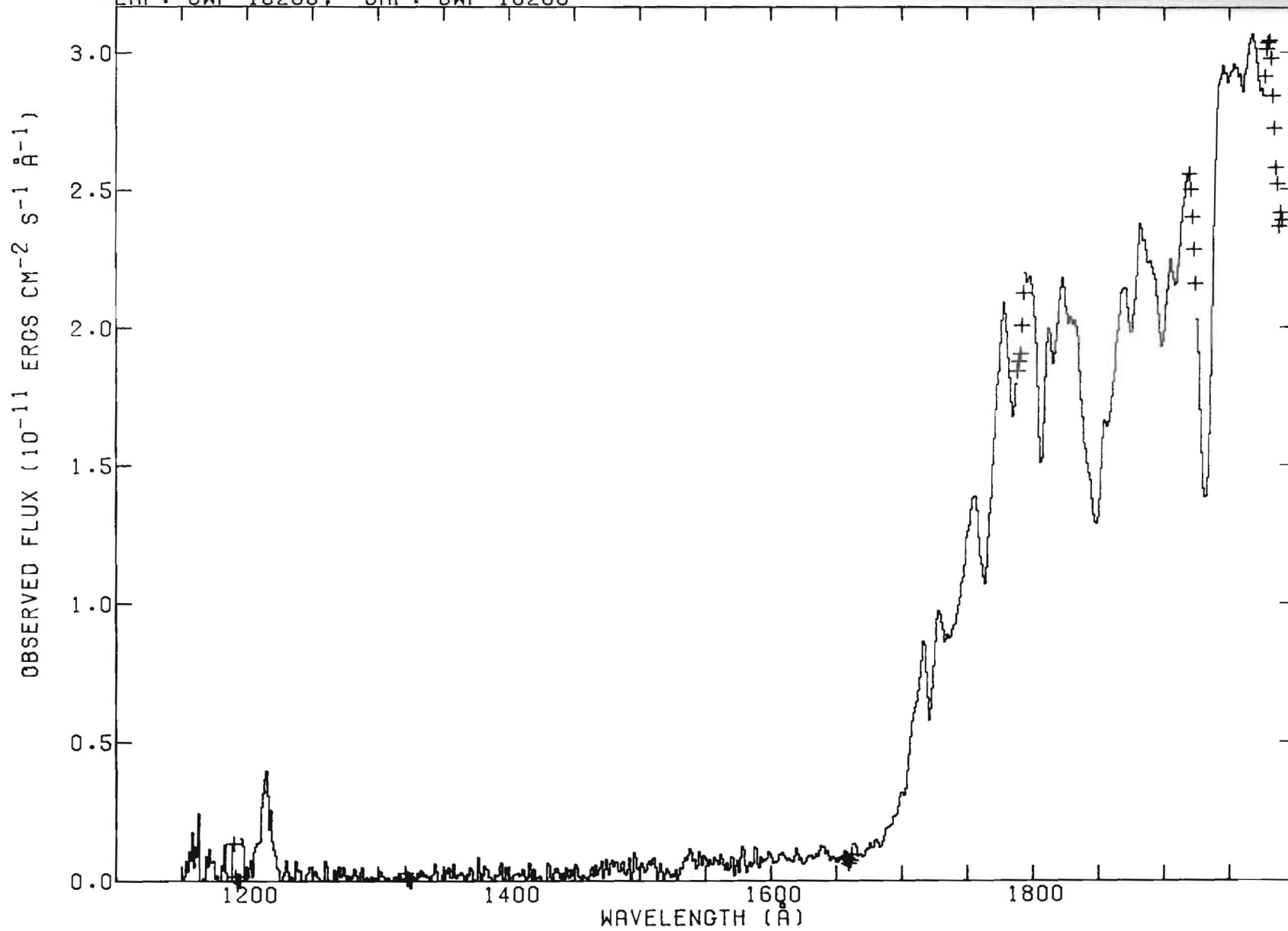


HD 12311 FO V
LAP: LWR 9862

V=2.86 (B-V)=0.28 E(B-V)=-0.04

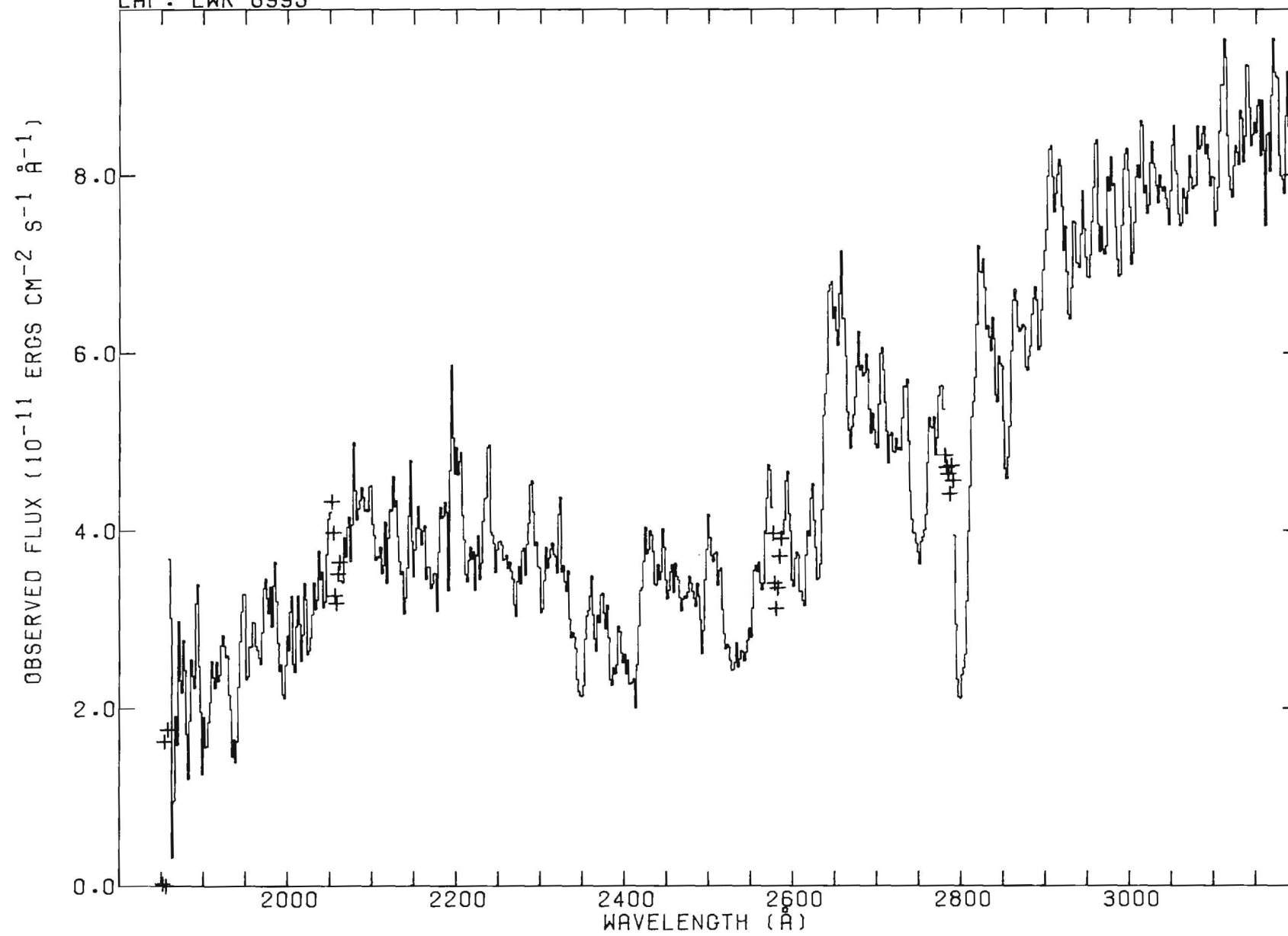


HD 40136 FO IV V=3.71 (B-V)=0.33 E(B-V)=0.03
LAP: SWP 10286; SAP: SWP 10286

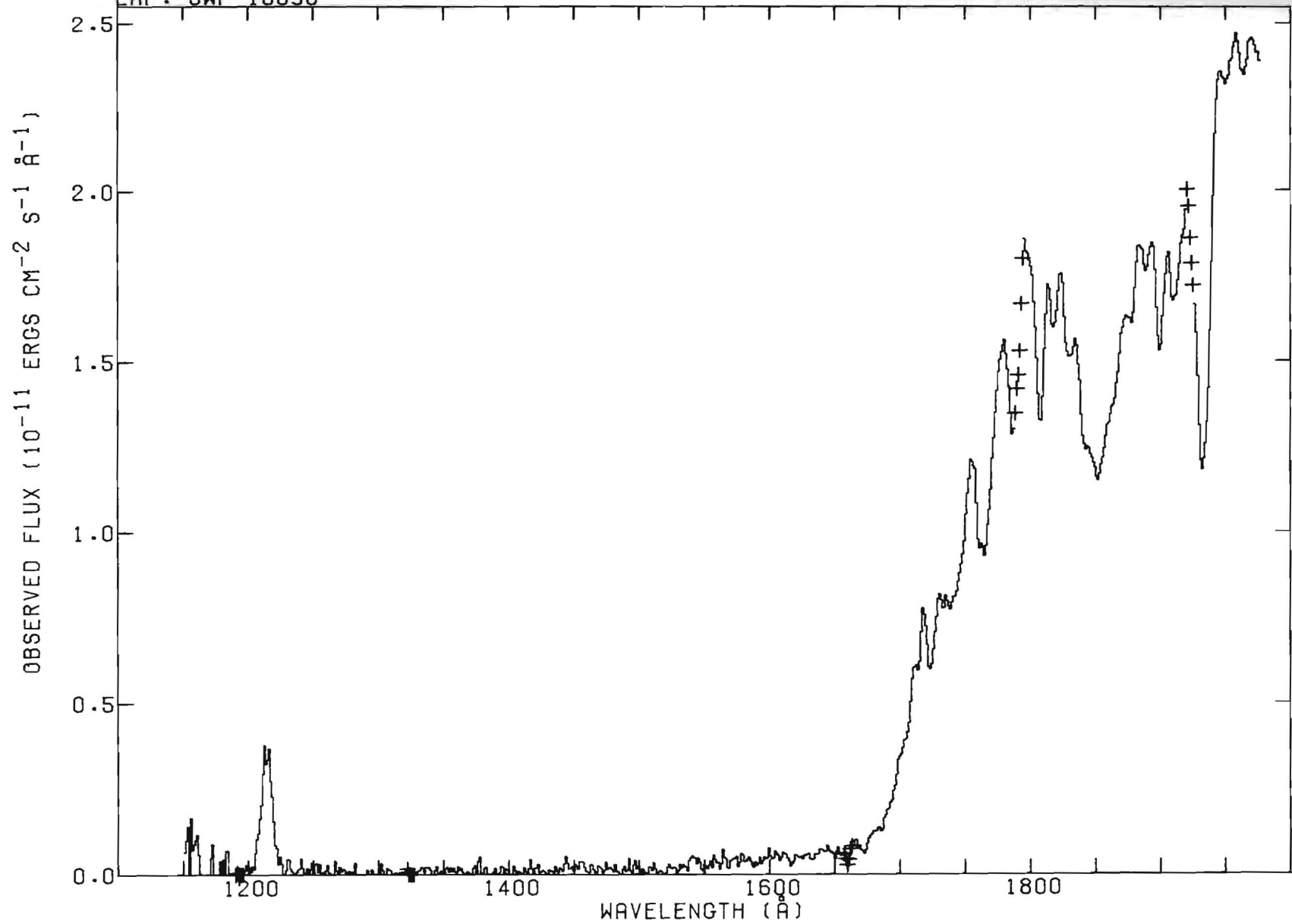


HD 40136 FO IV
LAP: LWR 6995

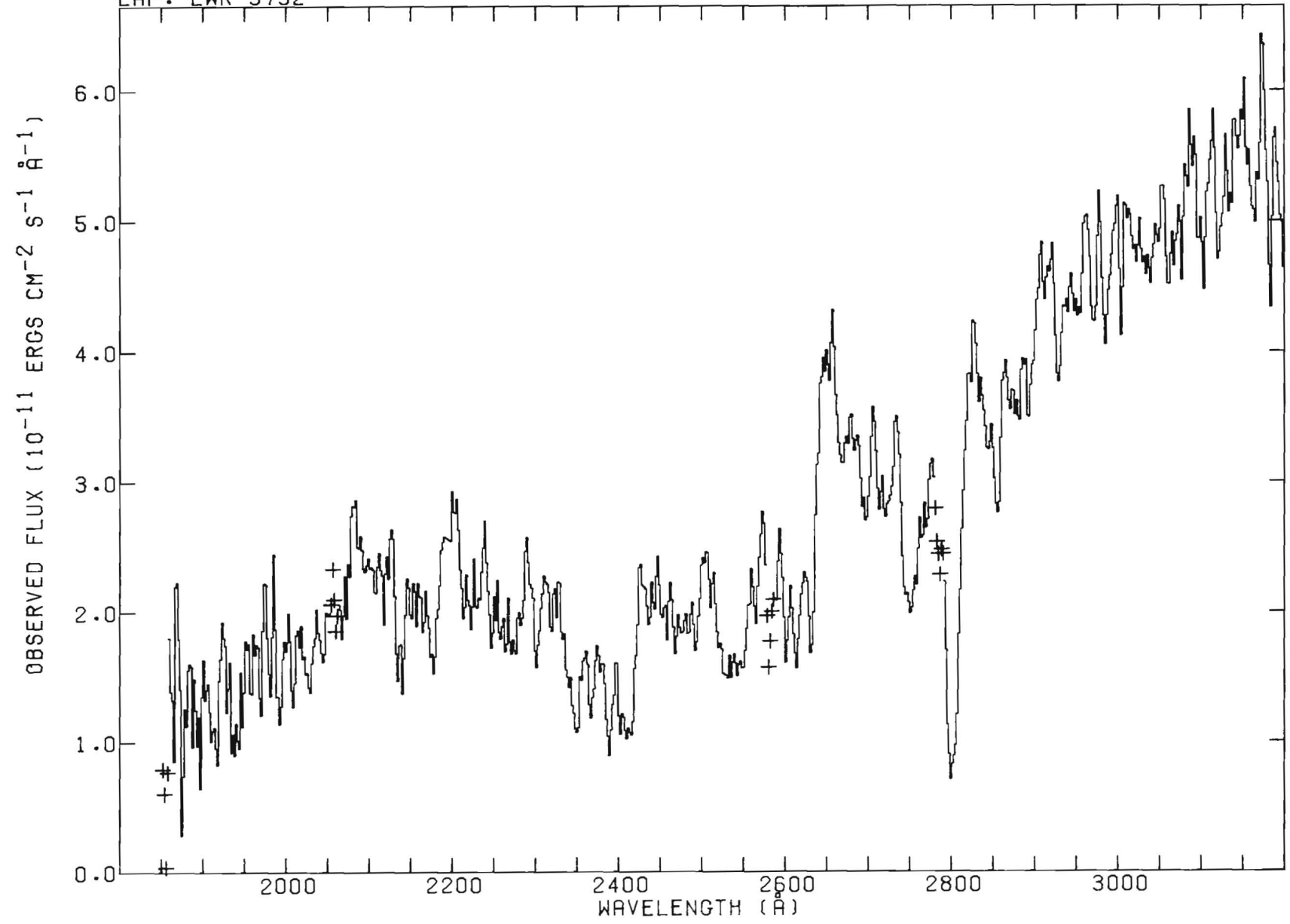
V=3.71 (B-V)=0.33 E(B-V)=0.03



HD 89025 FO III + V=3.44 (B-V)=0.31 E(B-V)=-0.01
LAP: SWP 15536

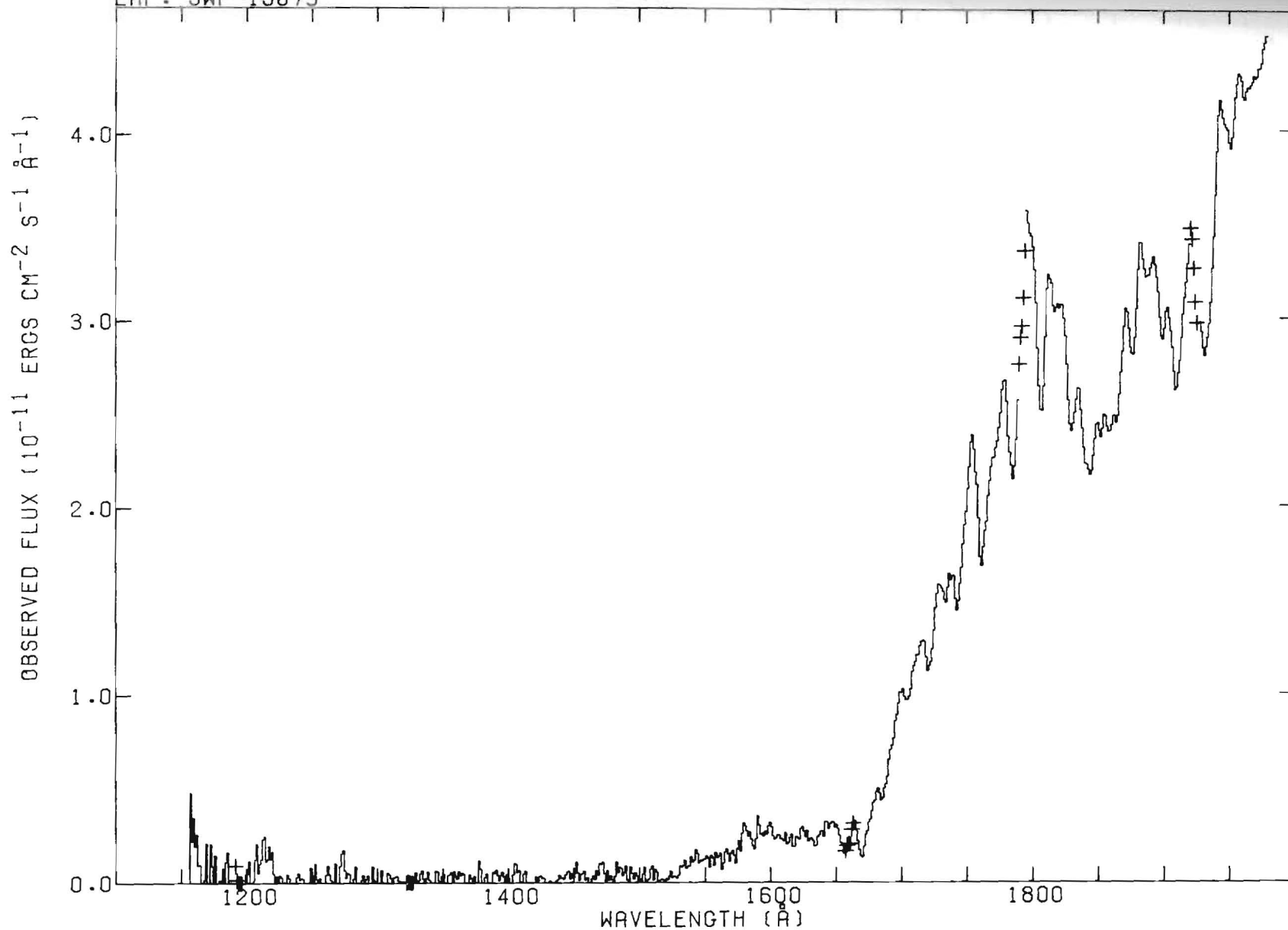


HD 89025 F0 III + V=3.44 (B-V)=0.31 E(B-V)=-0.01
LAP: LWR 9732



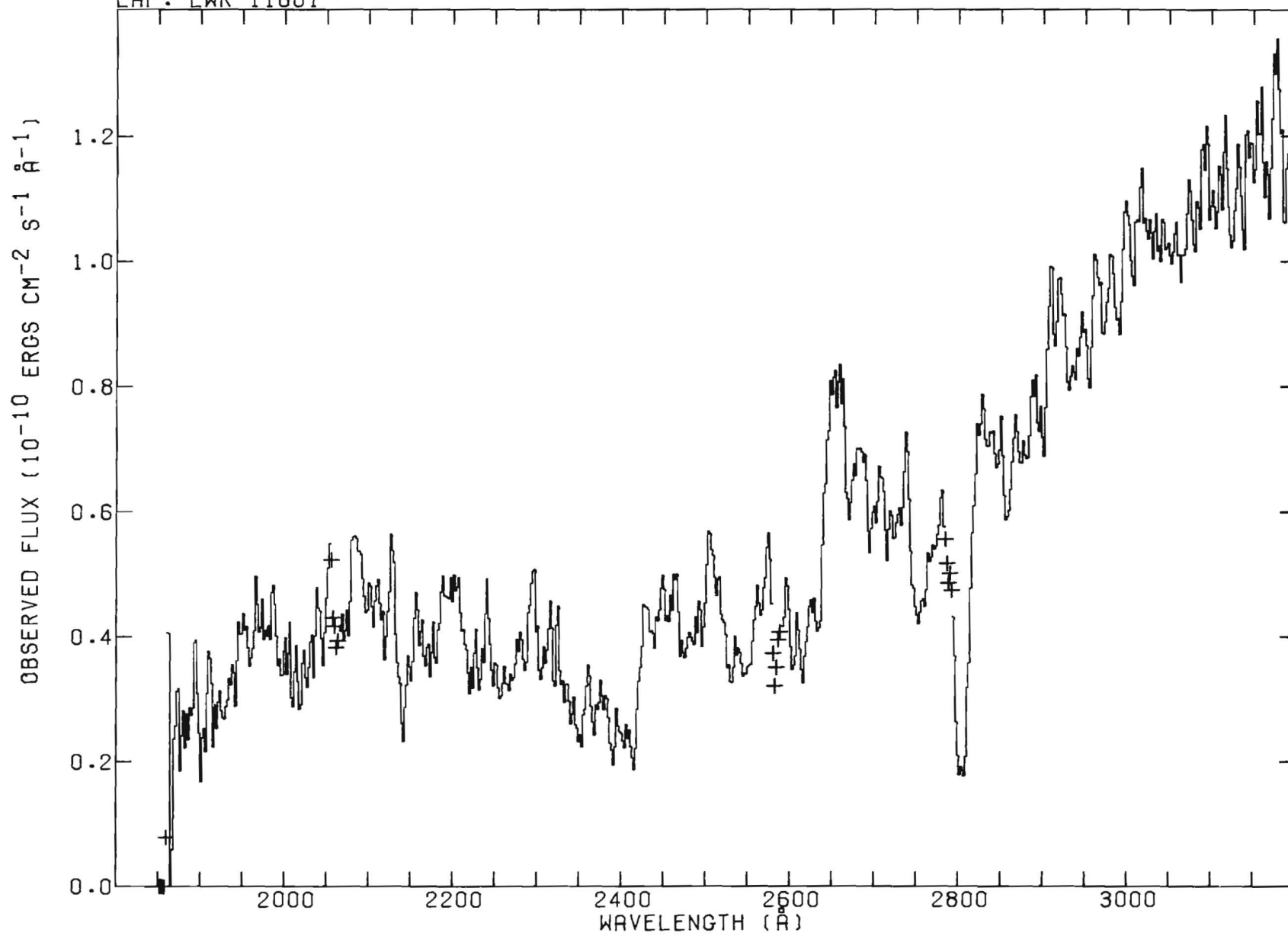
HD 36673 FO 1B
LAP: SWP 15073

V=2.58 (B-V)=0.21 E(B-V)=0.06



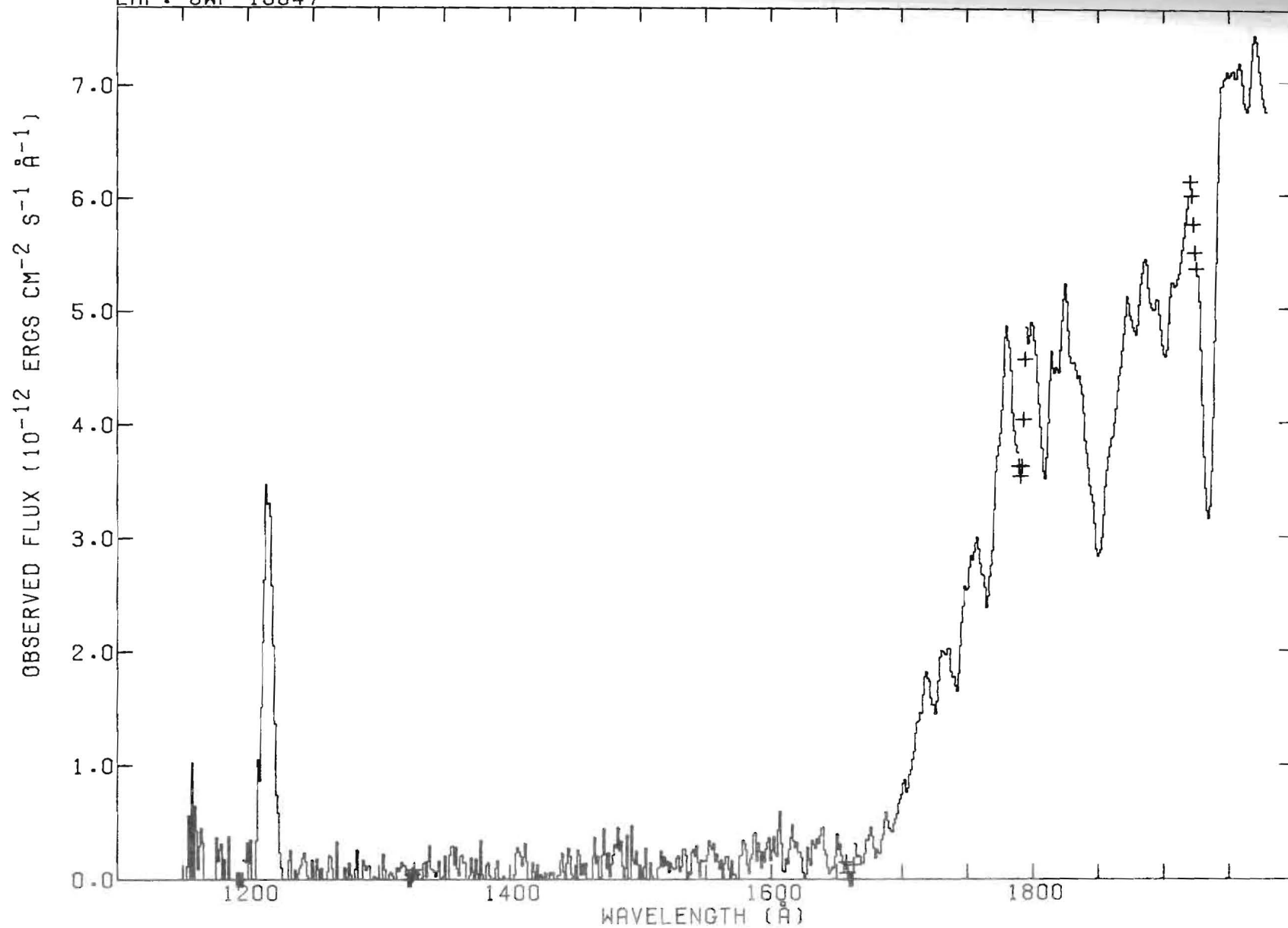
HD 36673 FO IB
LAP: LWR 11601

V=2.58 (B-V)=0.21 E(B-V)=0.06



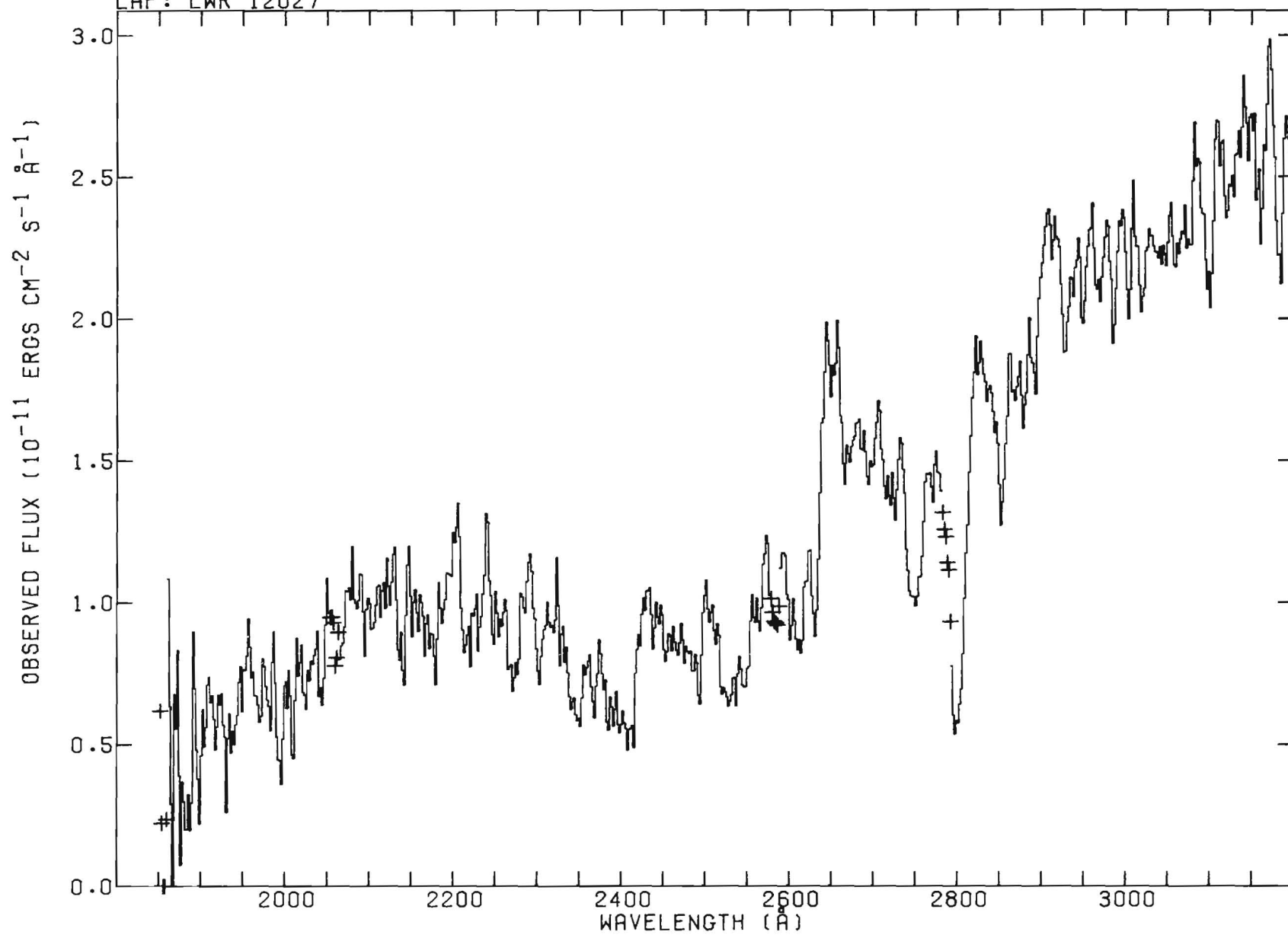
HD 113139 F2 V
LAP: SWP 15547

V=4.93 (B-V)=0.36 E(B-V)=0.01

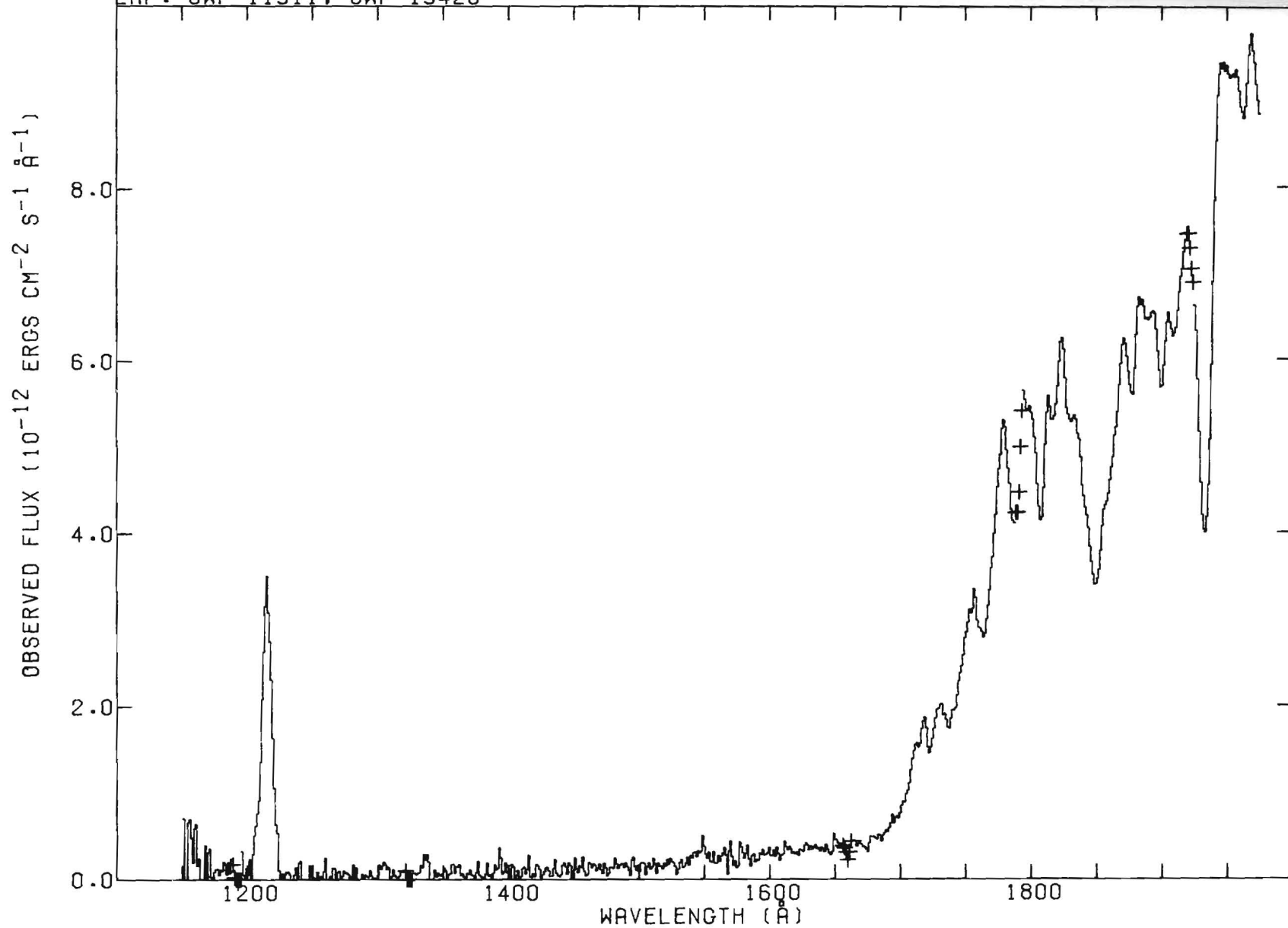


HD 113139 F2 V
LAP: LWR 12027

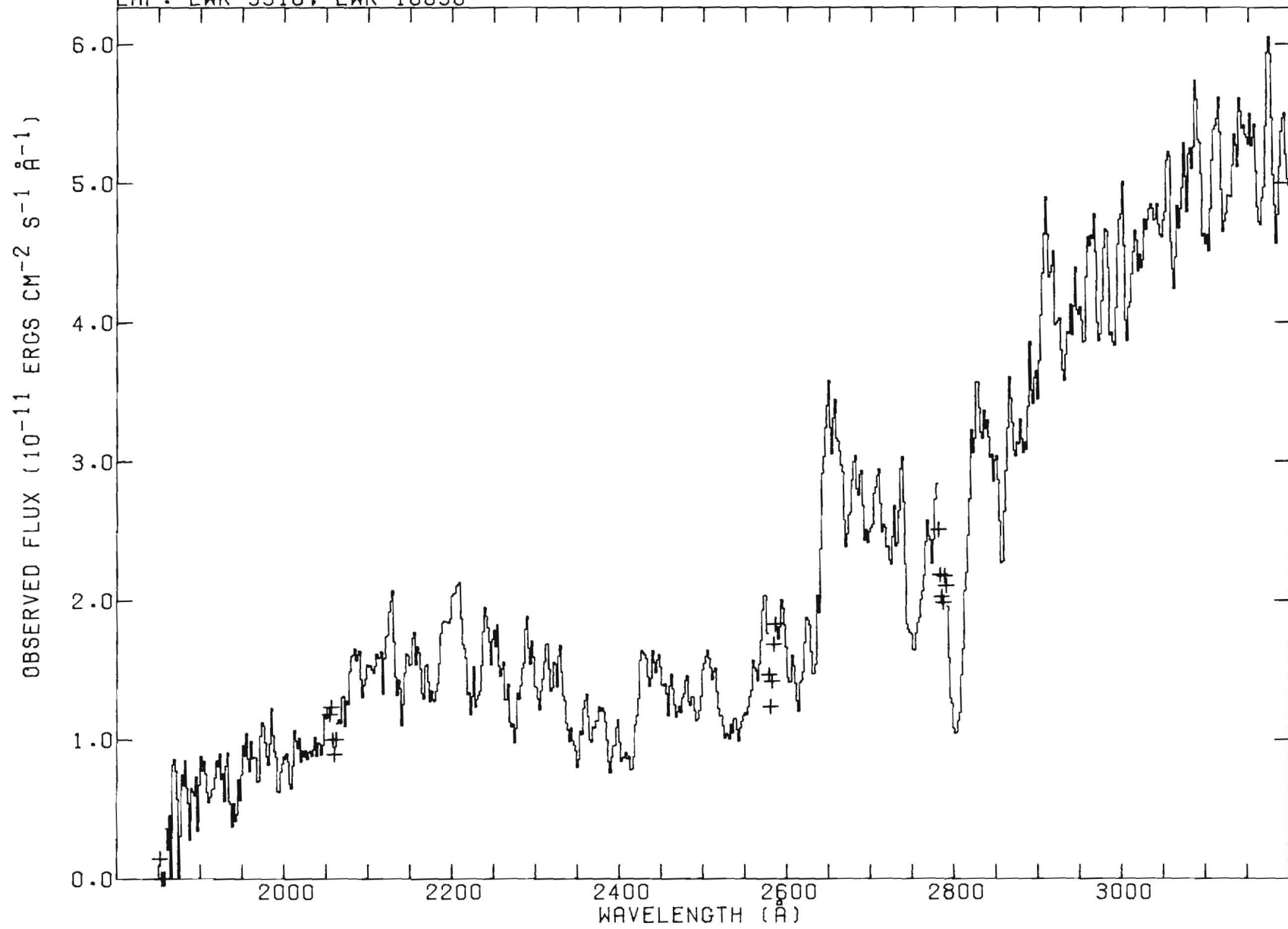
V=4.93 (B-V)=0.36 E(B-V)=0.01



HD 99028 F2 IV V=3.94 (B-V)=0.41 E(B-V)=0.04
LAP: SWP 11311, SWP 13426

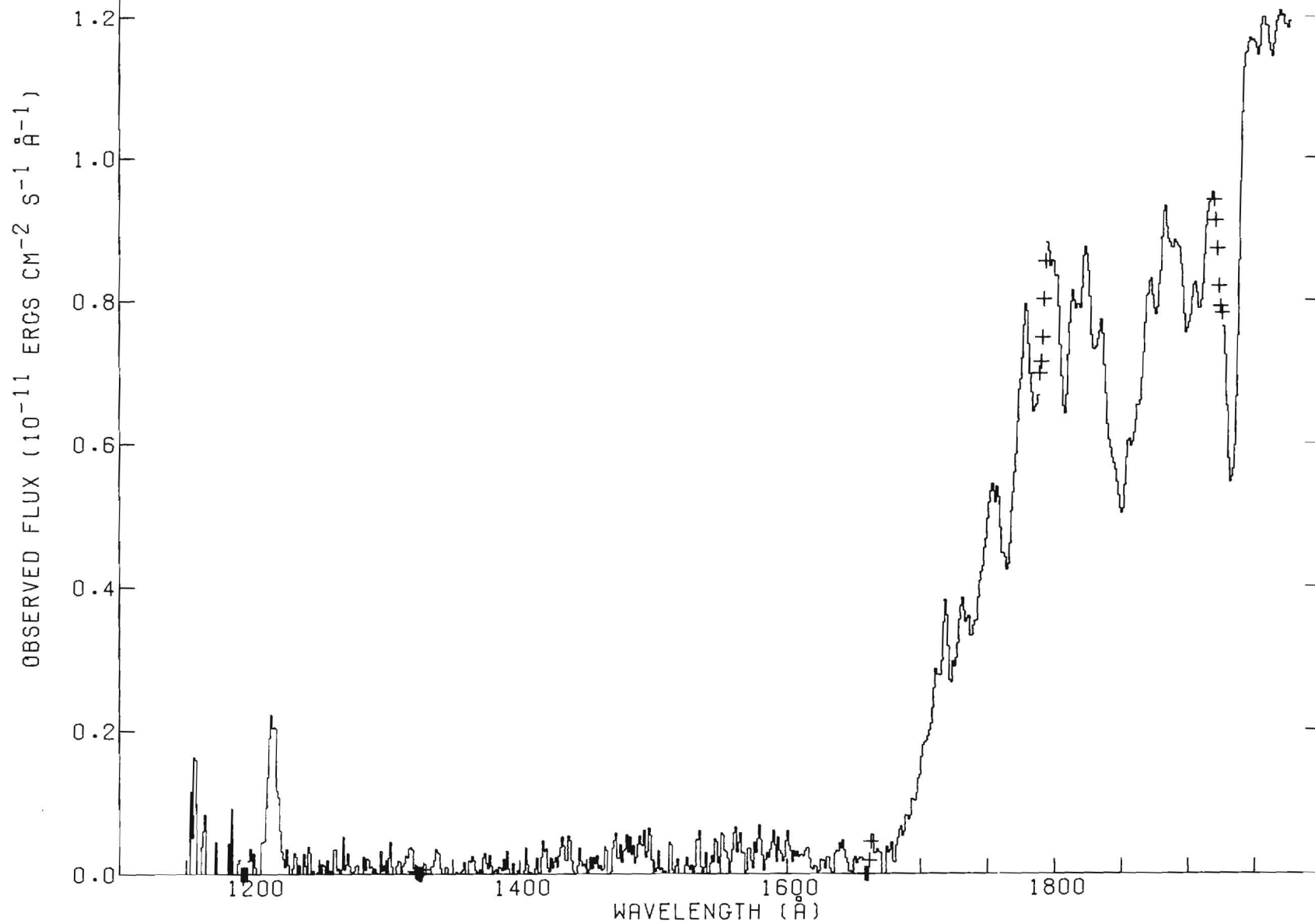


HD 99028 F2 IV V=3.94 (B-V)=0.41 E(B-V)=0.04
LAP: LWR 9918, LWR 10090

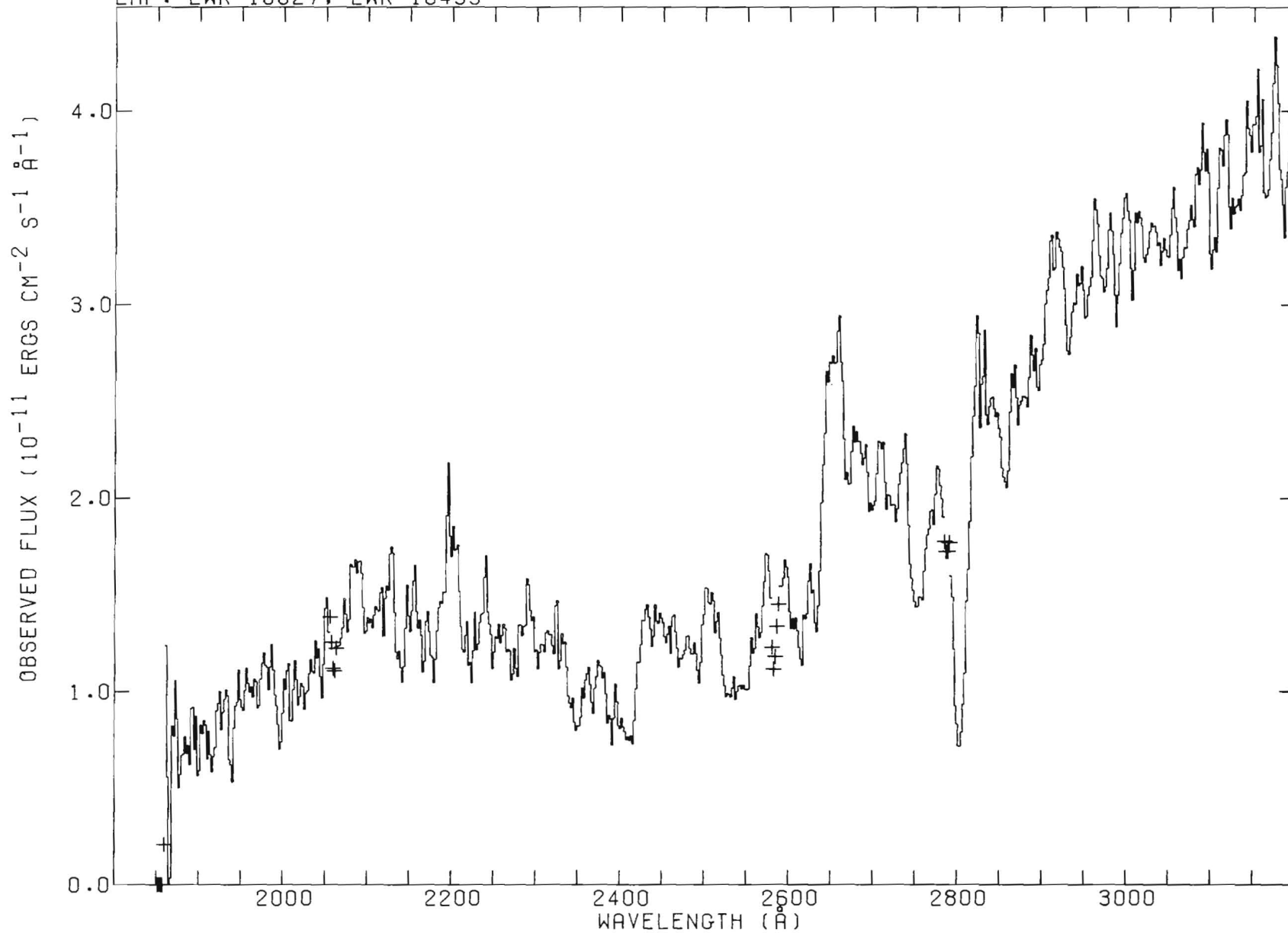


HD 17584 F2 III
LAP: SWP 19465

V=4.23 (B-V)=0.34 E(B-V)=-0.02

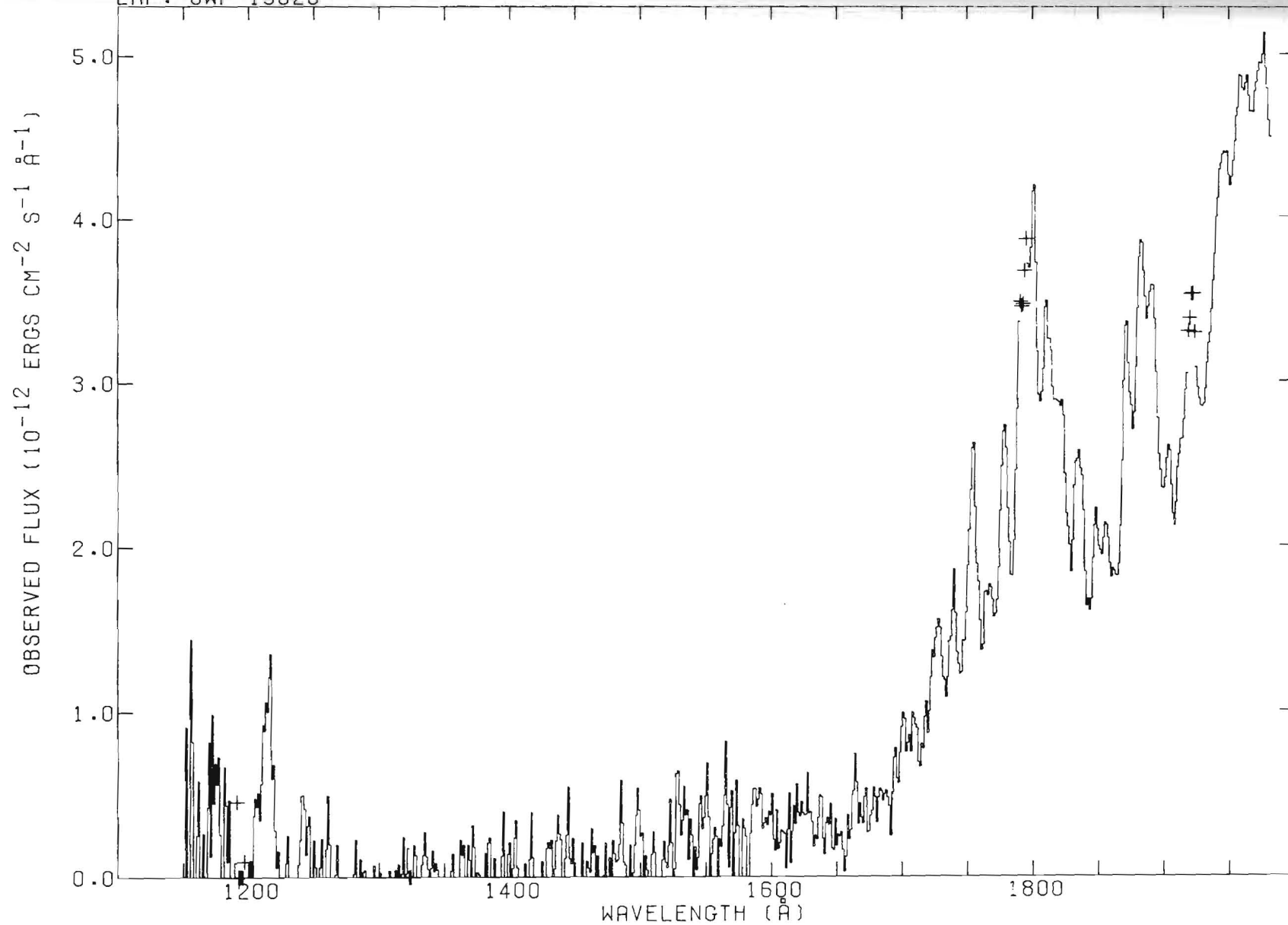


HD 17584 F2 III V=4.23 (B-V)=0.34 E(B-V)=-0.02
LAP: LWR 15527, LWR 15499

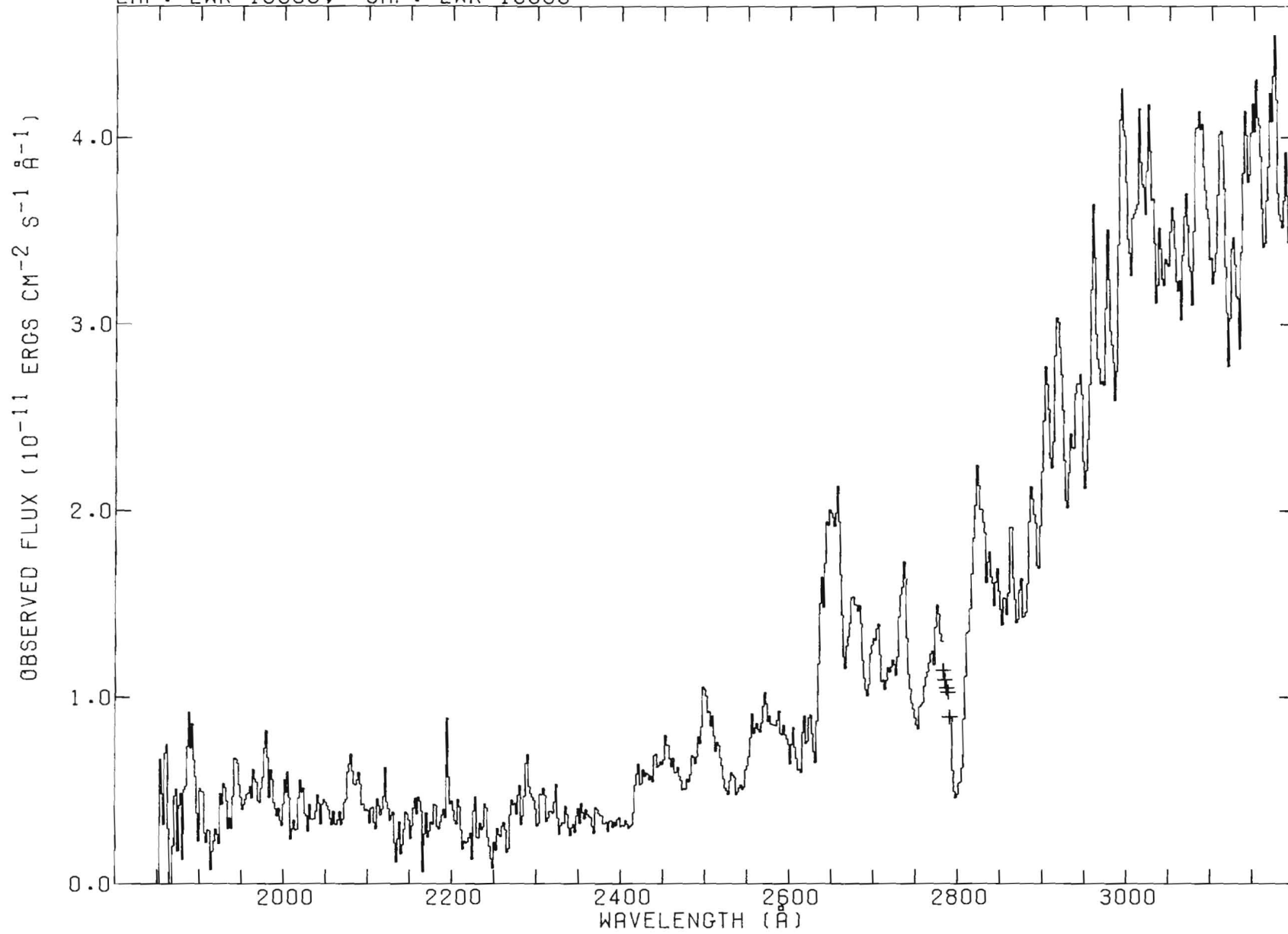


HD 161471 F2 IA
LAP: SWP 19525

V=3.03 (B-V)=0.51 E(B-V)=0.33

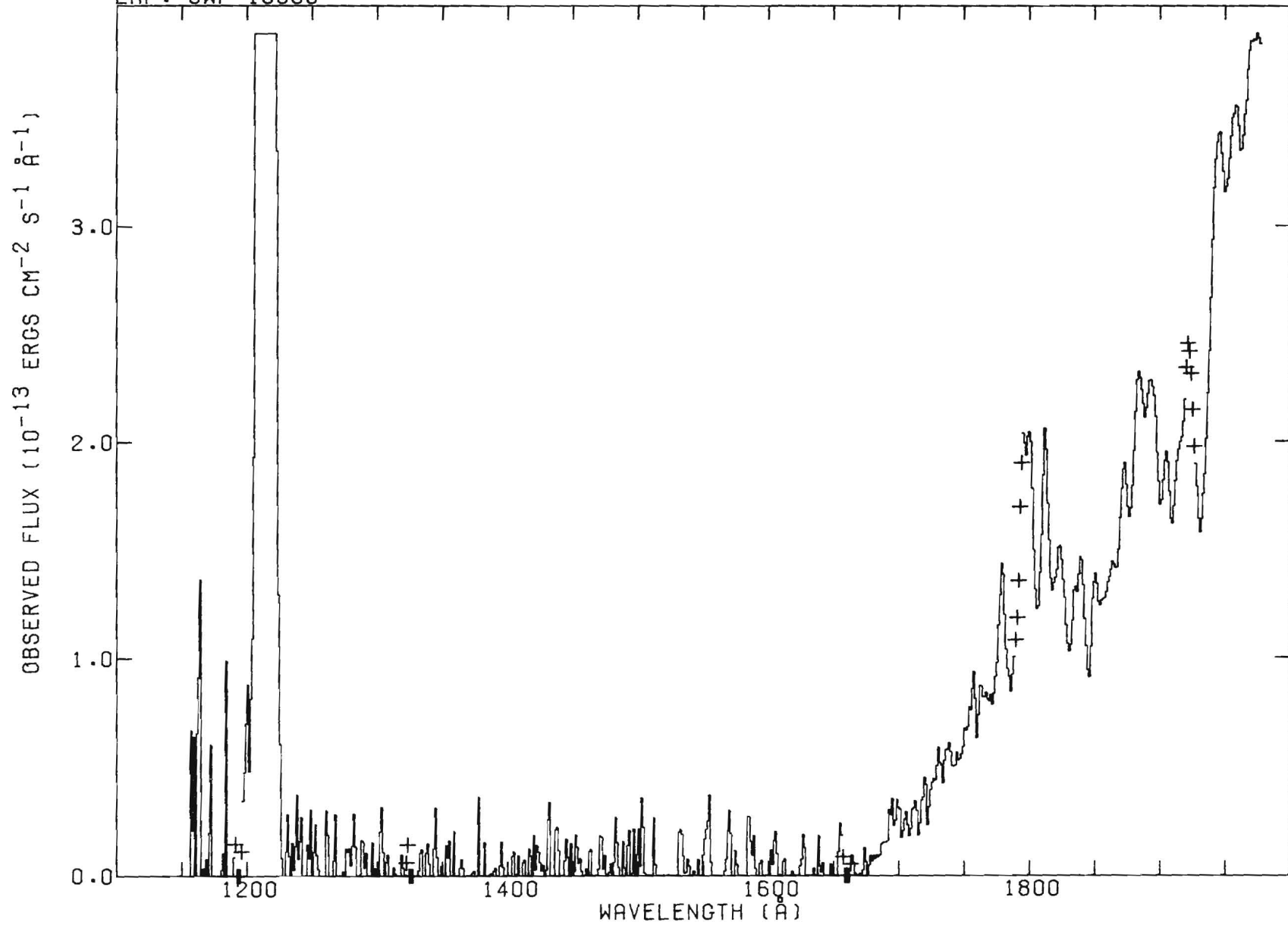


HD 161471 F2 IA V=3.03 (B-V)=0.51 E(B-V)=0.33
LAP: LWR 15565; SAP: LWR 15565



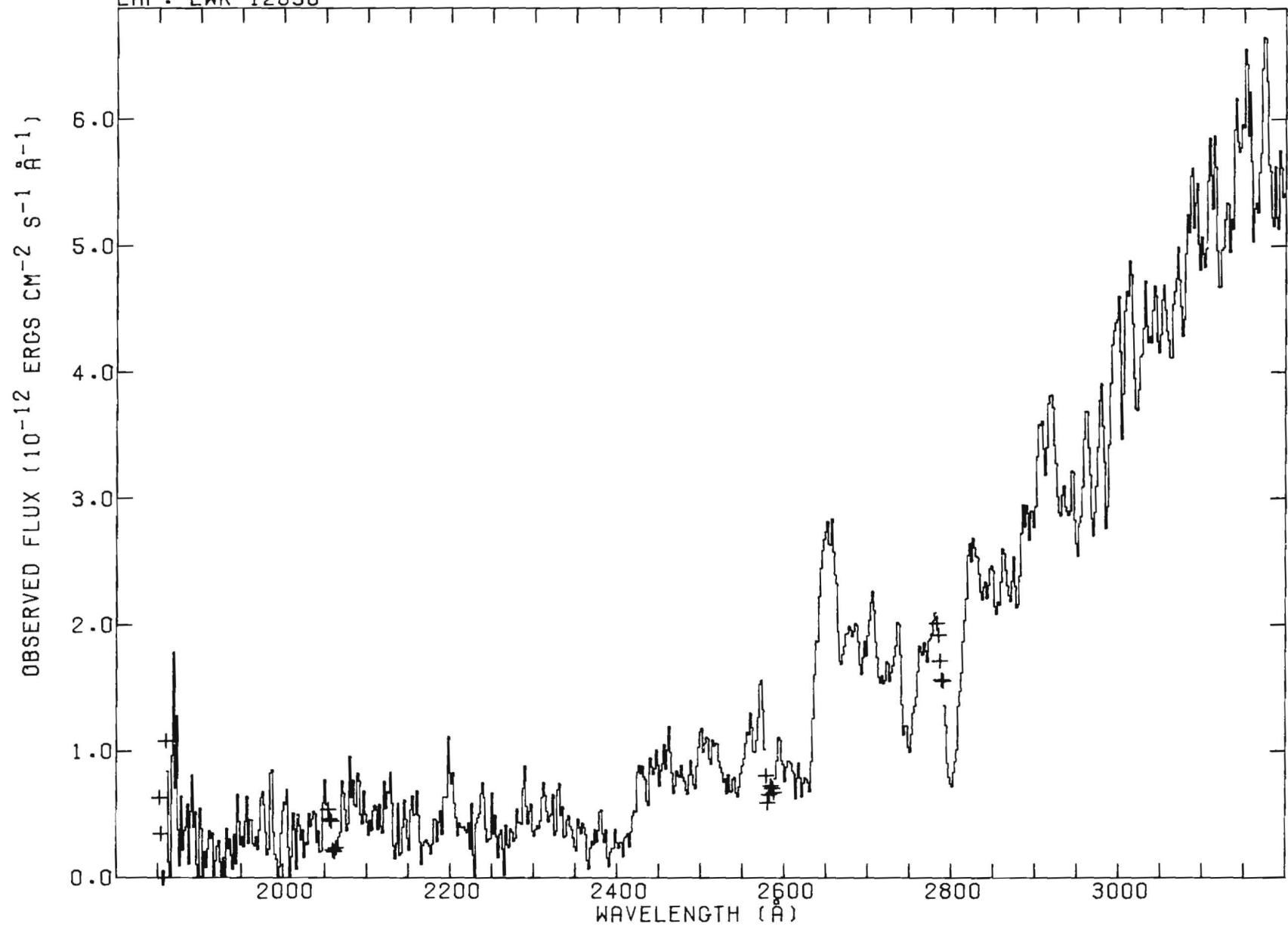
HD 163506 F2 IA
LAP: SWP 15555

V=5.46 (B-V)=0.34 E(B-V)=0.16

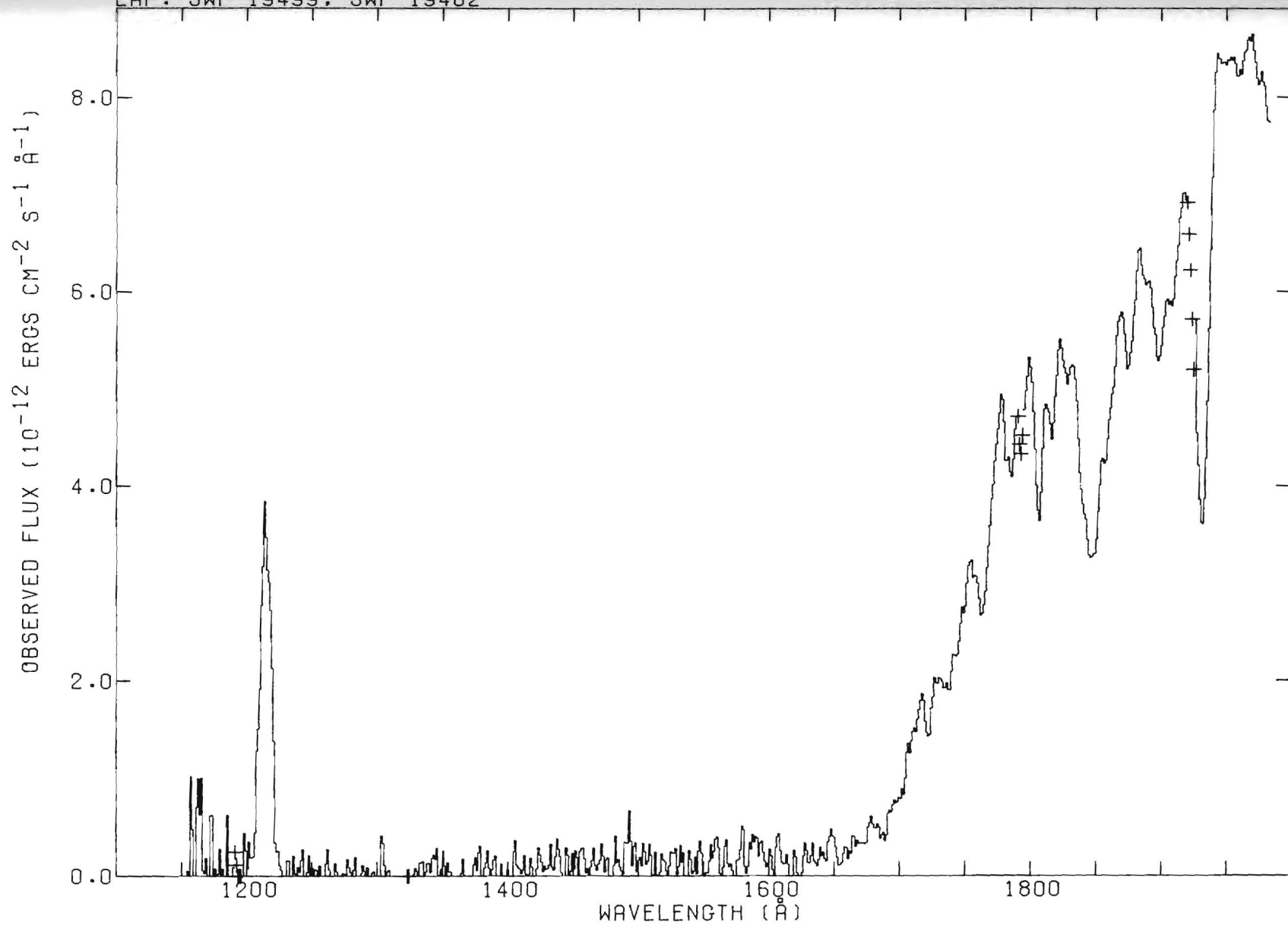


HD 163506 F2 IA
LAP: LWR 12038

V=5.46 (B-V)=0.34 E(B-V)=0.16

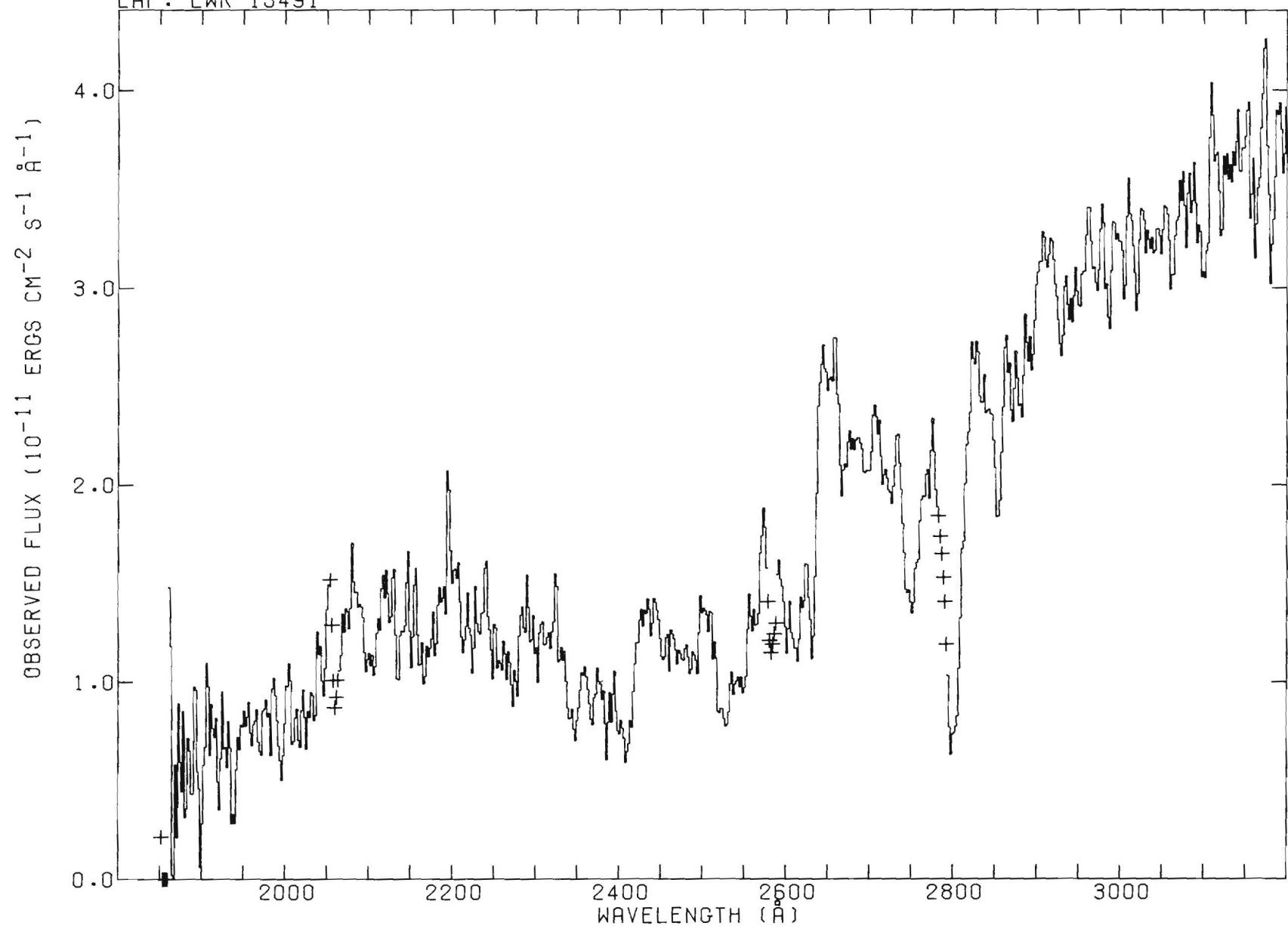


HD 157950 F3 V V=4.54 (B-V)=0.39 E(B-V)=-0.02
LAP: SWP 19499, SWP 19462

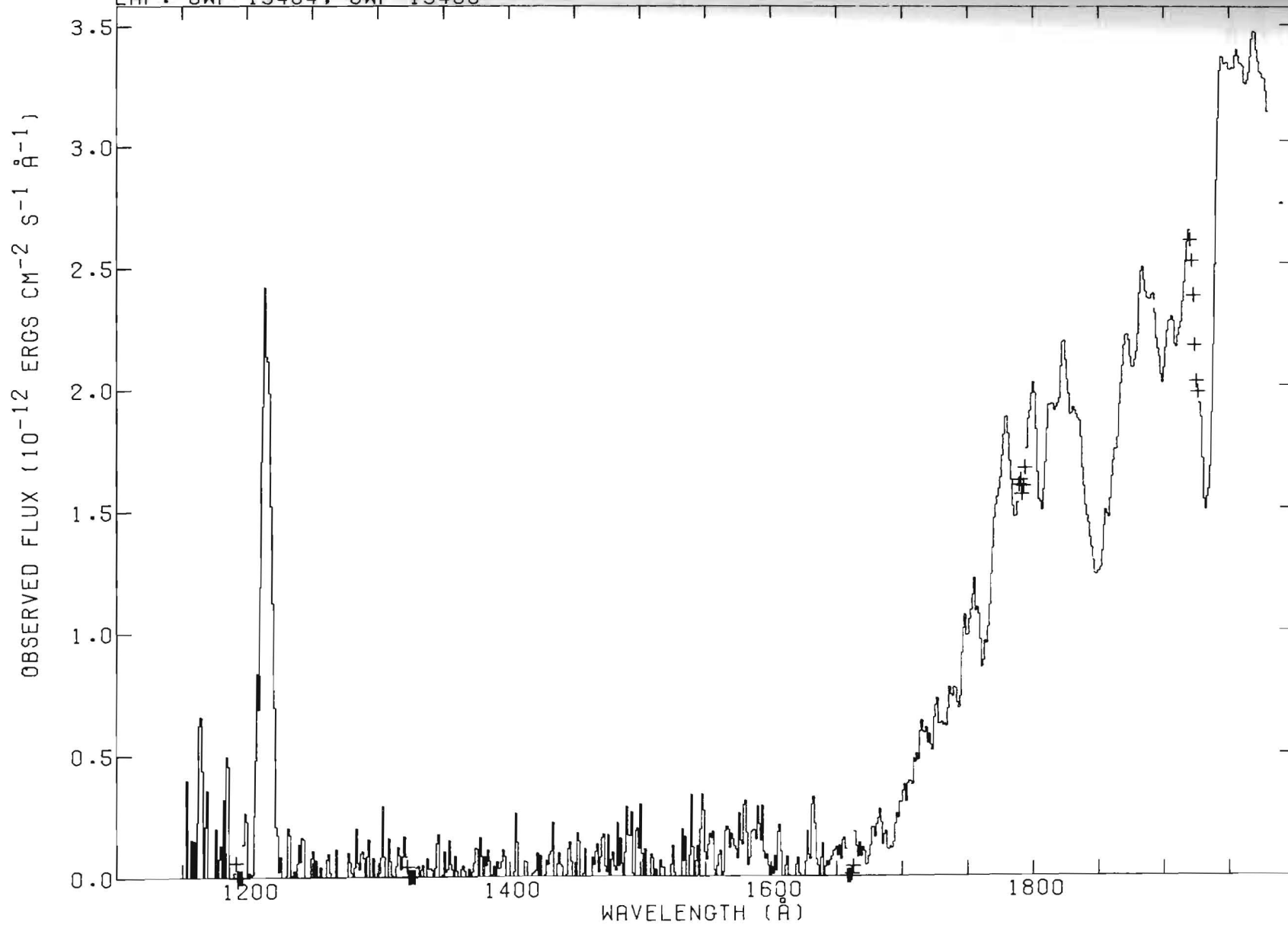


HD 157950 F3 V
LAP: LWR 15491

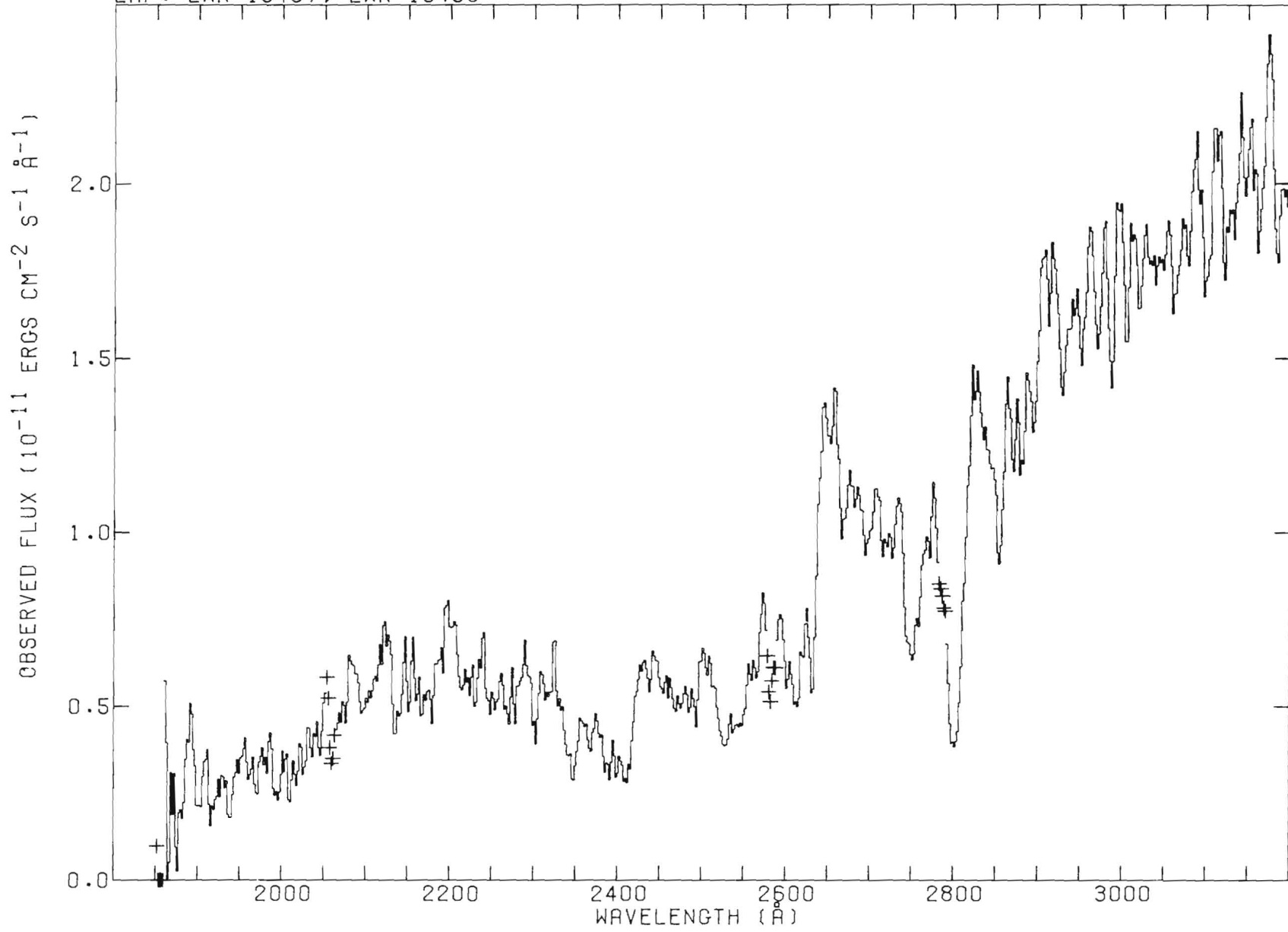
V=4.54 (B-V)=0.39 E(B-V)=-0.02



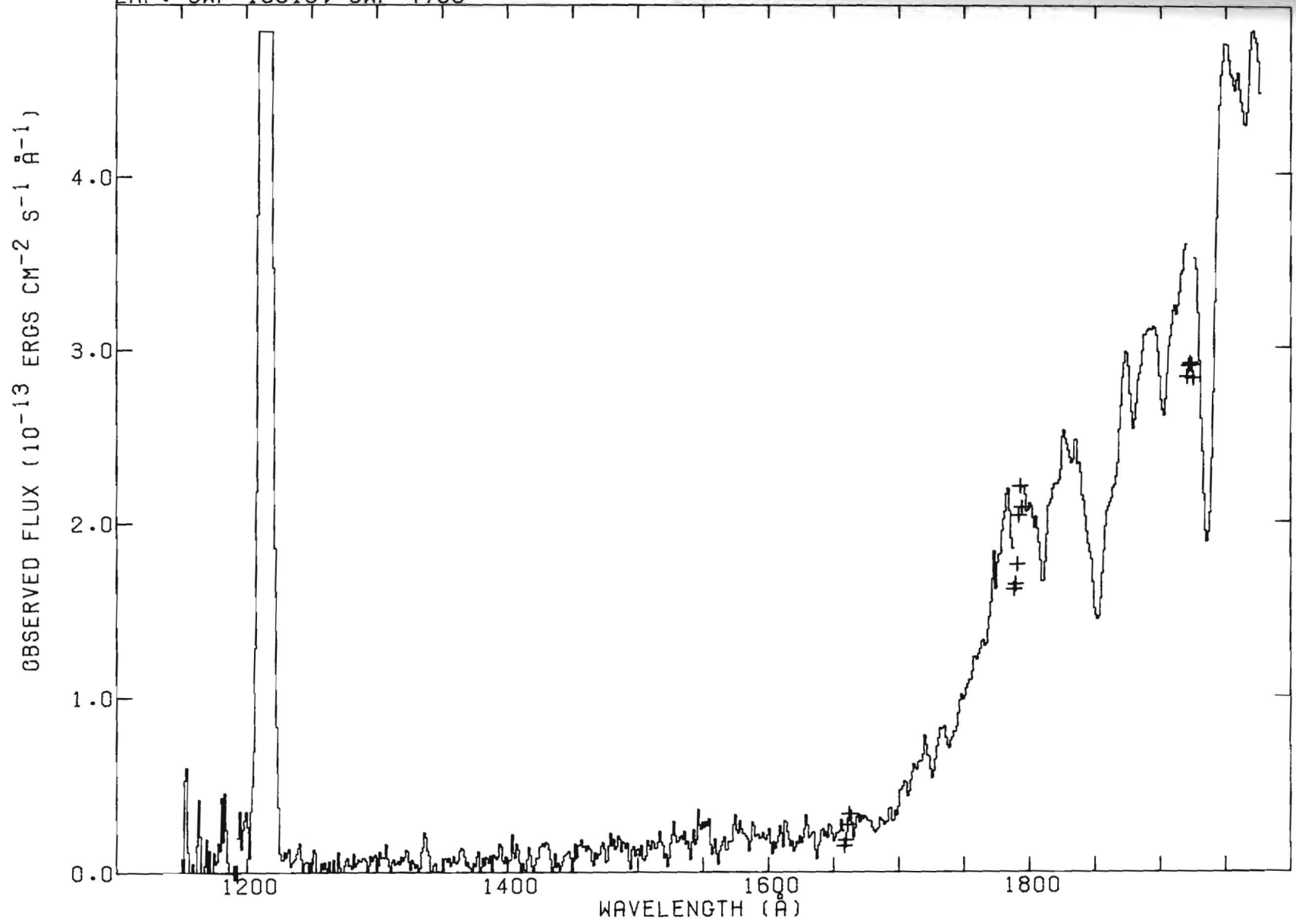
HD 61110 F3 III V=4.90 (B-V)=0.40 E(B-V)=0.01
LAP: SWP 19464, SWP 19458



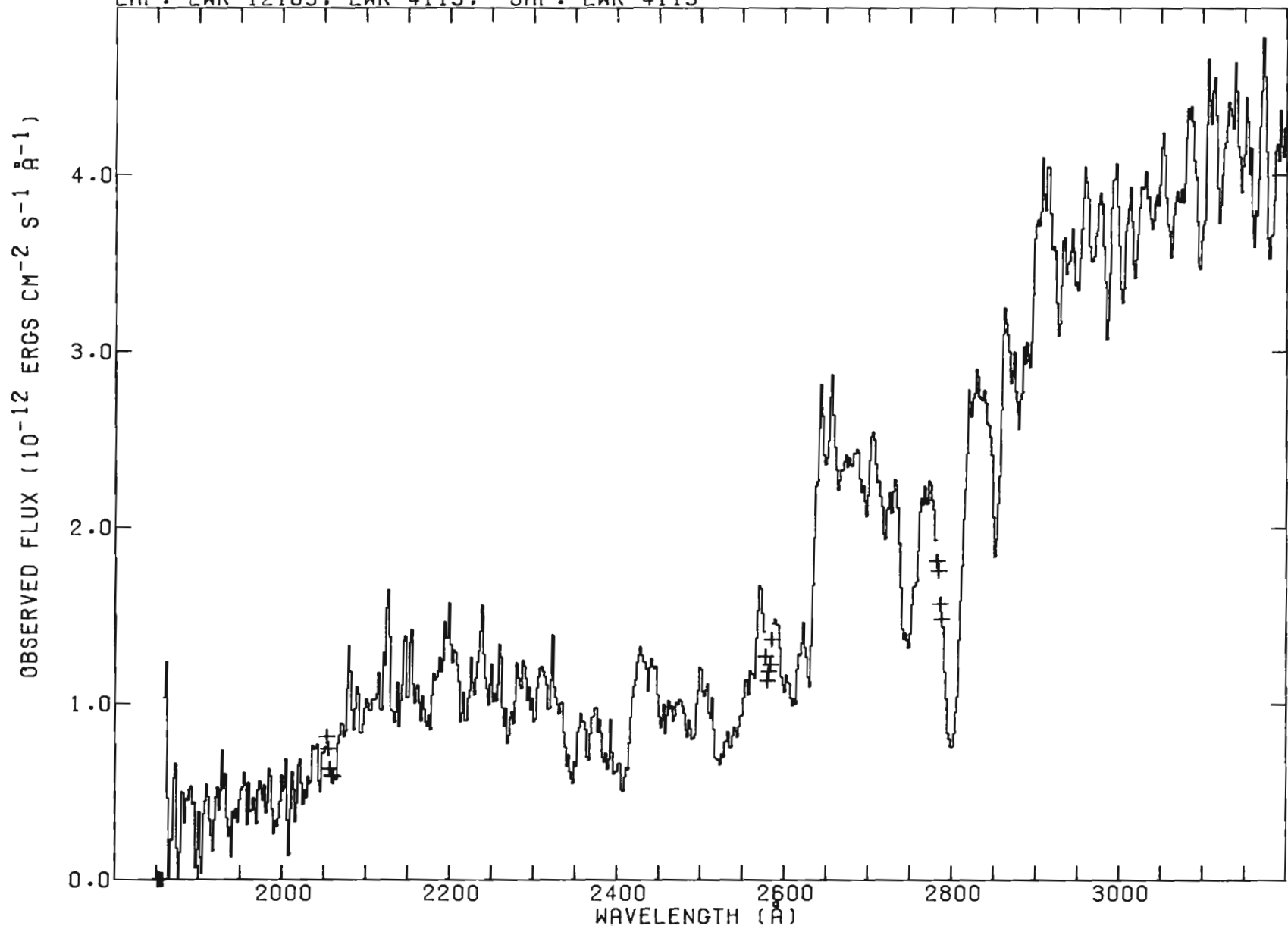
HD 61110 F3 III V=4.90 (B-V)=0.40 E(B-V)=0.01
LAP: LWR 15487, LWR 15498



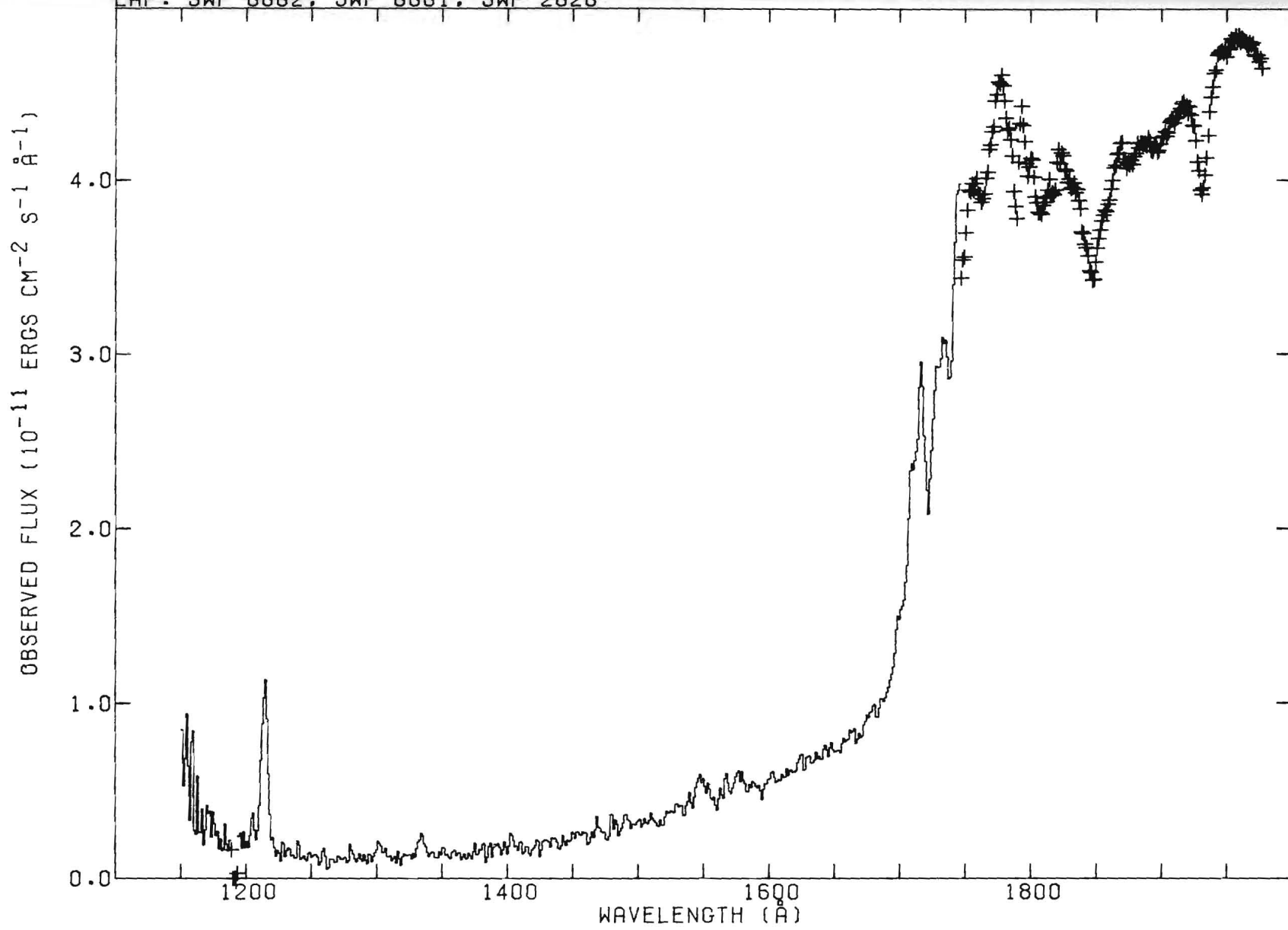
HD 27524 F5 V †
LAP: SWP 15819, SWP 4756 V=6.80 (B-V)=0.44 E(B-V)=-0.01



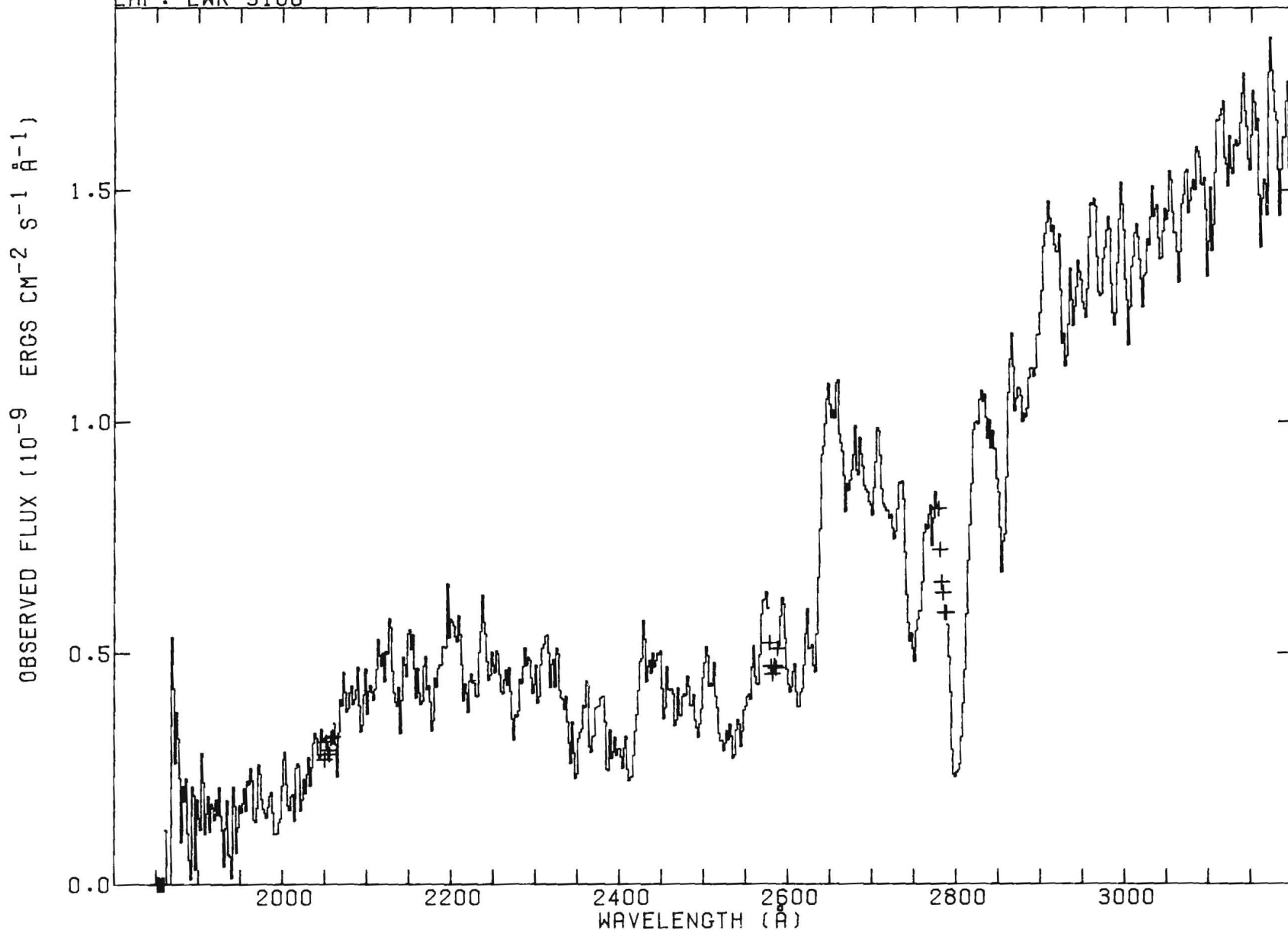
HD 27524 F5 V + V=6.80 (B-V)=0.44 E(B-V)=-0.01
LAP: LWR 12183, LWR 4119; SAP: LWR 4119



HD 61421 F5 IV-V V=0.38 (B-V)=0.42 E(B-V)=0.00
LAP: SWP 6662, SWP 6661, SWP 2826

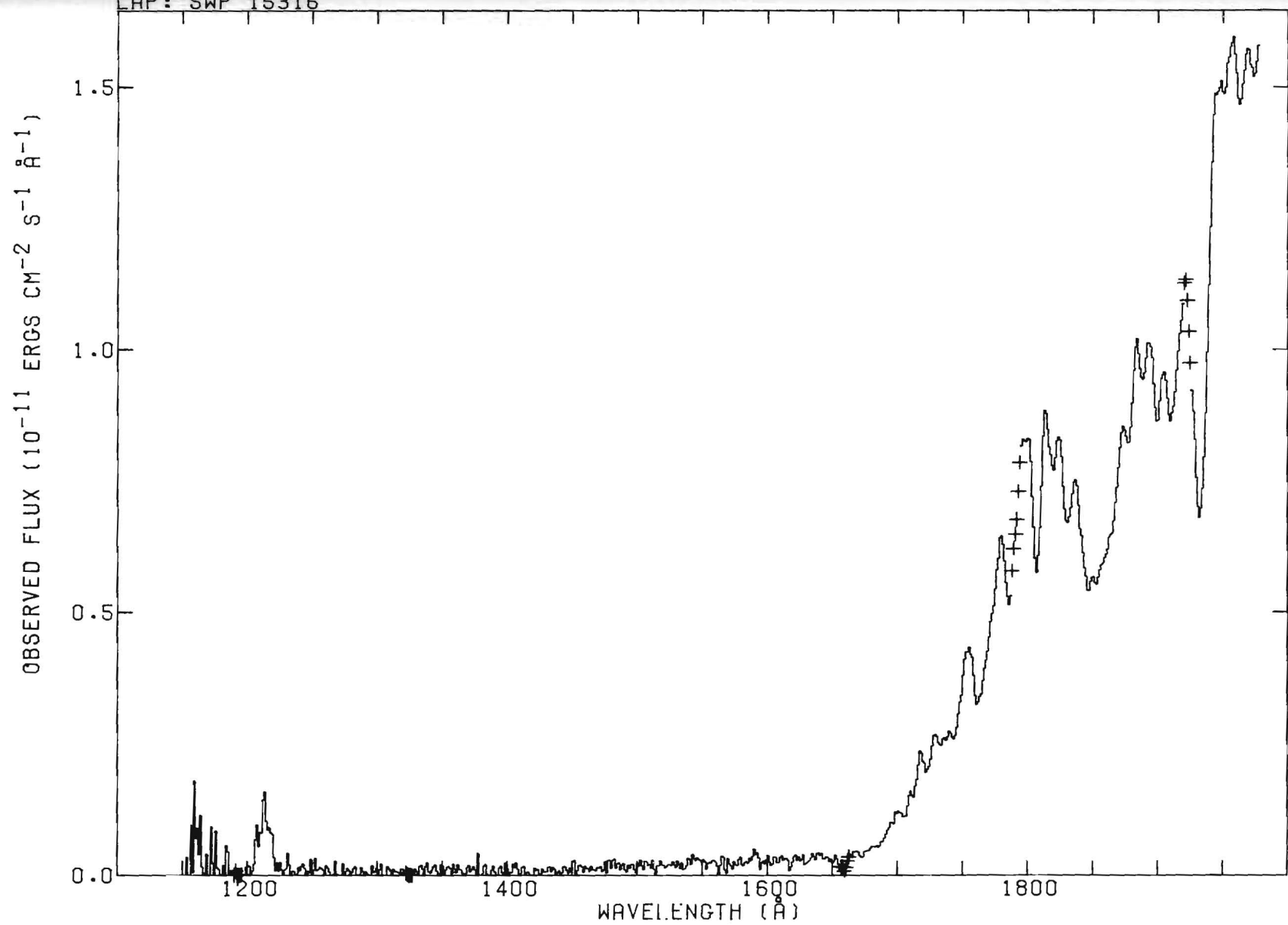


HD 61421 F5 IV-V V=0.38 (B-V)=0.42 E(B-V)=0.00
LAP: LWR 9108



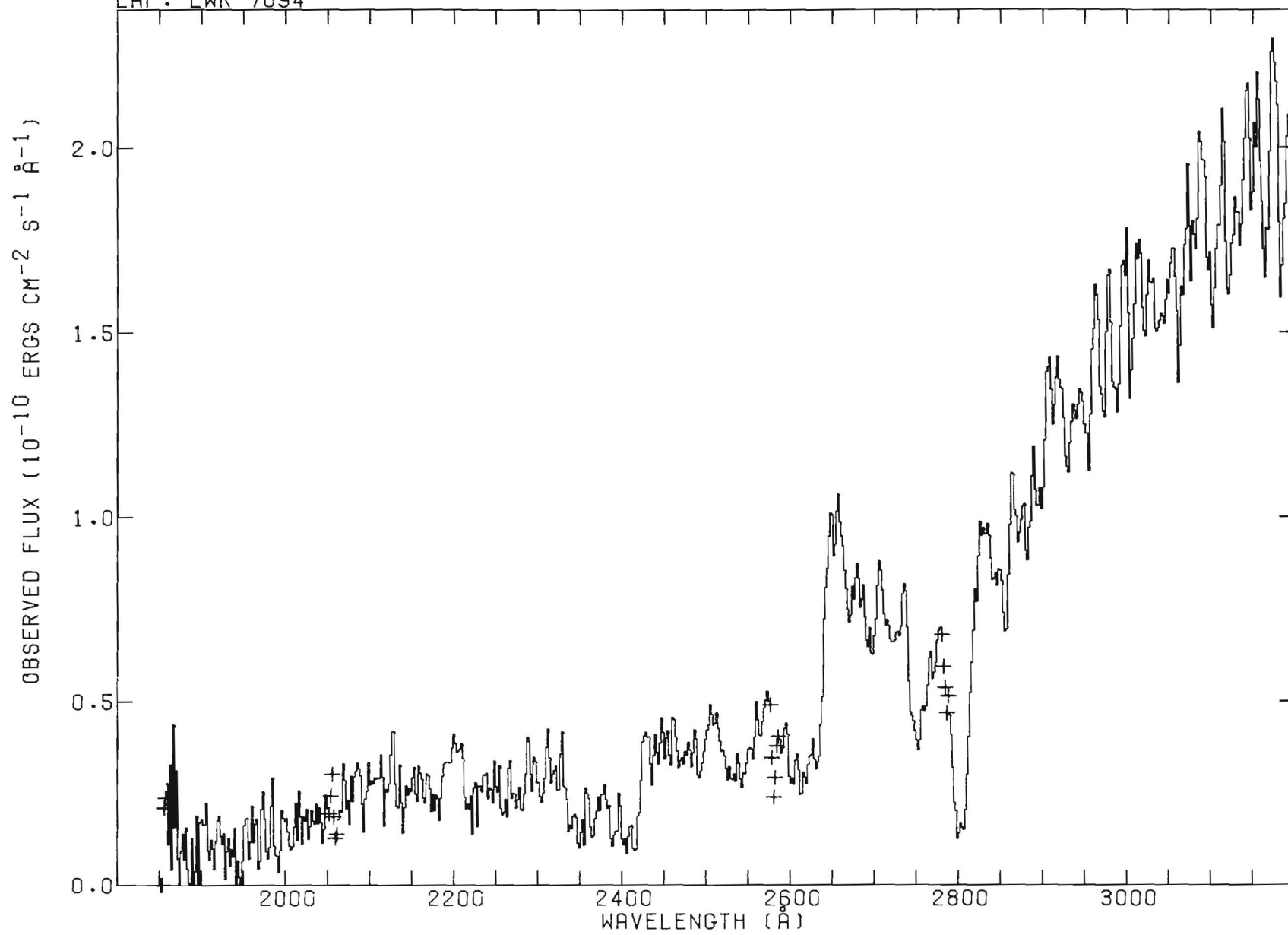
HD 20902 F5 IB
LAP: SWP 15316

V=1.79 (B-V)=0.48 E(B-V)=0.22



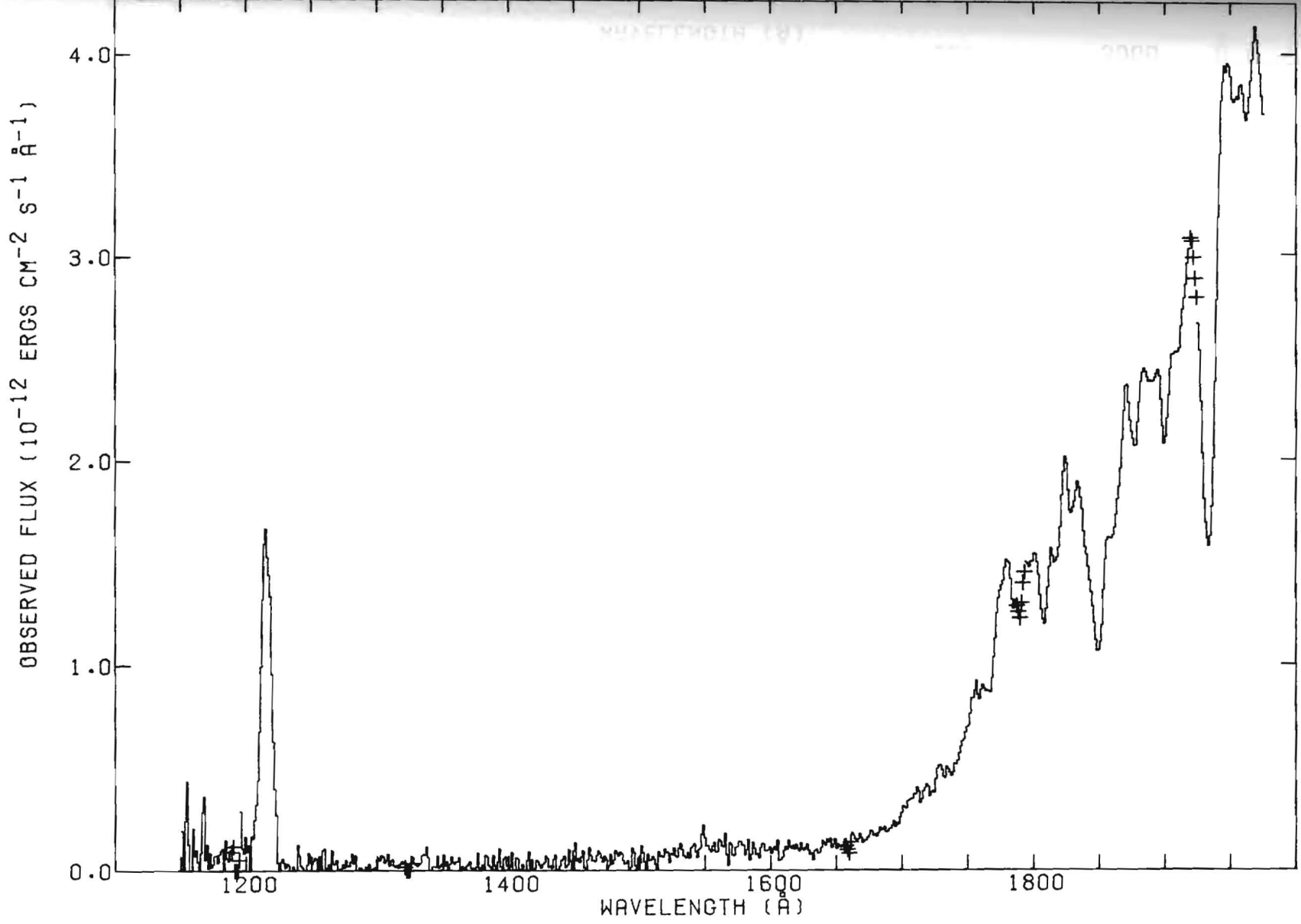
HD 20902 F5 IB
LAP: LWR 7094

V=1.79 (B-V)=0.48 E(B-V)=0.22

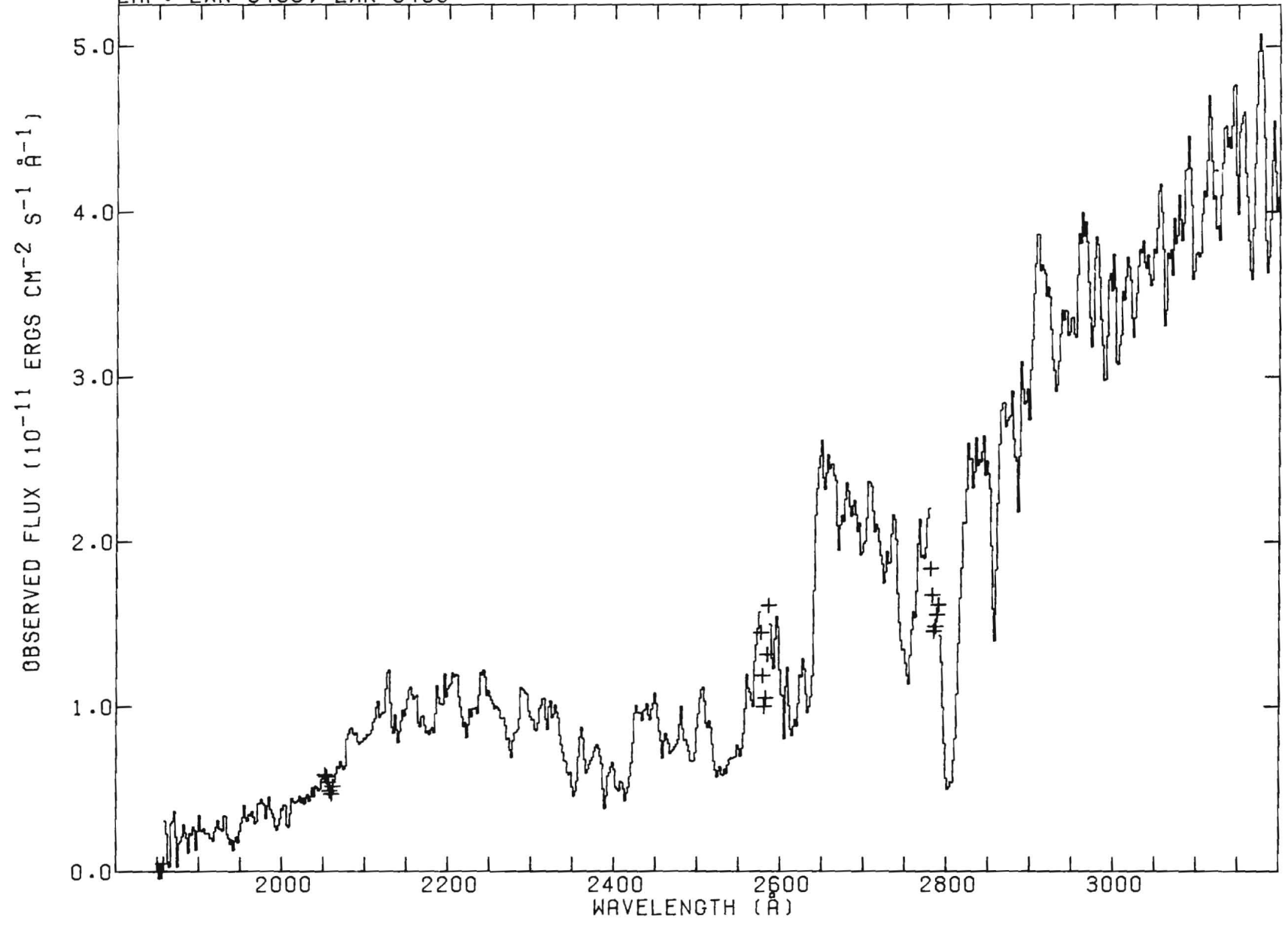


HD 173667 F6 V
LP: SWP 10784

V=4.19 (B-V)=0.46 E(B-V)=-0.02

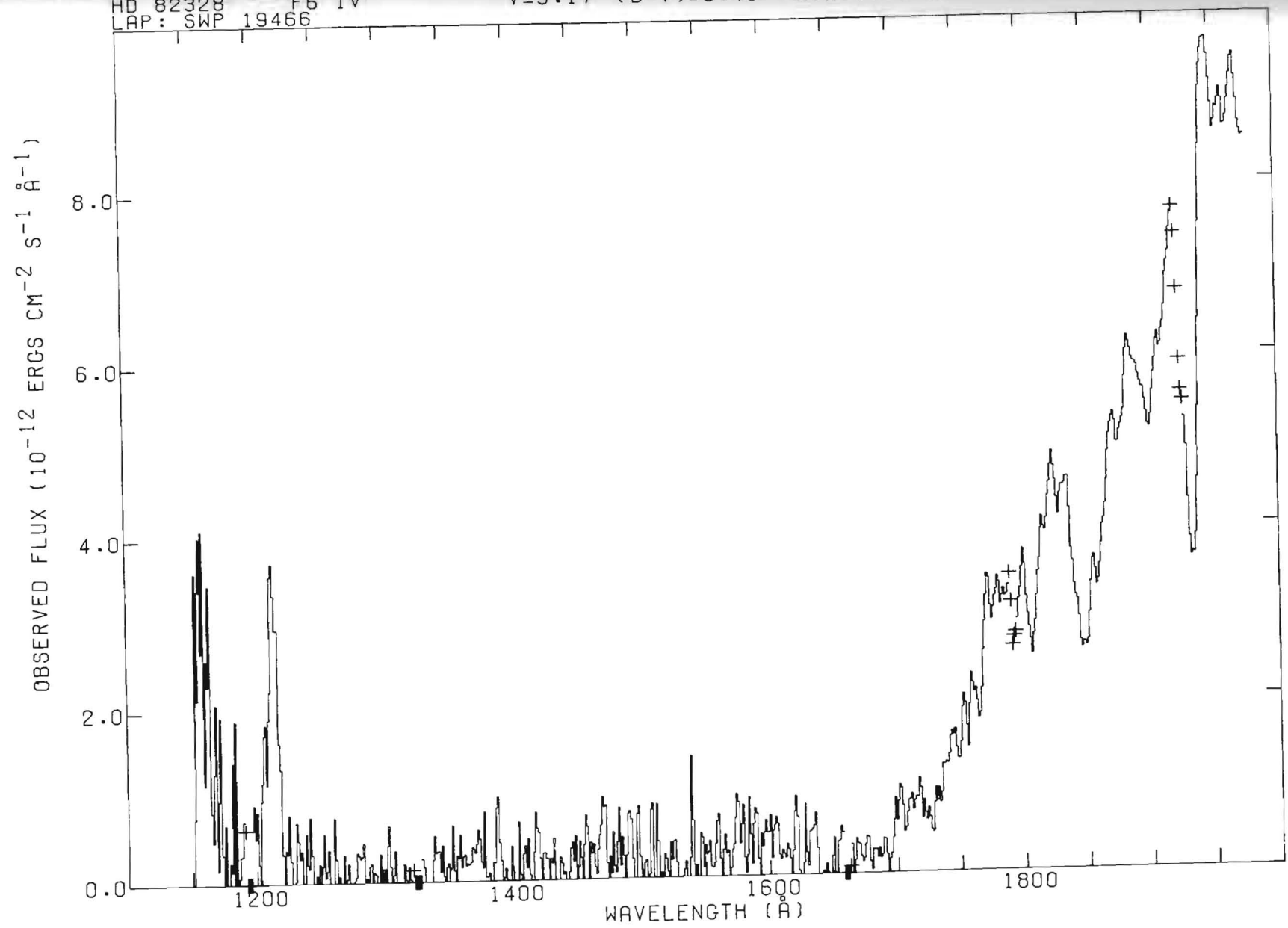


HD 173667 F6 V V=4.19 (B-V)=0.46 E(B-V)=-0.02
LAP: LWR 9459, LWR 9460

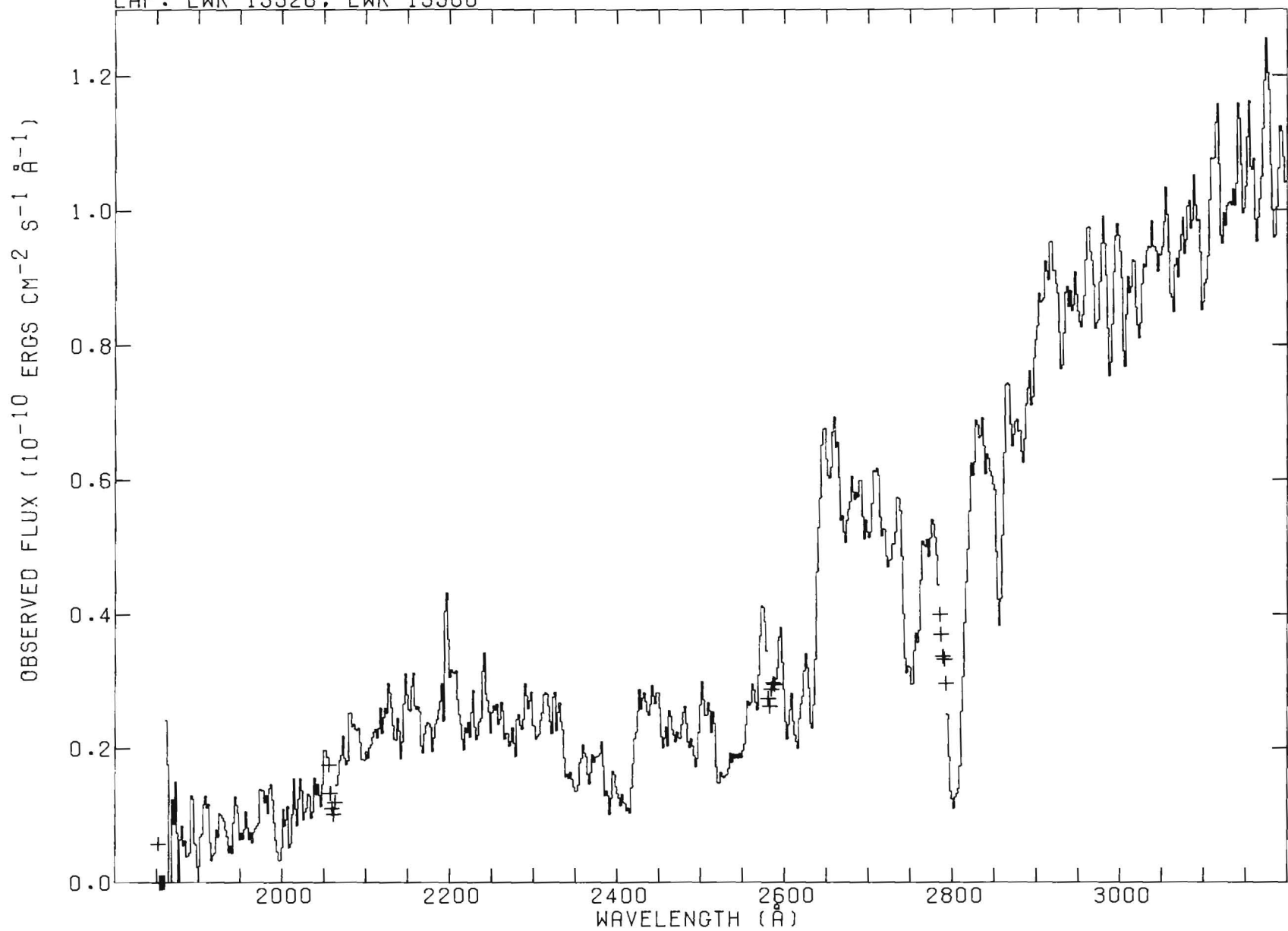


HD 82328 F6 IV
LAP: SWP 19466

V=3.17 (B-V)=0.46 E(B-V)=0.00

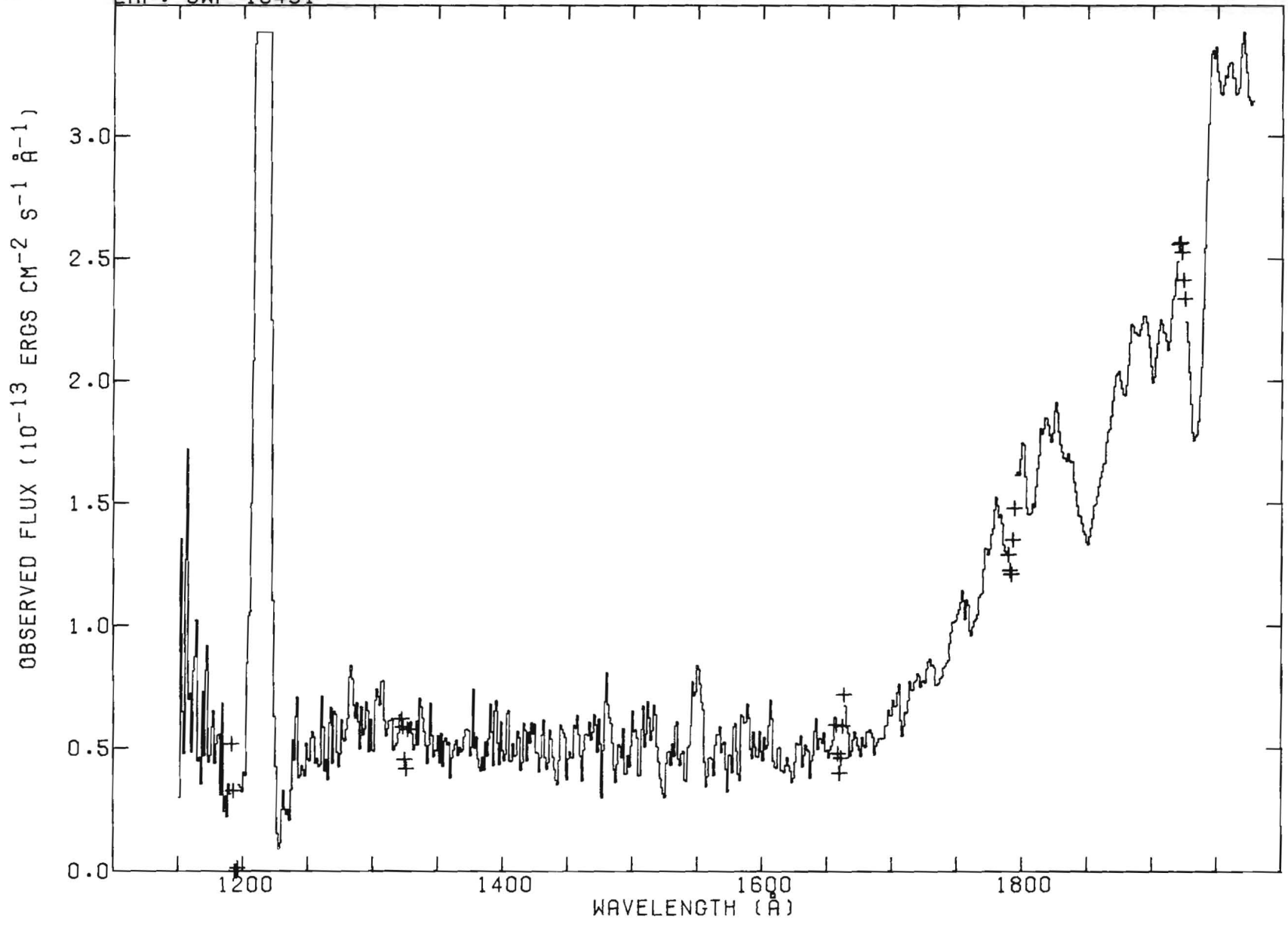


HD 82328 F6 IV V=3.17 (B-V)=0.46 E(B-V)=0.00
LAP: LWR 15526, LWR 15500

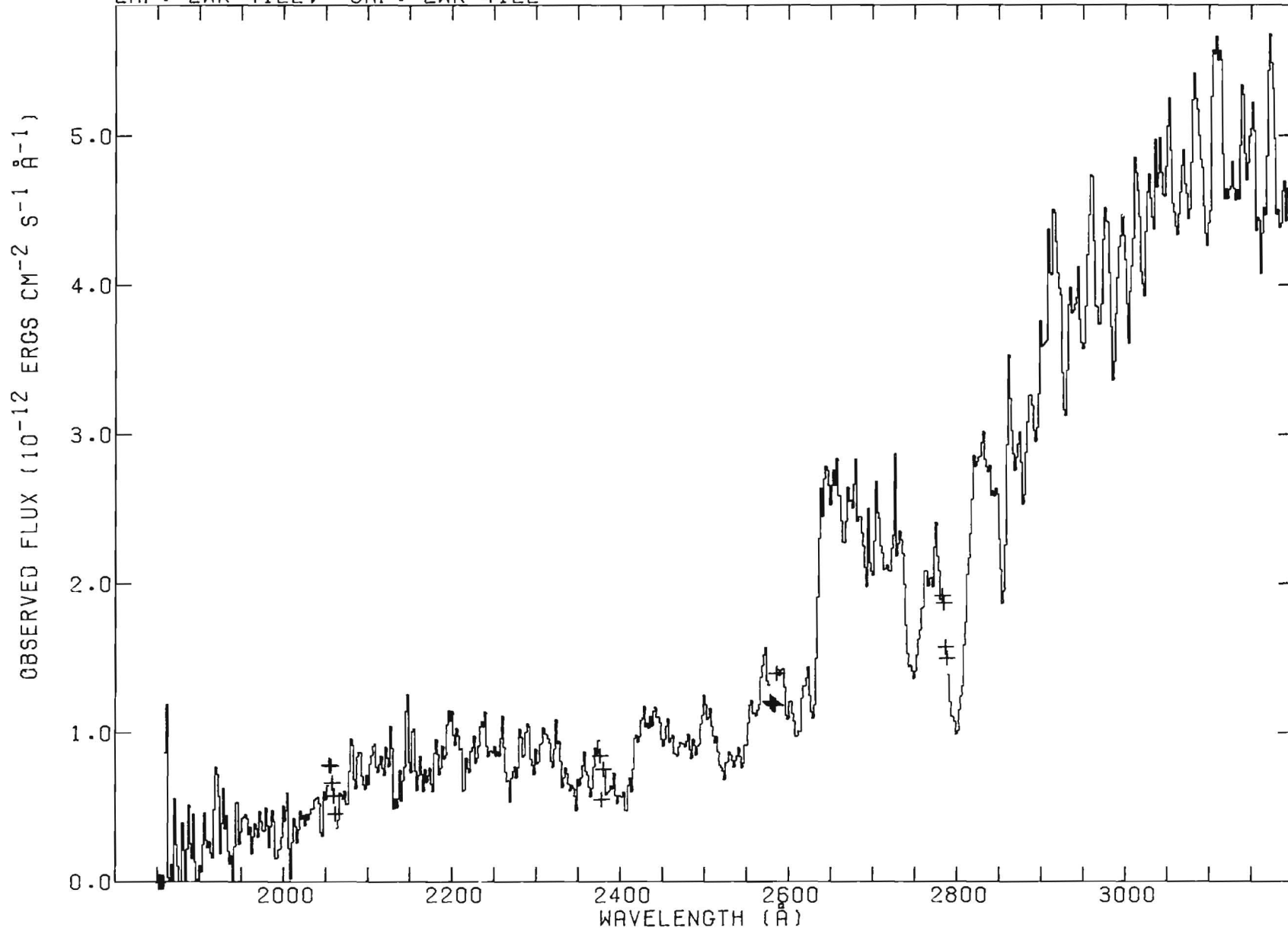


HD 160365 F6 III
LP: SWP 16491

V=6.12 (B-V)=0.56 E(B-V)=0.10

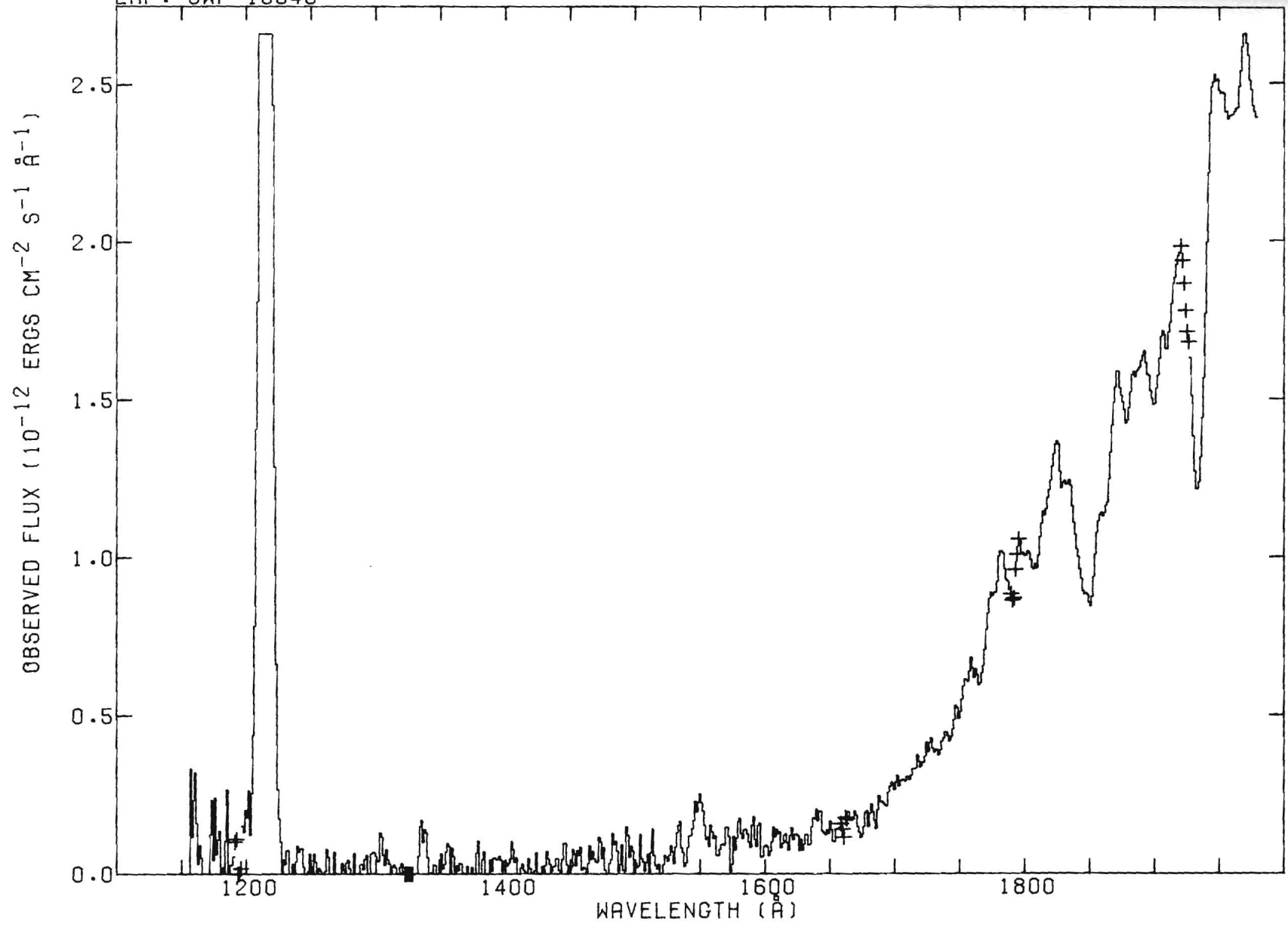


HD 160365 F6 III V=6.12 (B-V)=0.56 E(B-V)=0.10
LAP: LWR 4122; SAP: LWR 4122



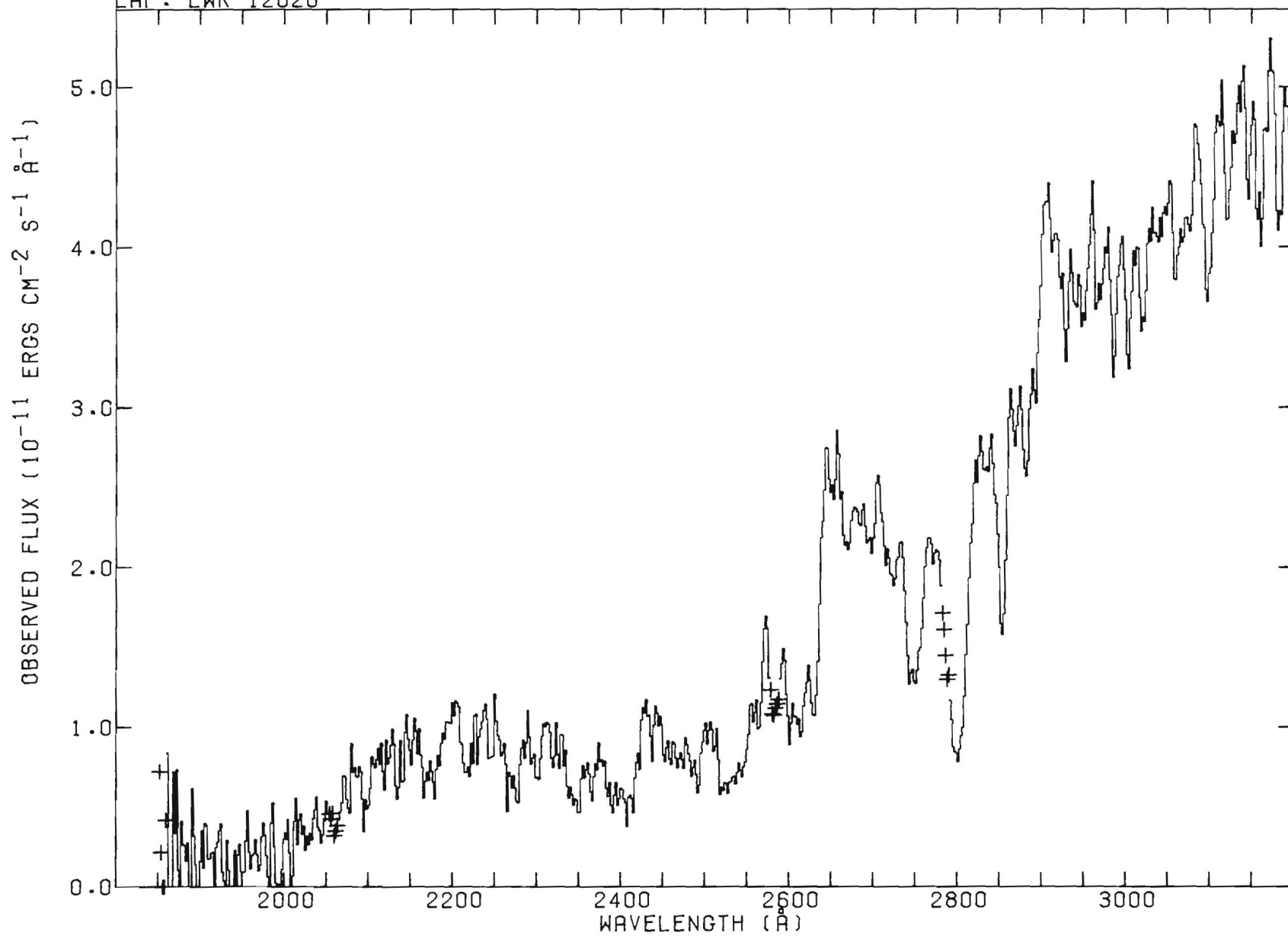
HD 126660 F7 V
LAP: SWP 15546

V=4.05 (B-V)=0.50 E(B-V)=0.00

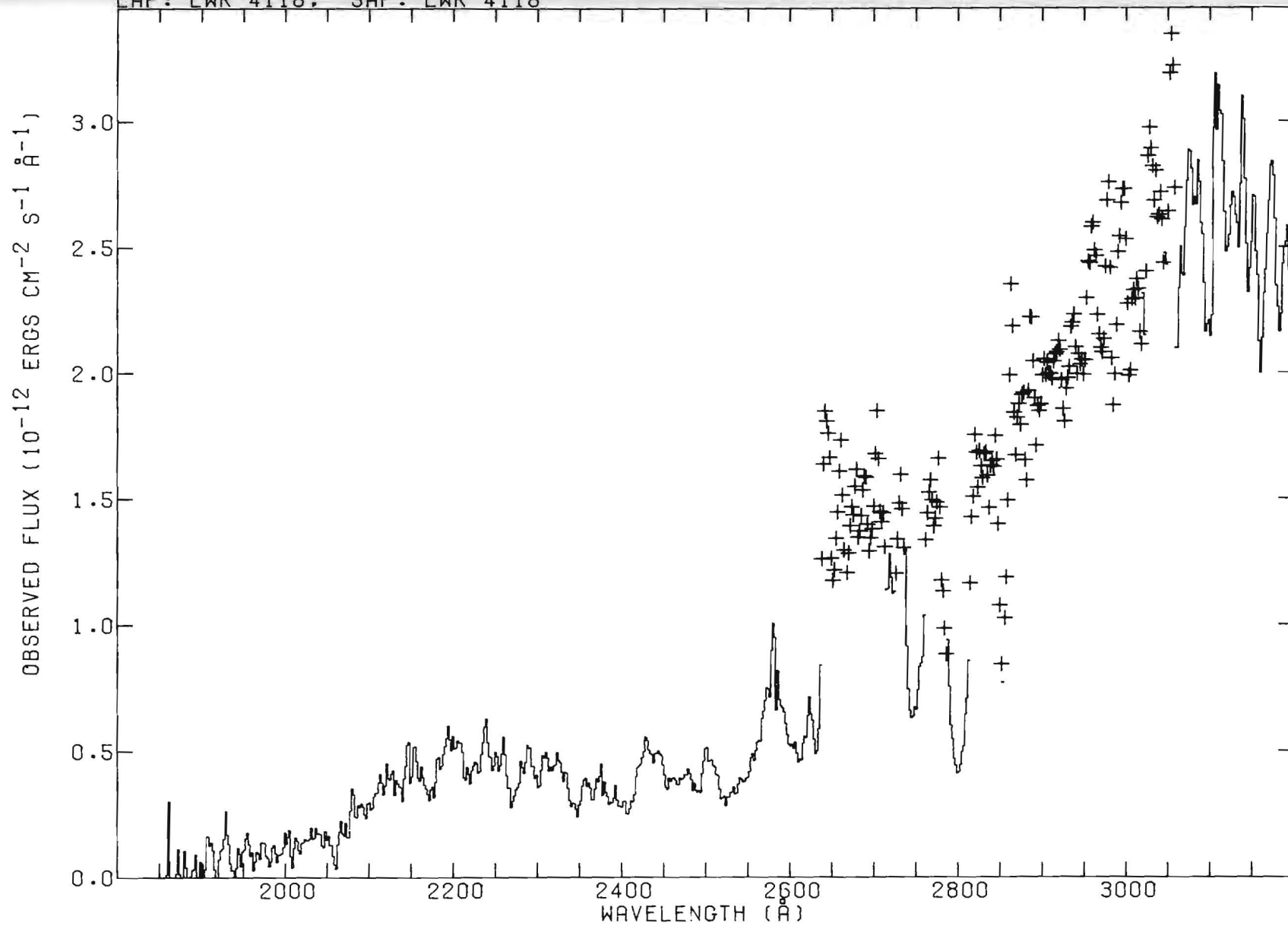


HD 126660 F7 V
LAP: LWR 12026

V=4.05 (B-V)=0.50 E(B-V)=0.00

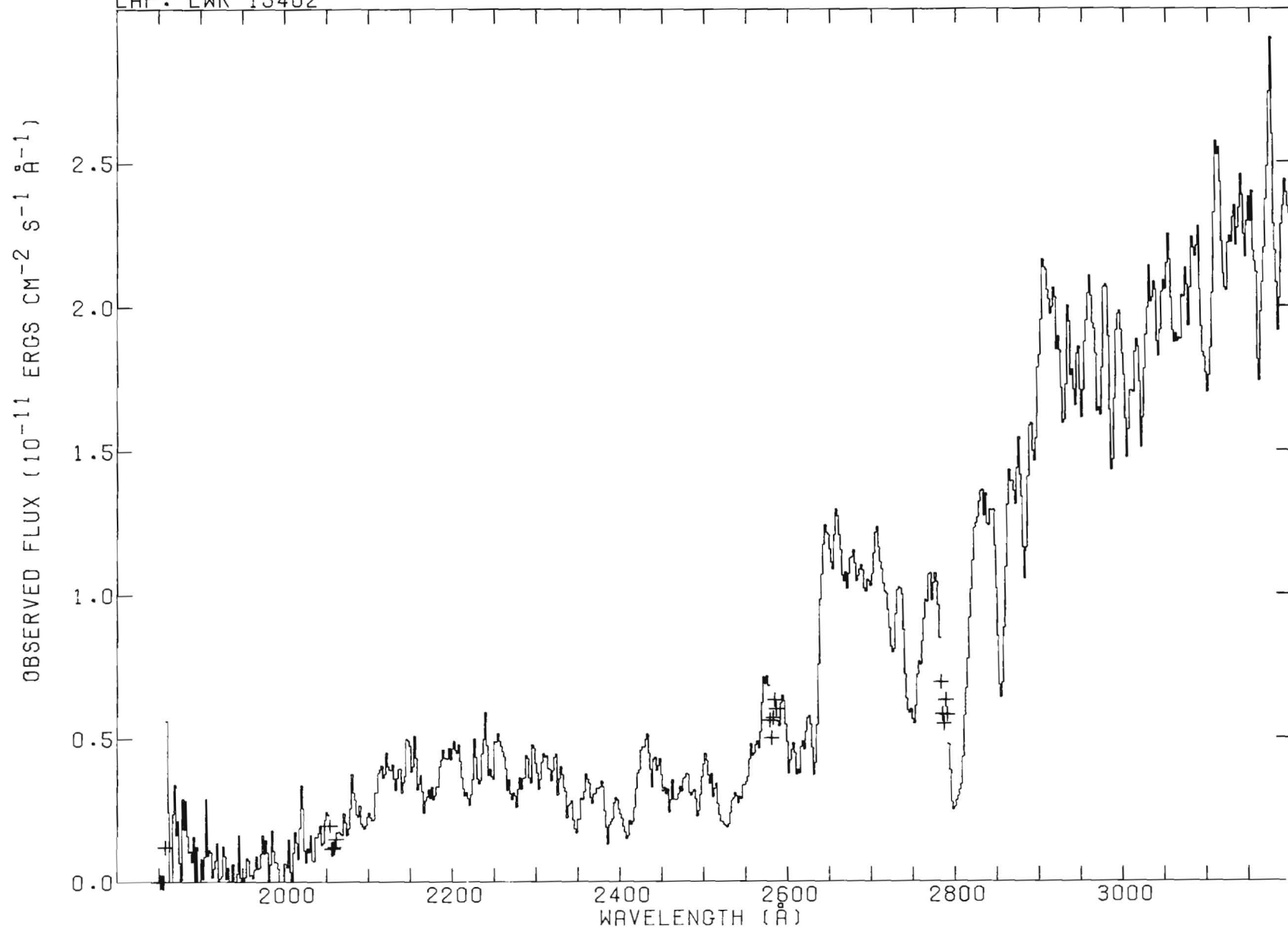


HD 27808 F8 V + V=7.14 (B-V)=0.52 E(B-V)=-0.01
LAP: LWR 4118; SAP: LWR 4118

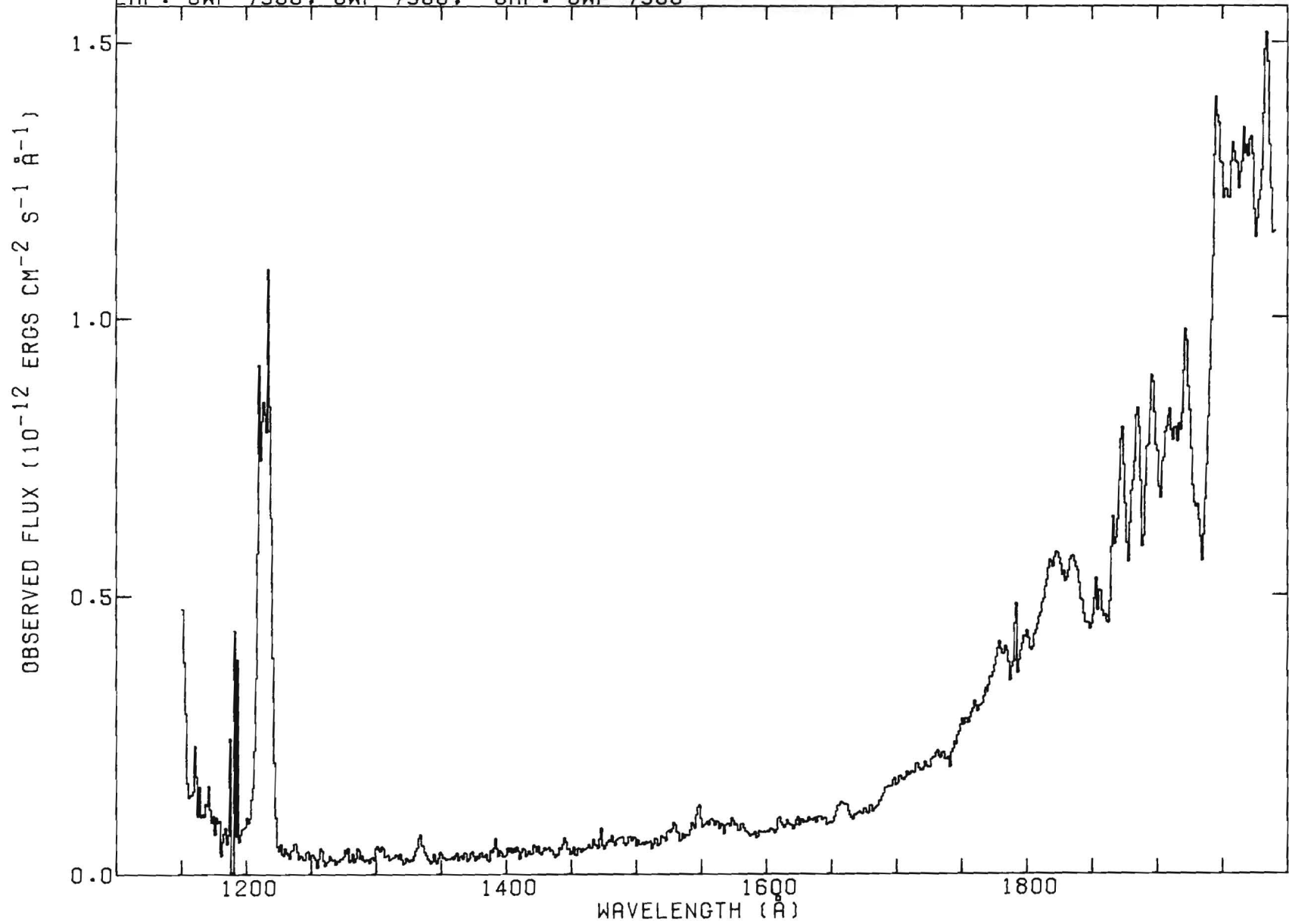


HD 90839 F8 V
LAP: LWR 15402

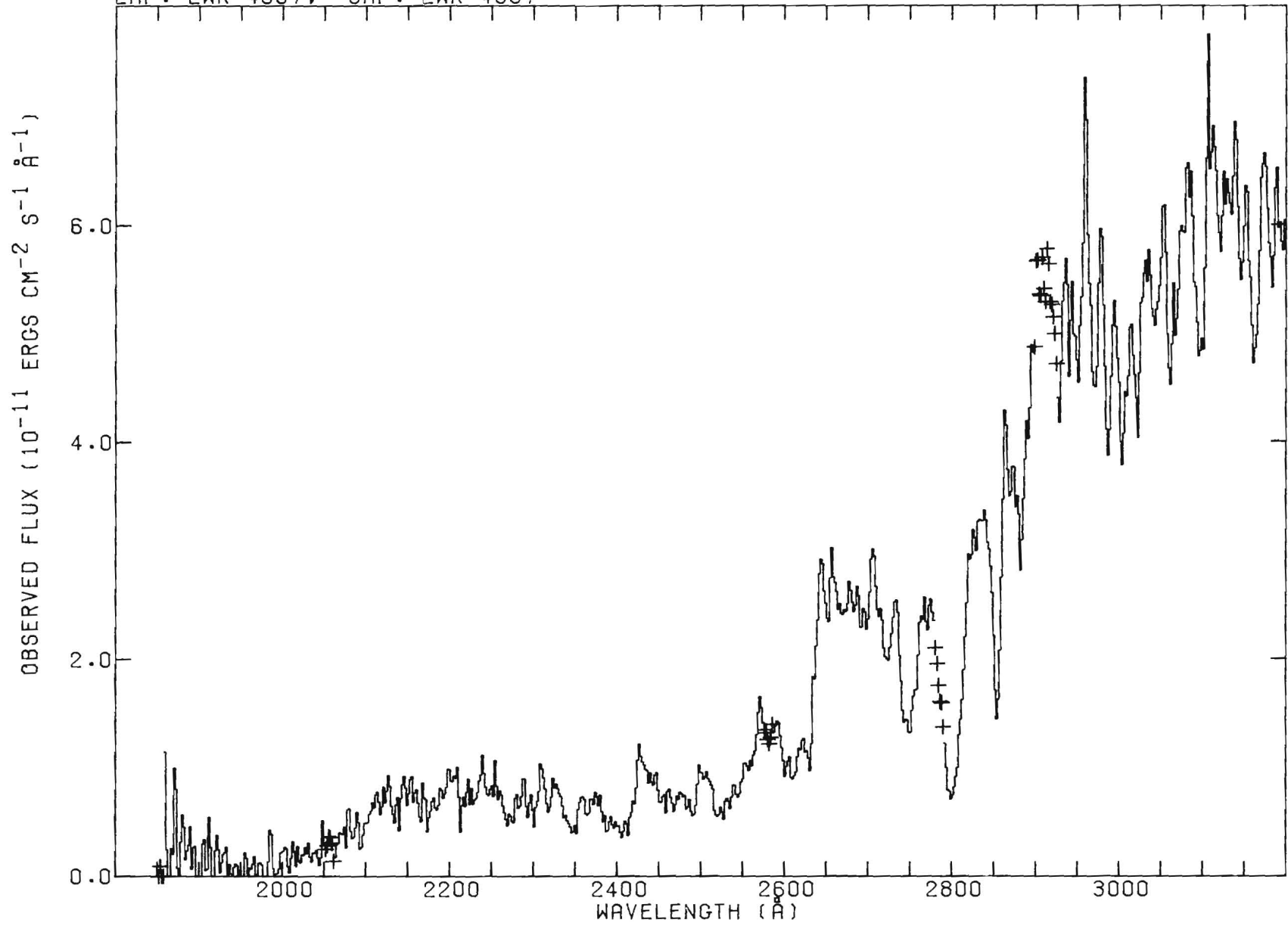
V=4.83 (B-V)=0.52 E(B-V)=-0.01



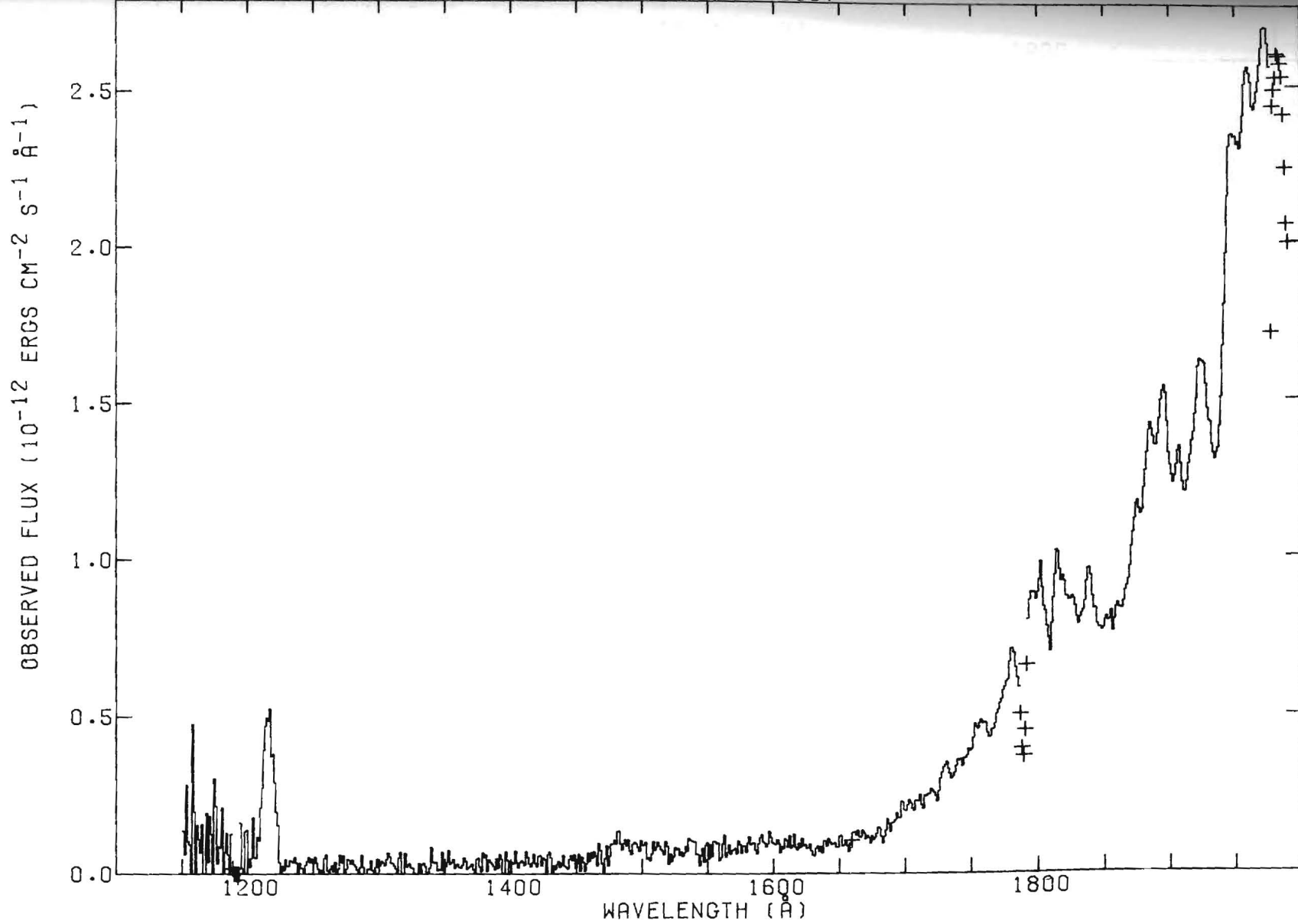
HD 102870 F8 V V=3.61 (B-V)=0.55 E(B-V)=0.02
LAP: SWP 7305, SWP 7306; SAP: SWP 7305



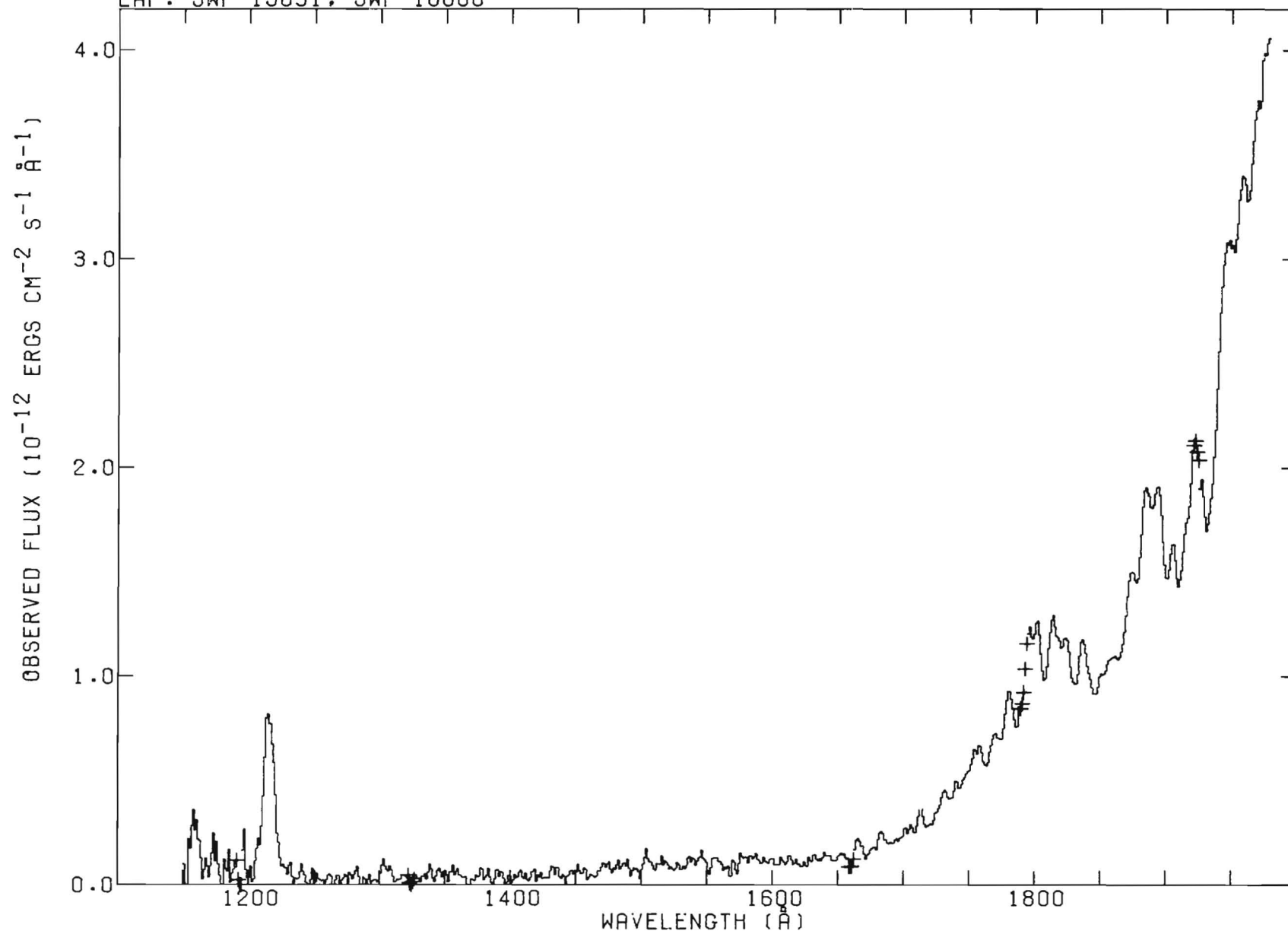
HD 102870 F8 V V=3.61 (B-V)=0.55 E(B-V)=0.02
LAP: LWR 4867: SAP: LWR 4867



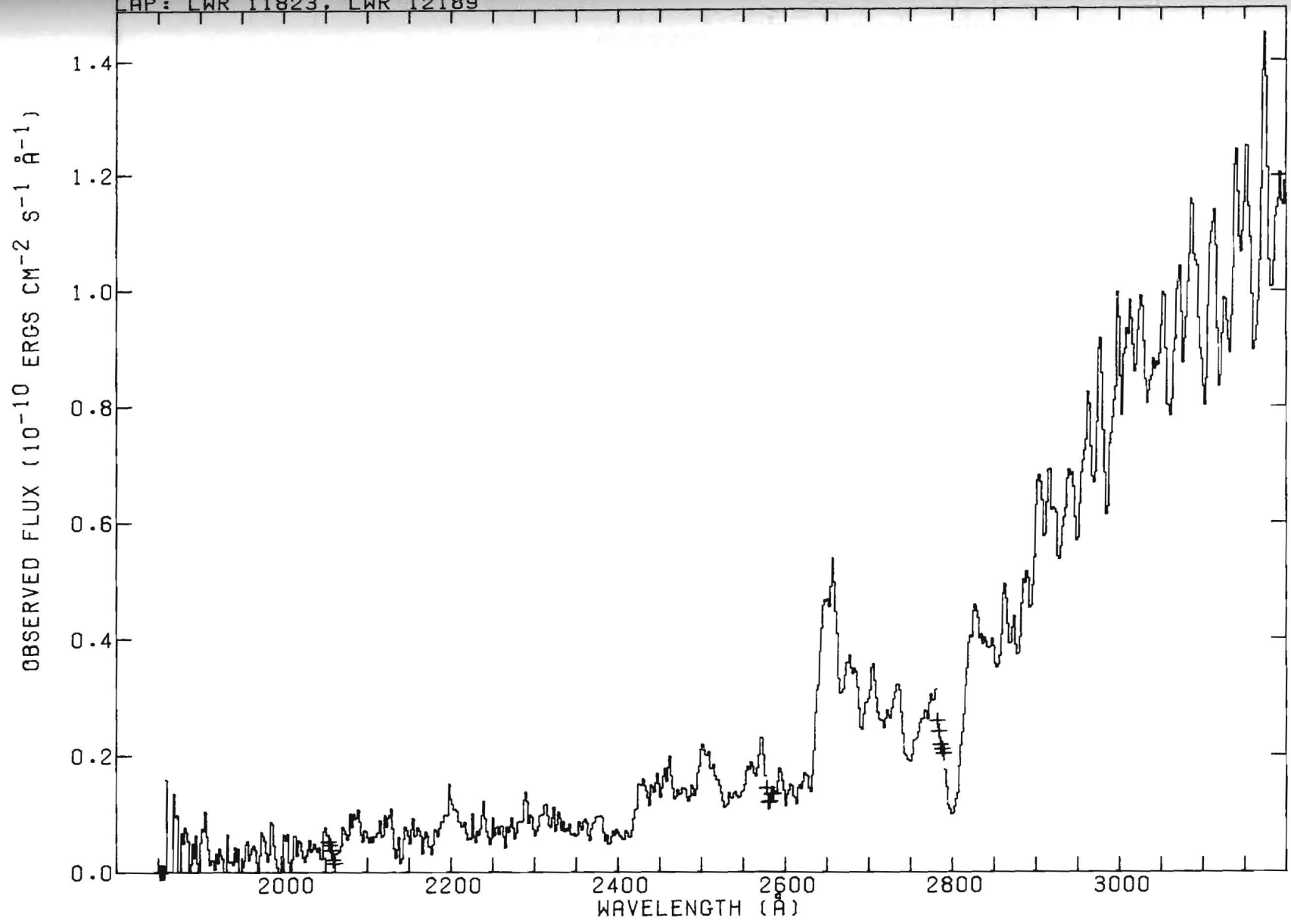
HD 194093 F8 IB V=2.20 (B-V)=0.68 E(B-V)=0.13
LAP: SWP 3666, SWP 3667; SAP: SWP 3666, SWP 3667



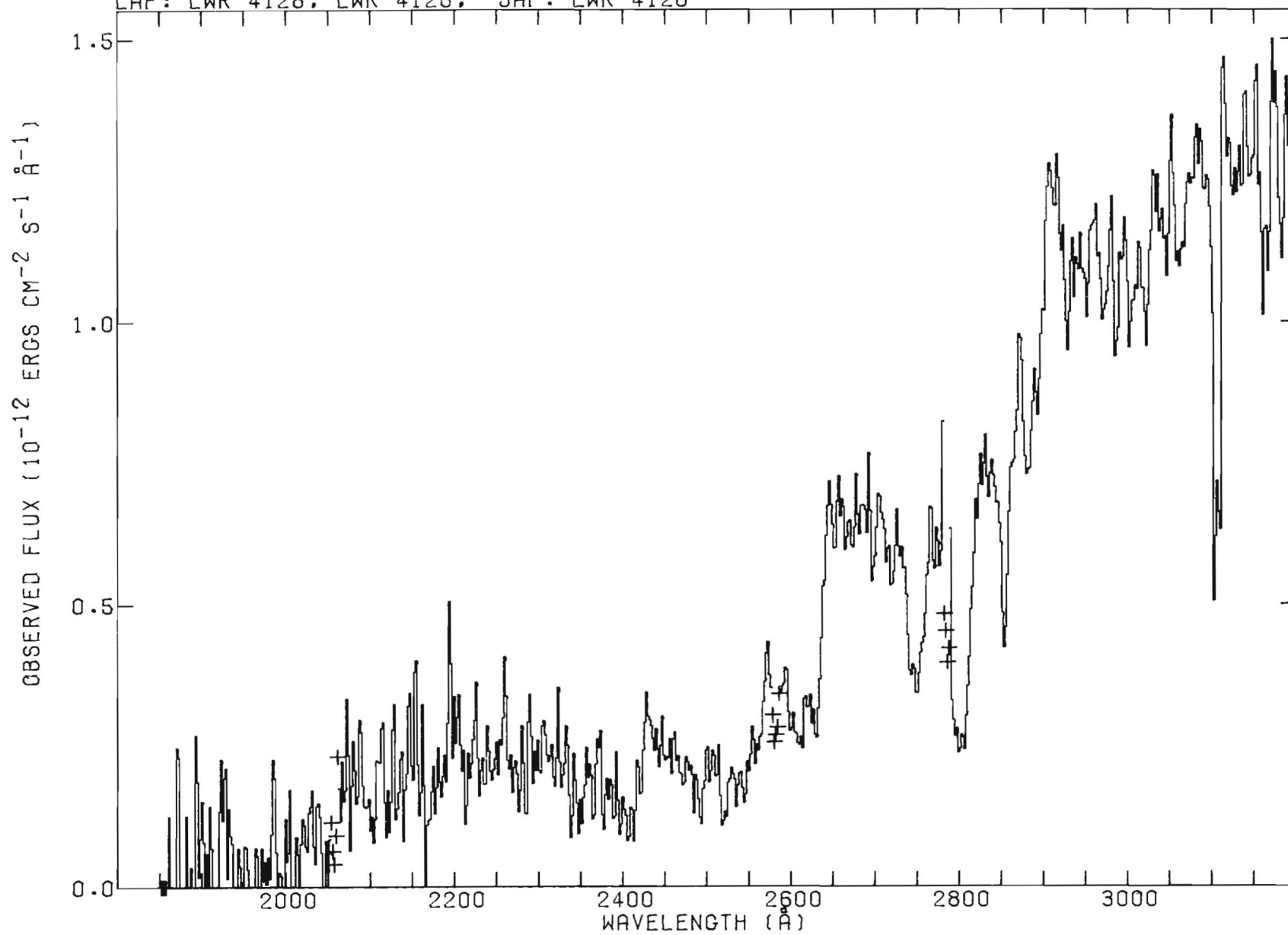
HD 54605 F8 IA V=1.86 (B-V)=0.65 E(B-V)=0.10
LAP: SWP 15831, SWP 16800



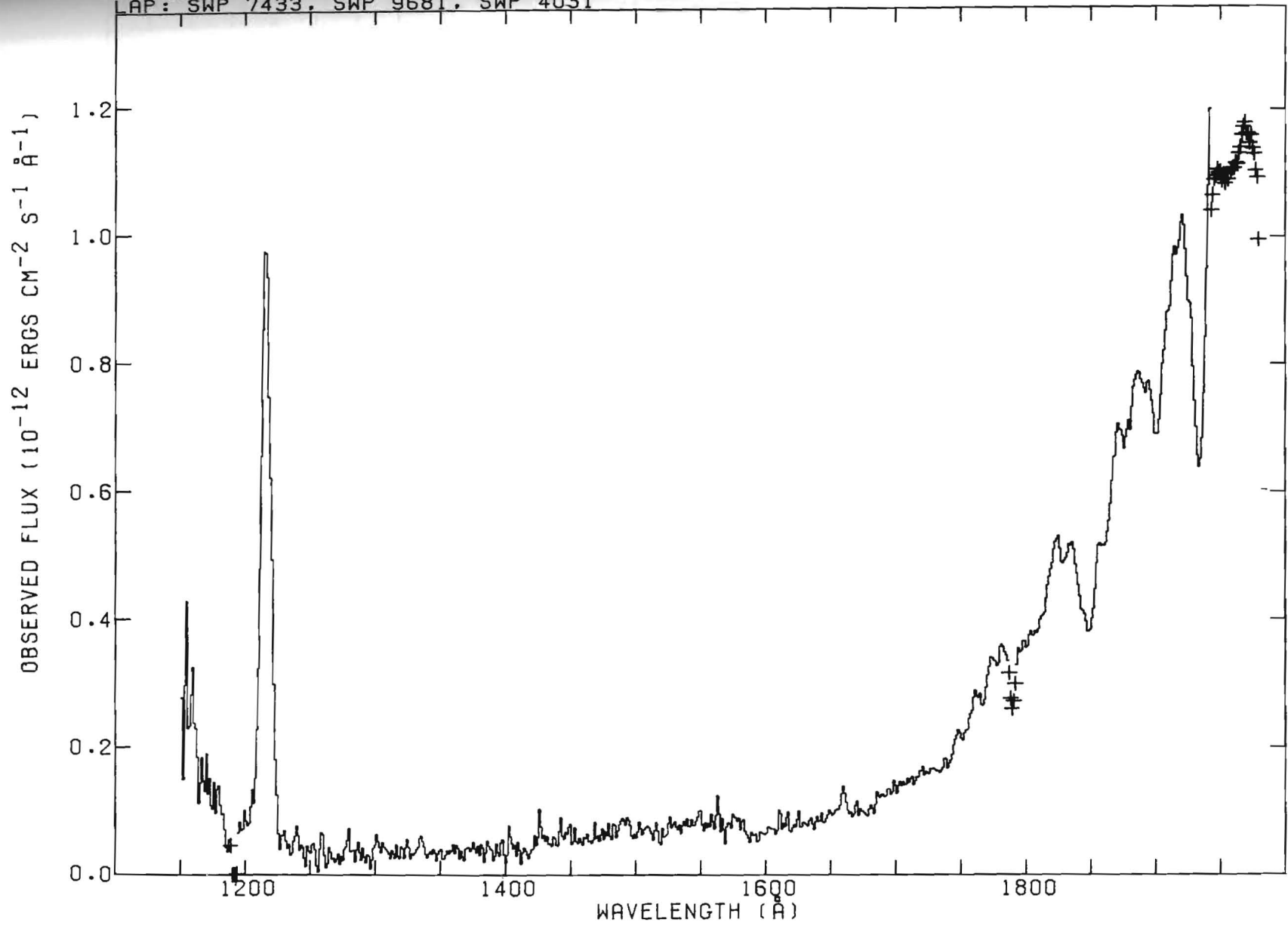
HD 54605 F8 IA V=1.86 (B-V)=0.65 E(B-V)=0.10
LAP: LWR 11823, LWR 12189



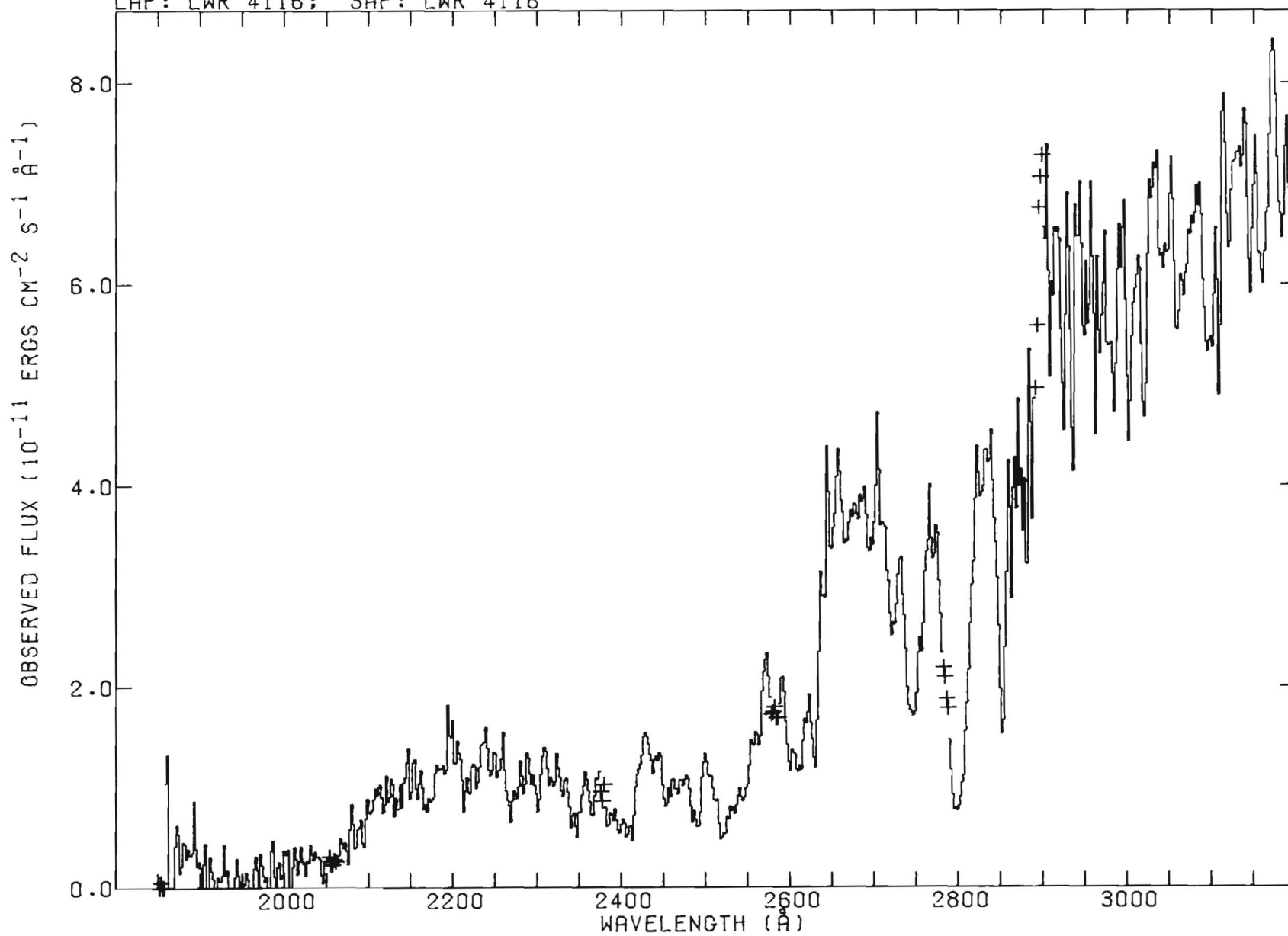
HD 27383 F9 V V=6.88 (B-V)=0.56 E(B-V)=0.00
LAP: LWR 4128, LWR 4126; SAP: LWR 4126



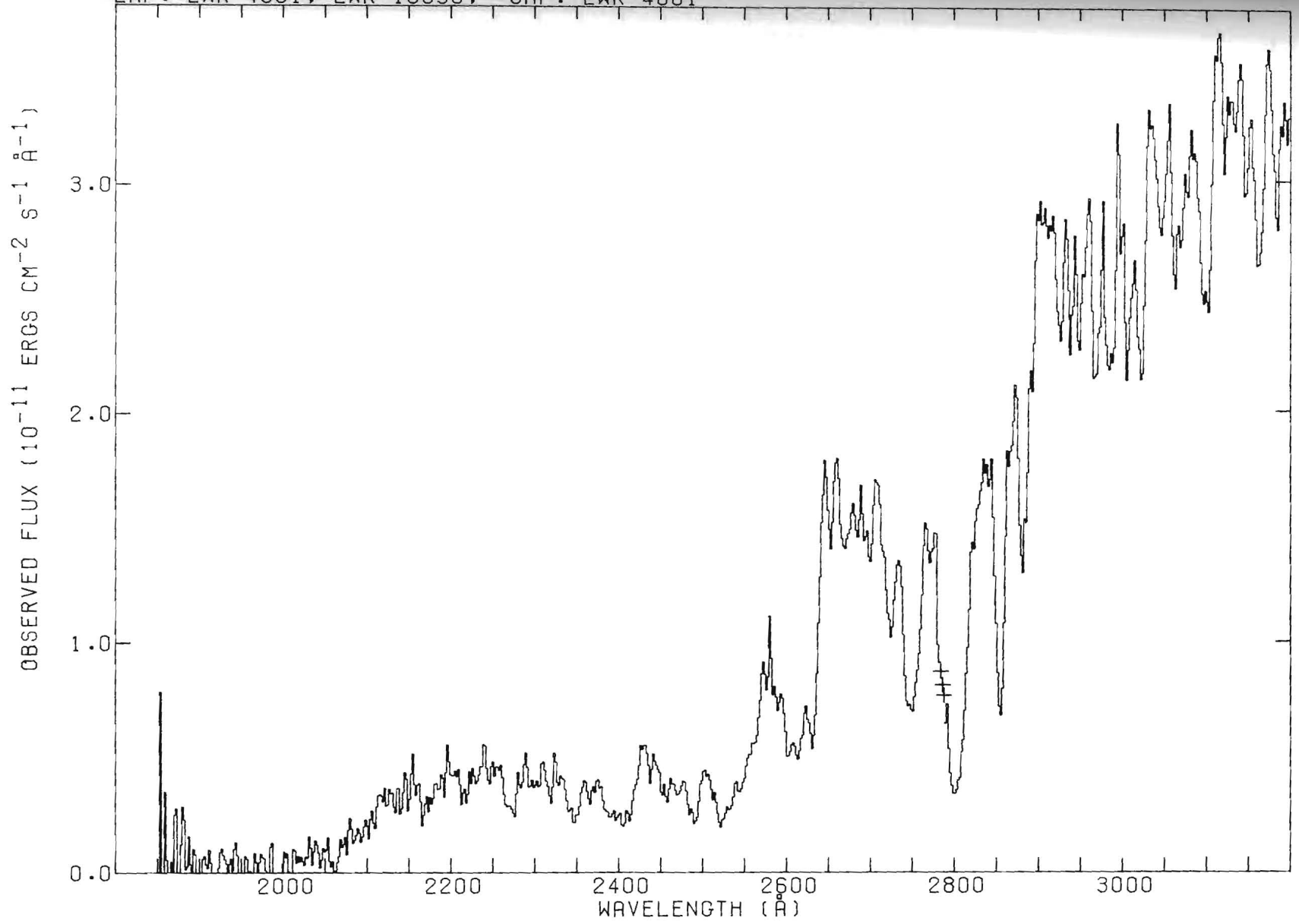
HD 4614 GO V V=3.44 (B-V)=0.57 E(B-V)=-0.03
LAP: SWP 7433, SWP 9681, SWP 4031



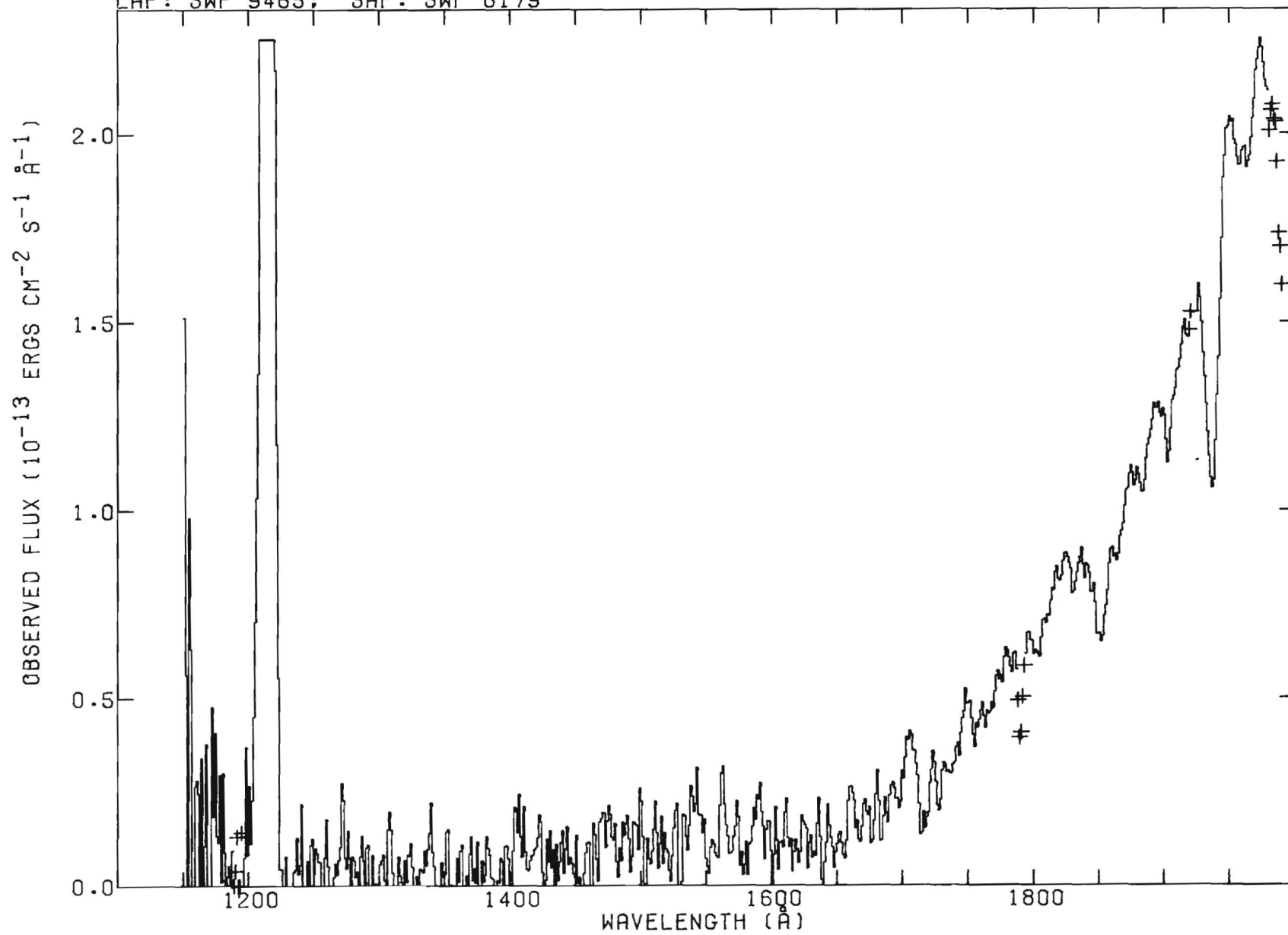
HD 4614 GO V V=3.44 (B-V)=0.57 E(B-V)=-0.03
LAP: LWR 4116; SAP: LWR 4116



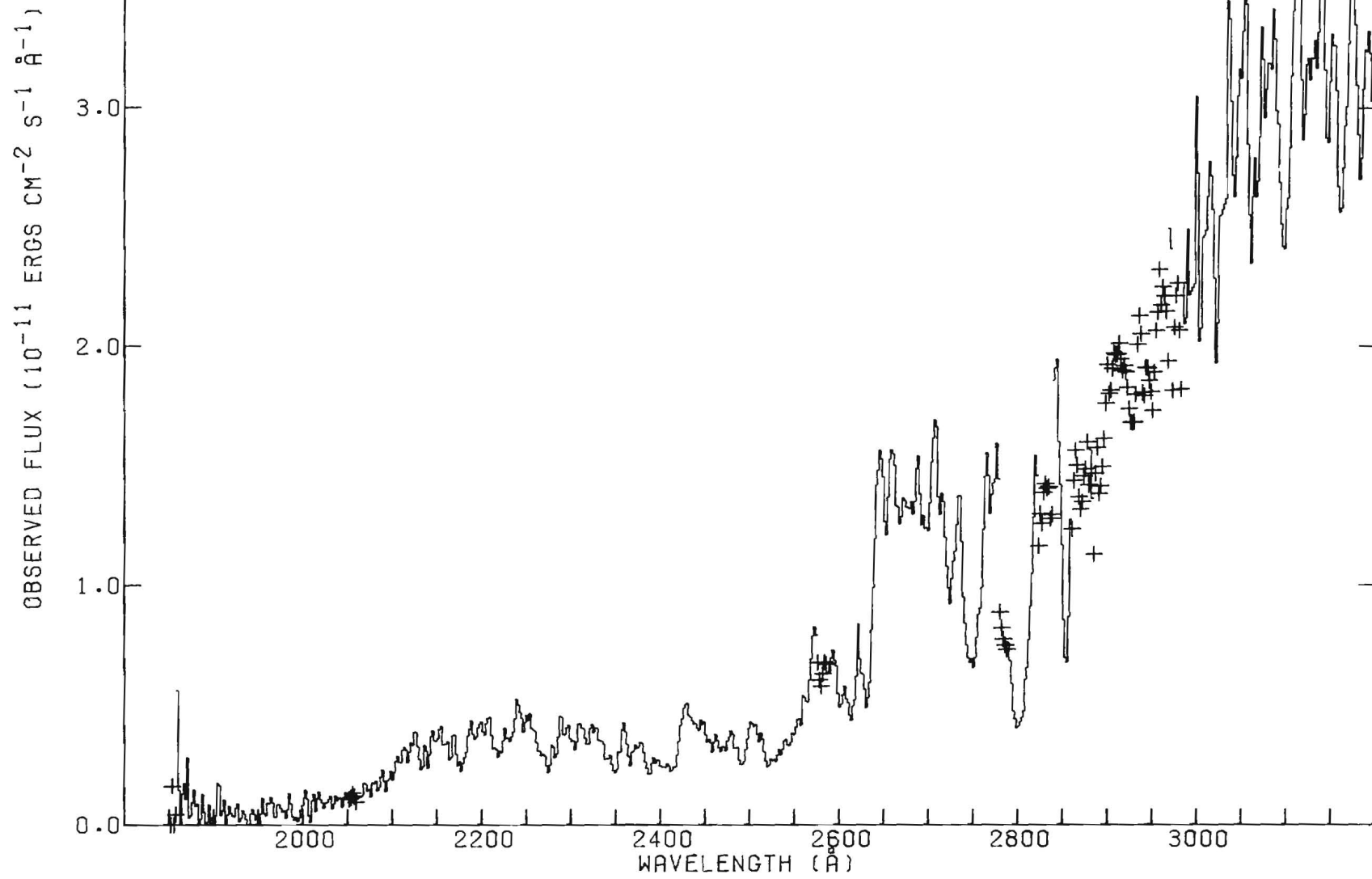
HD 109358 GO V V=4.26 (B-V)=0.59 E(B-V)=-0.01
LAP: LWR 4861, LWR 15530; SAP: LWR 4861



HD 114710 GO V V=4.26 (B-V)=0.57 E(B-V)=-0.03
LAP: SWP 9465; SAP: SWP 6179

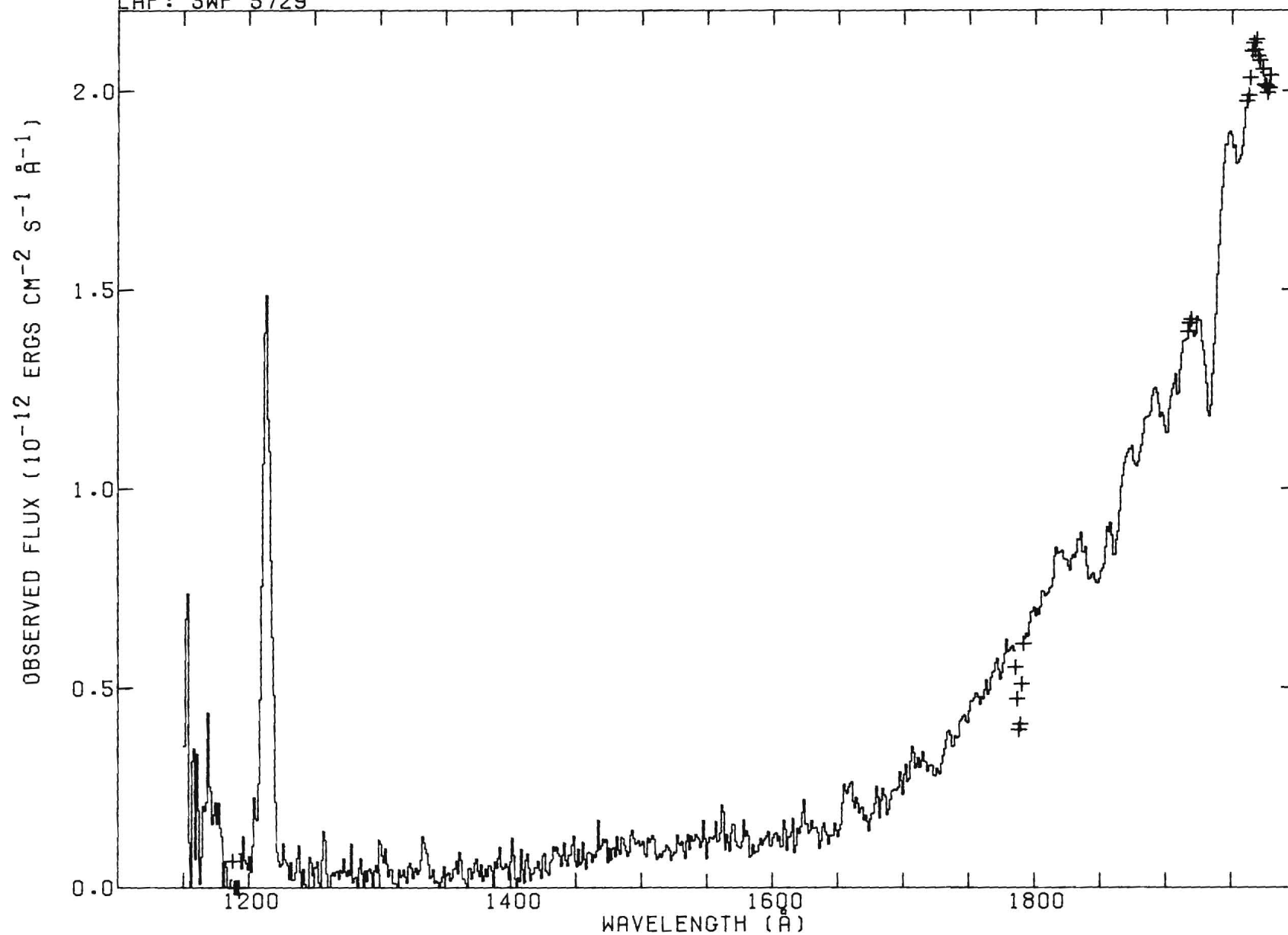


HD 114710 GO V V=4.26 (B-V)=0.57 E(B-V)=-0.03
LAP: LWR 4835. LWR 4834; SAP: LWR 4834

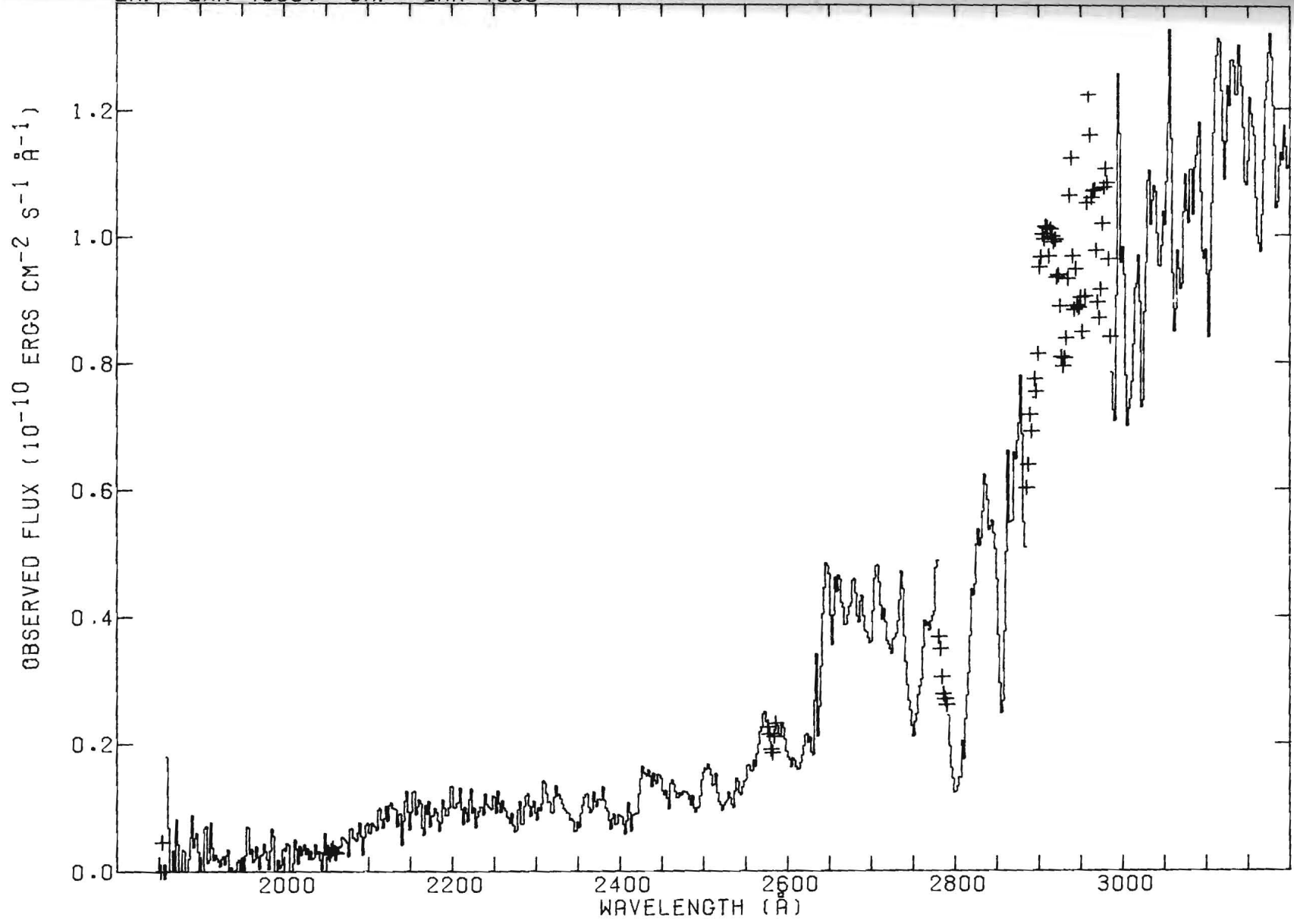


HD 121370 GO IV
LAP: SWP 5729

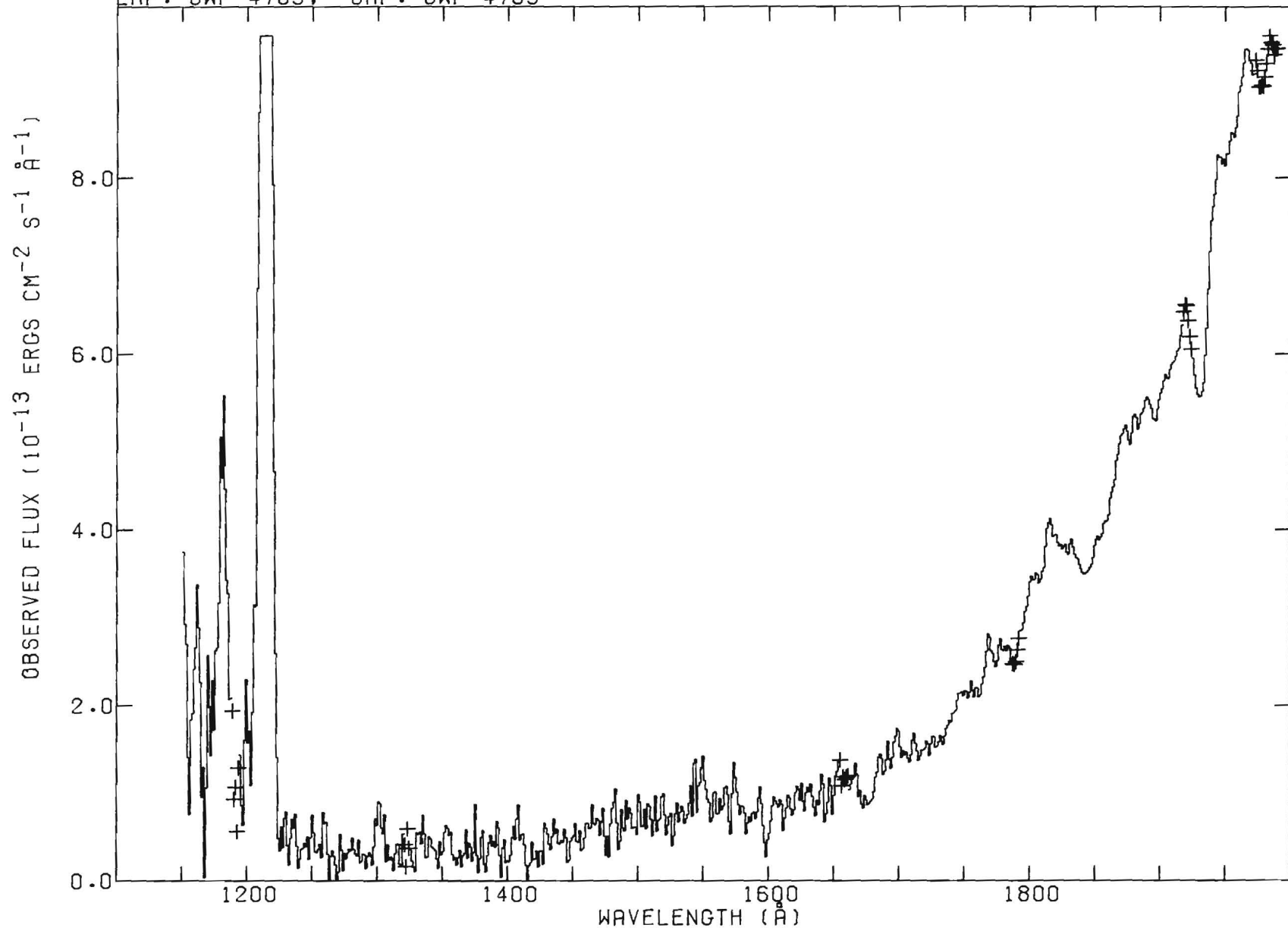
V=2.68 (B-V)=0.58 E(B-V)=-0.05



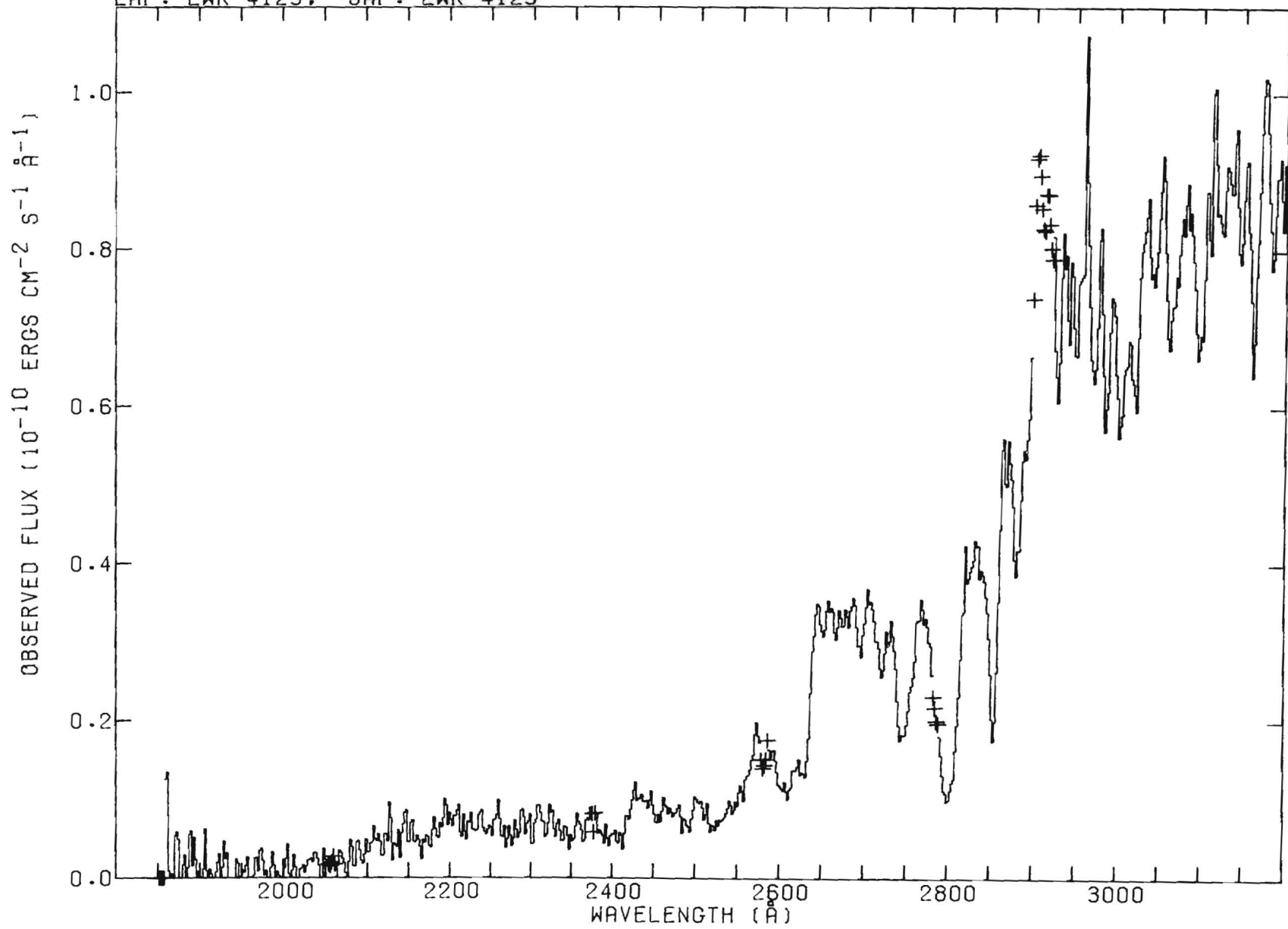
HD 121370 GO IV V=2.68 (B-V)=0.58 E(B-V)=-0.05
LAP: LWR 4863: SAP: LWR 4863



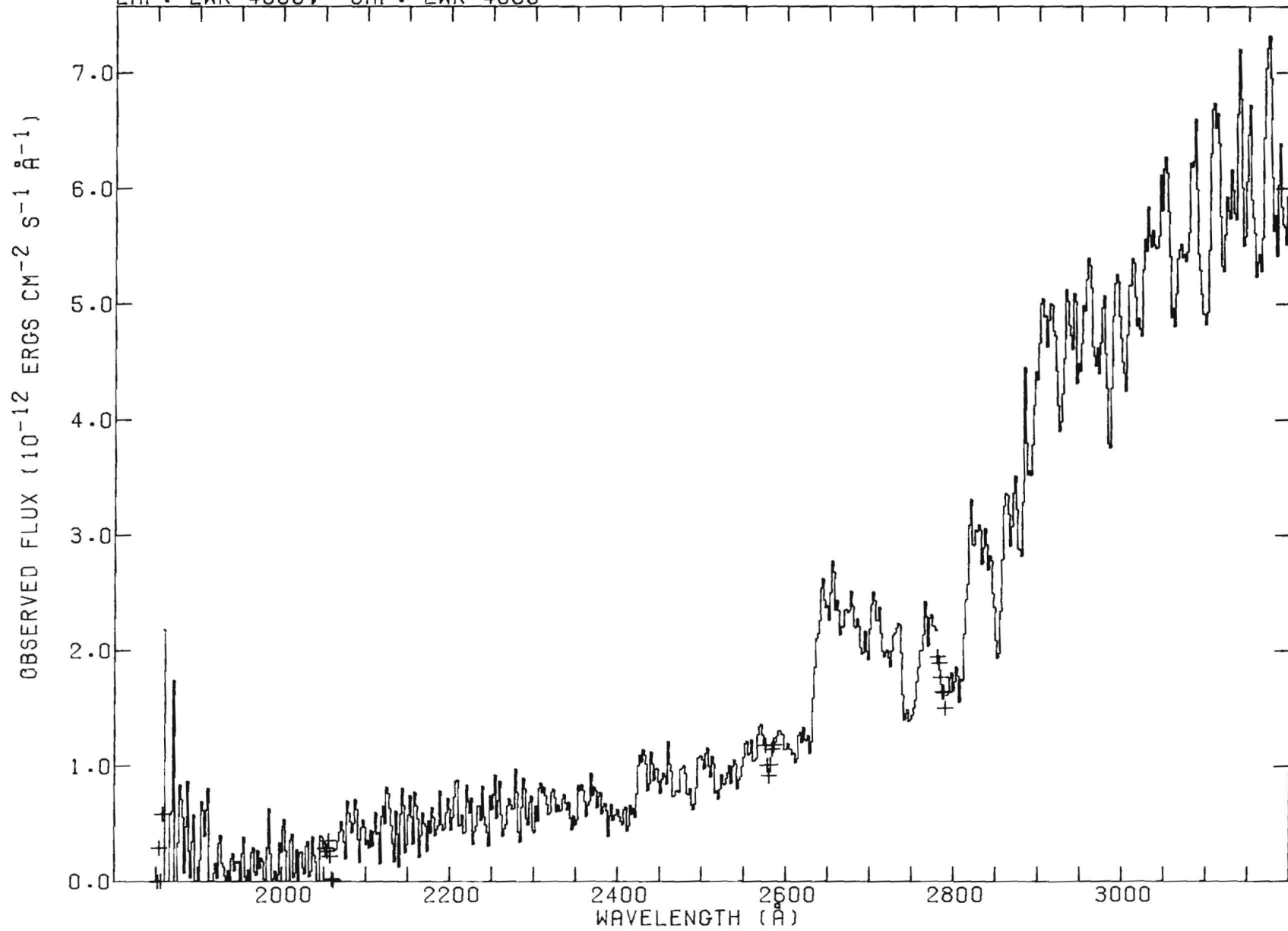
HD 150680 GO IV + V=2.81 (B-V)=0.65 E(B-V)=0.02
LAP: SWP 4759; SAP: SWP 4759



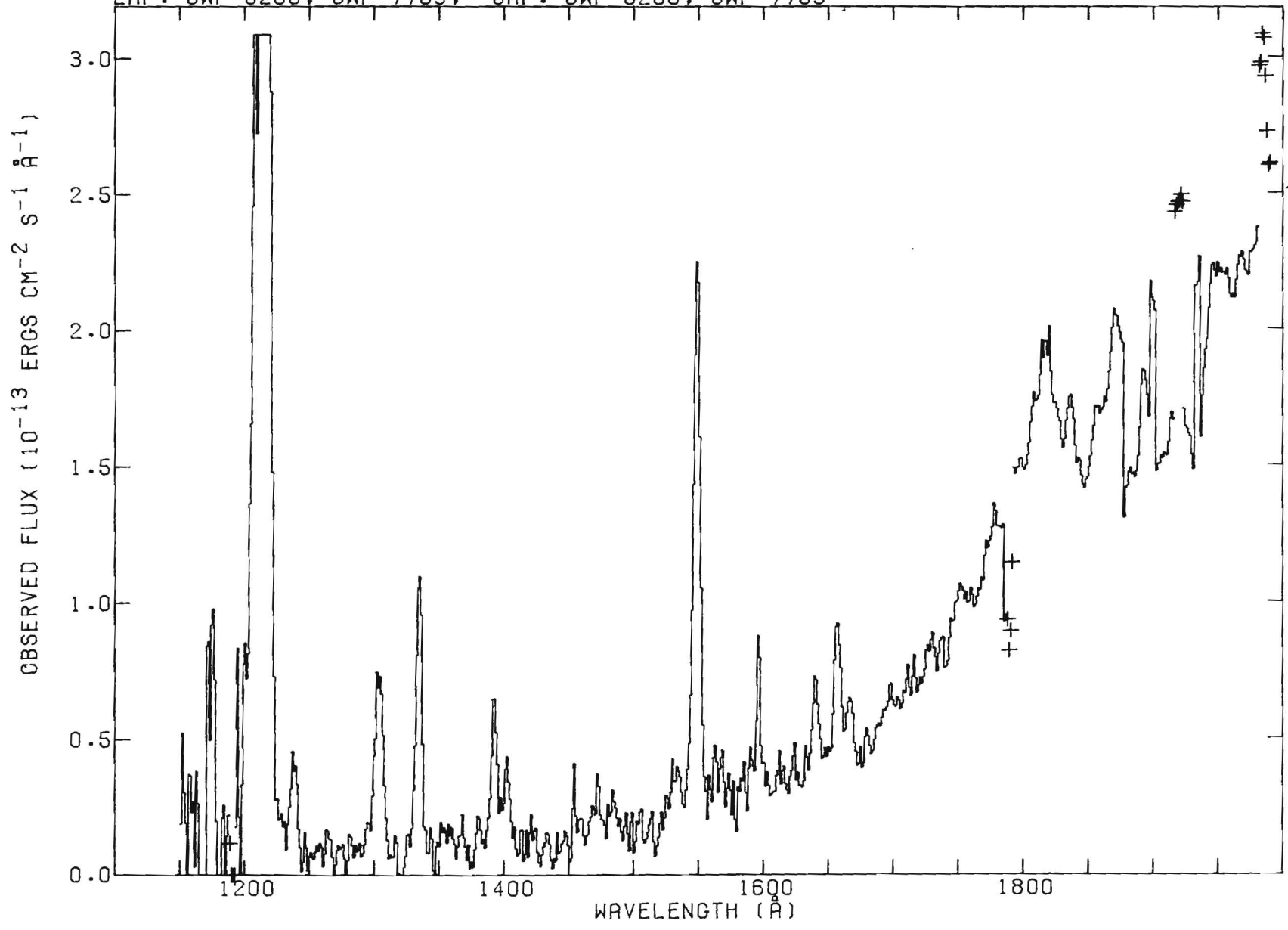
HD 150680 GO IV + V=2.81 (B-V)=0.65 E(B-V)=0.02
LAP: LWR 4123; SAP: LWR 4123



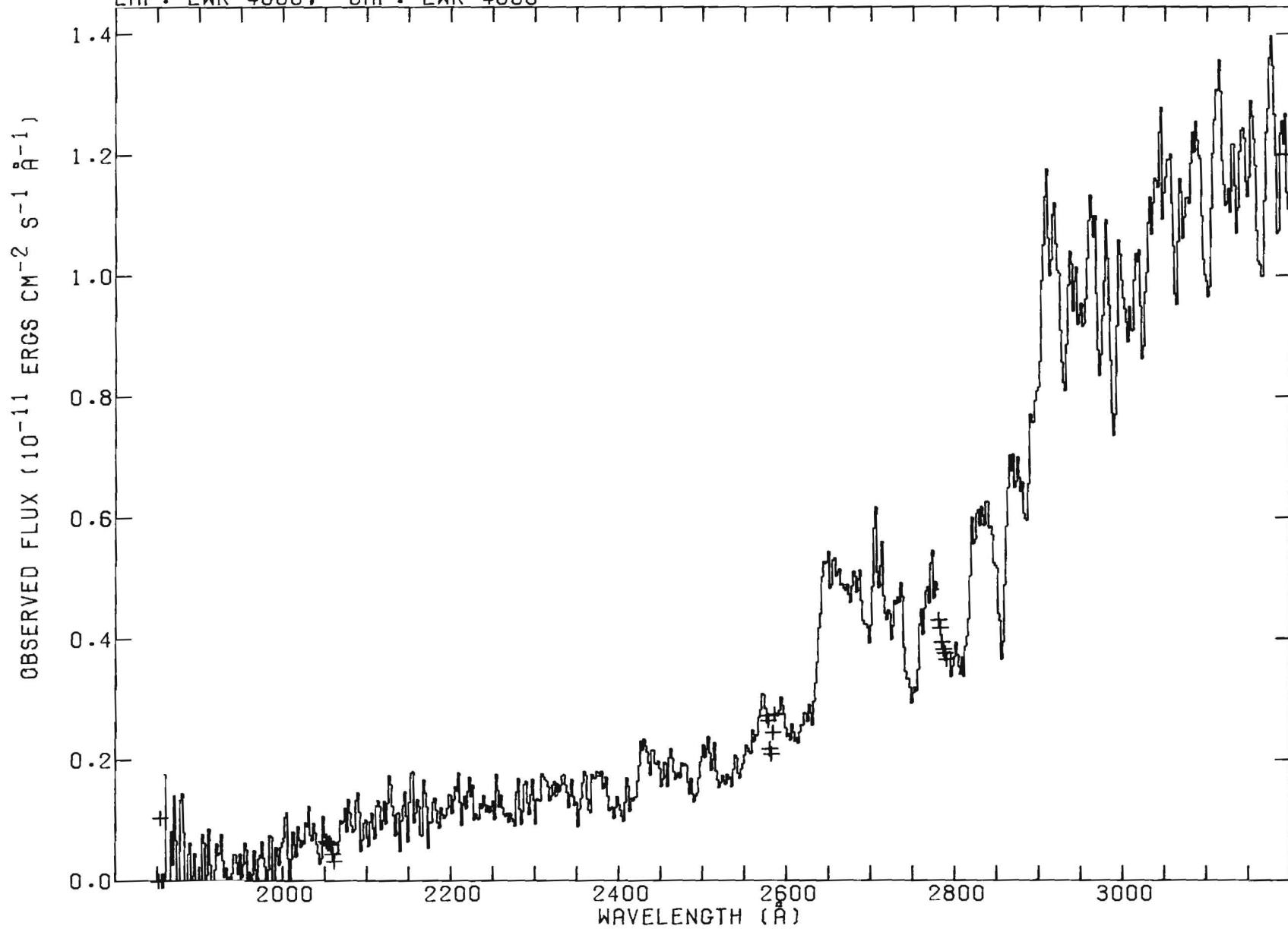
HD 6903 GO III V=5.55 (B-V)=0.69 E(B-V)=0.05
LAP: LWR 4855; SAP: LWR 4855



205
HD 111812 GO III + V=4.94 (B-V)=0.67 E(B-V)=0.03
LAP: SWP 8206, SWP 7769; SAP: SWP 8206, SWP 7769

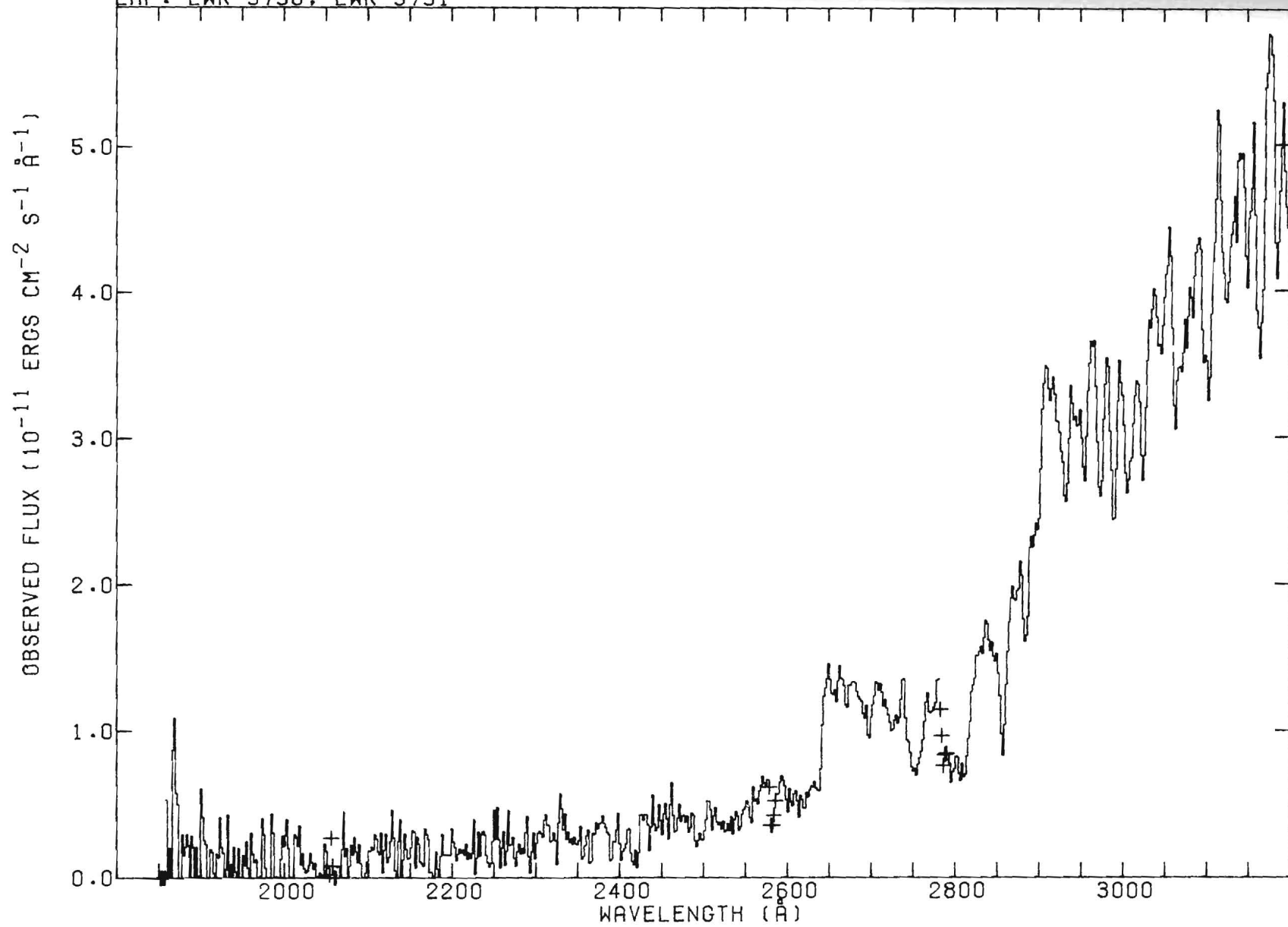


HD 111812 GO III + V=4.94 (B-V)=0.67 E(B-V)=0.03
LAP: LWR 4860; SAP: LWR 4860

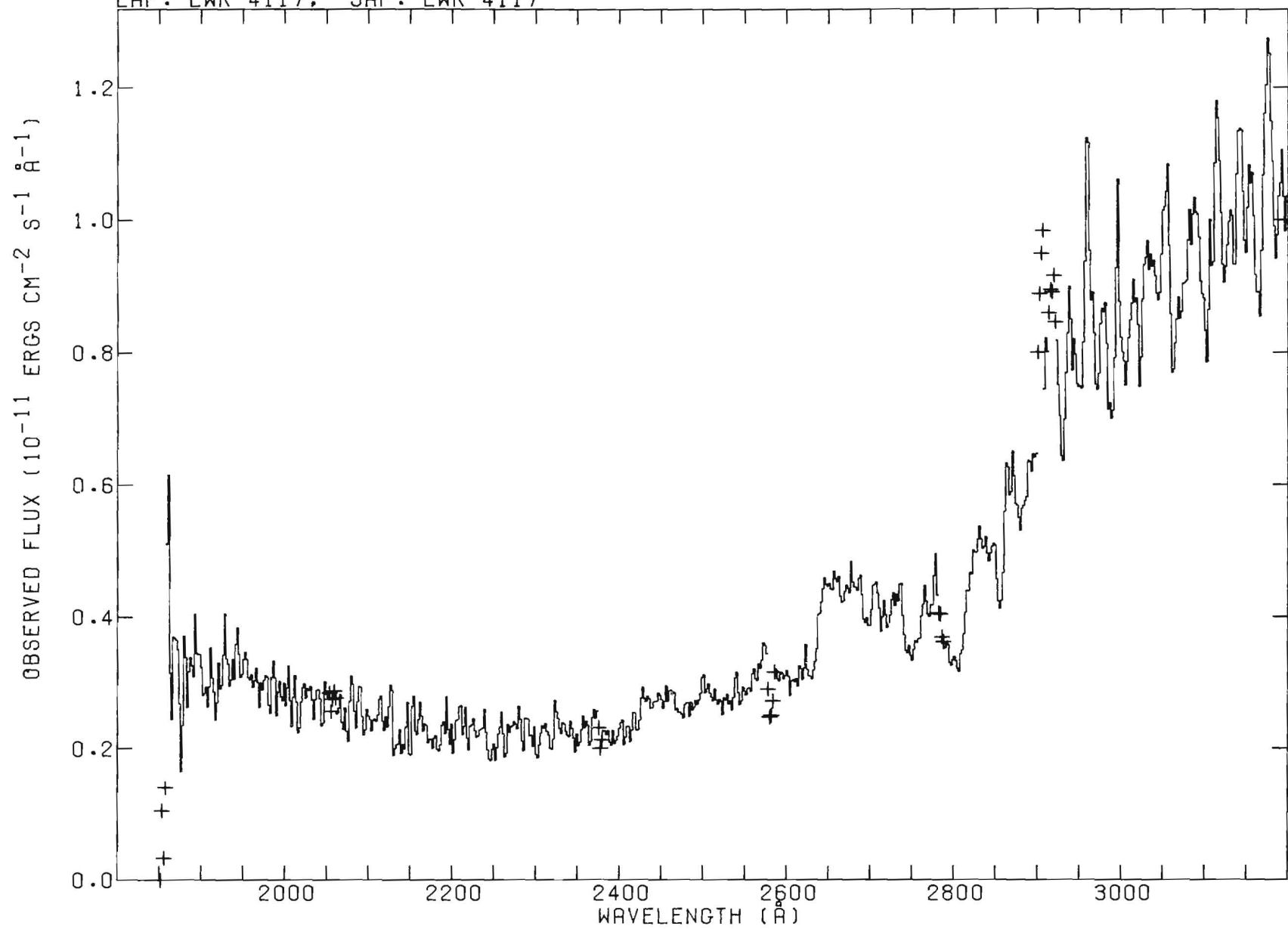


HD 84441 GO II
LAP: LWR 9730, LWR 9731

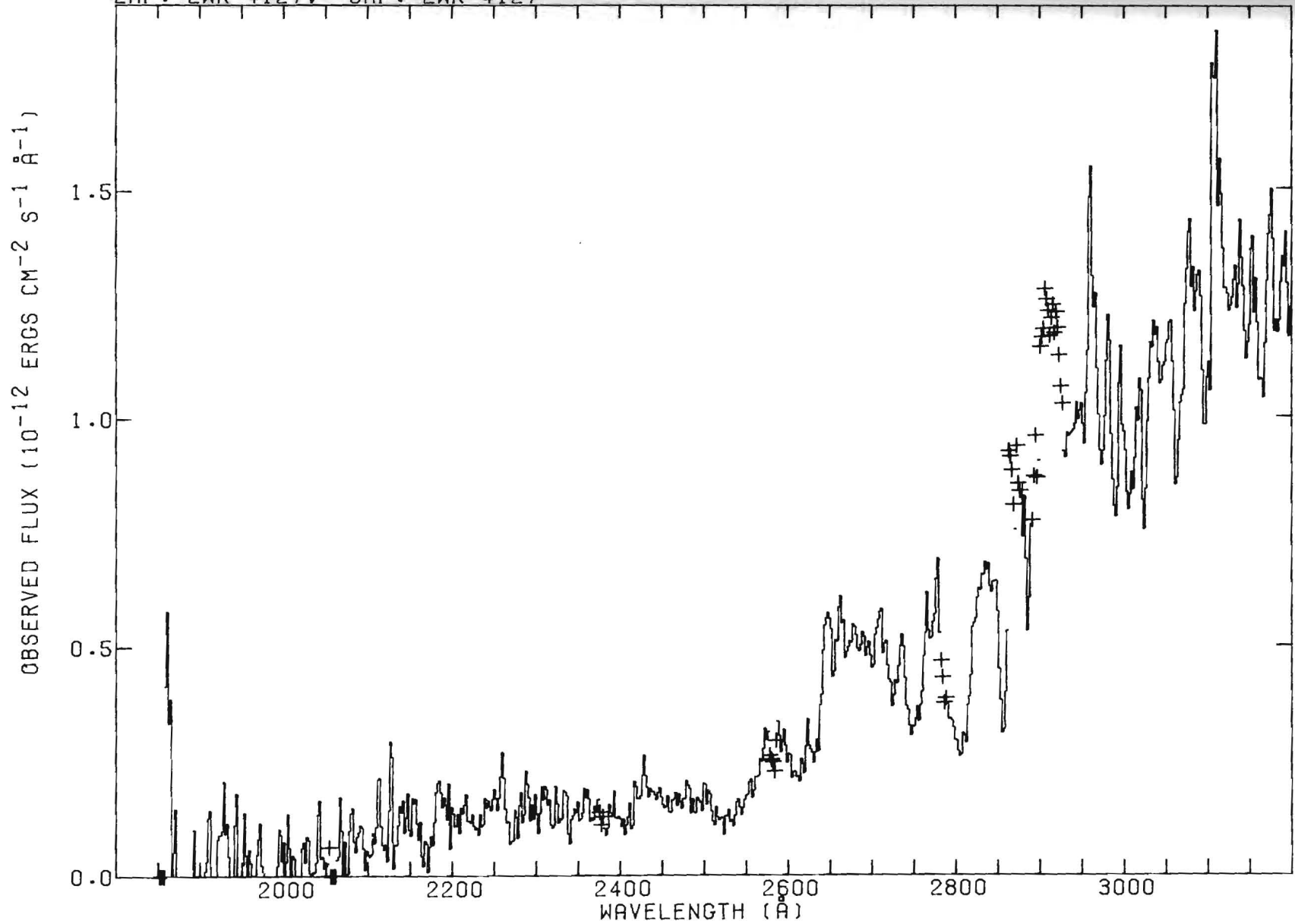
V=2.98 (B-V)=0.80 E(B-V)=0.07



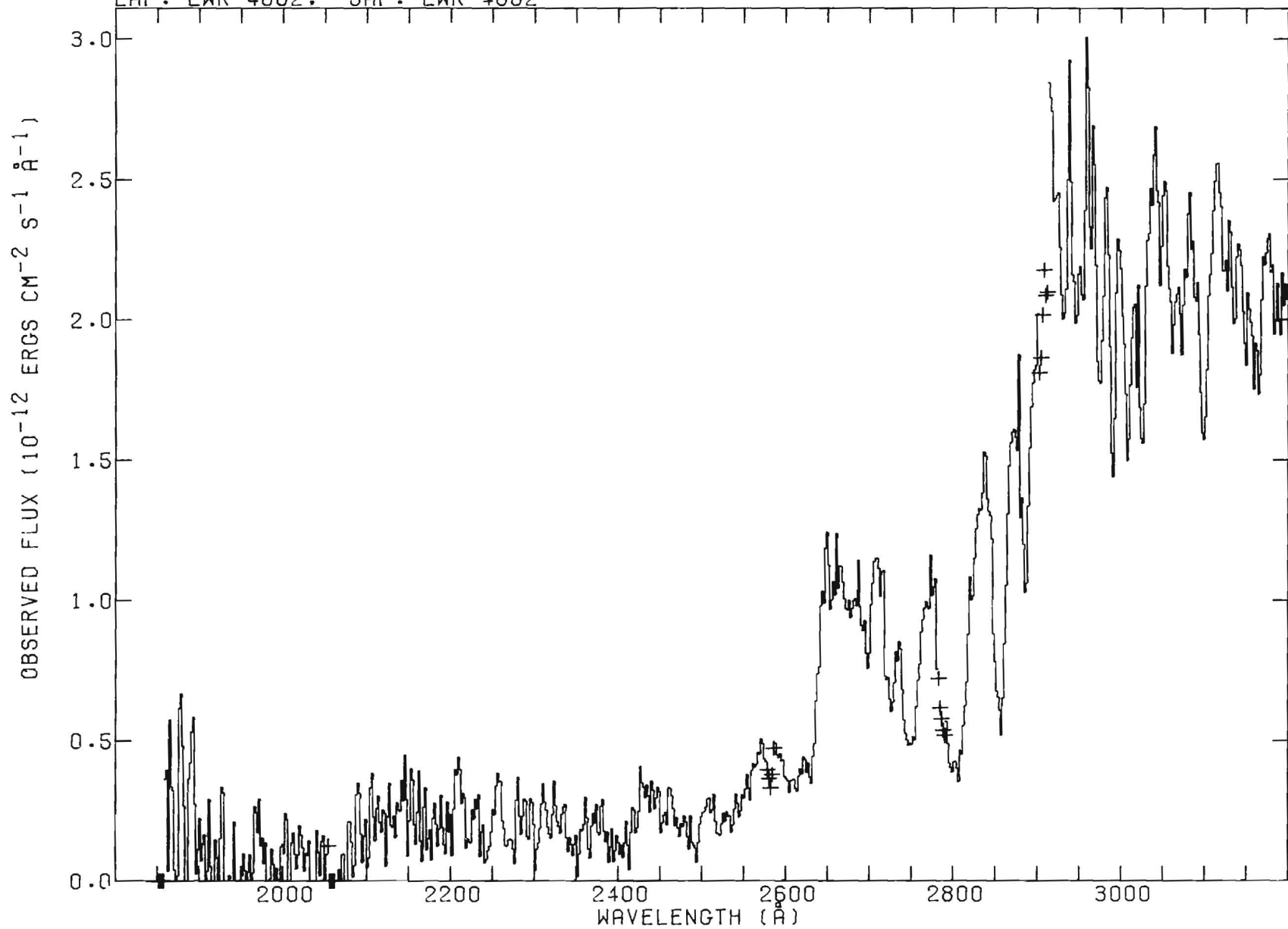
HD 26630 GO IB + V=4.14 (B-V)=0.95 E(B-V)=0.13
LAP: LWR 4117; SAP: LWR 4117



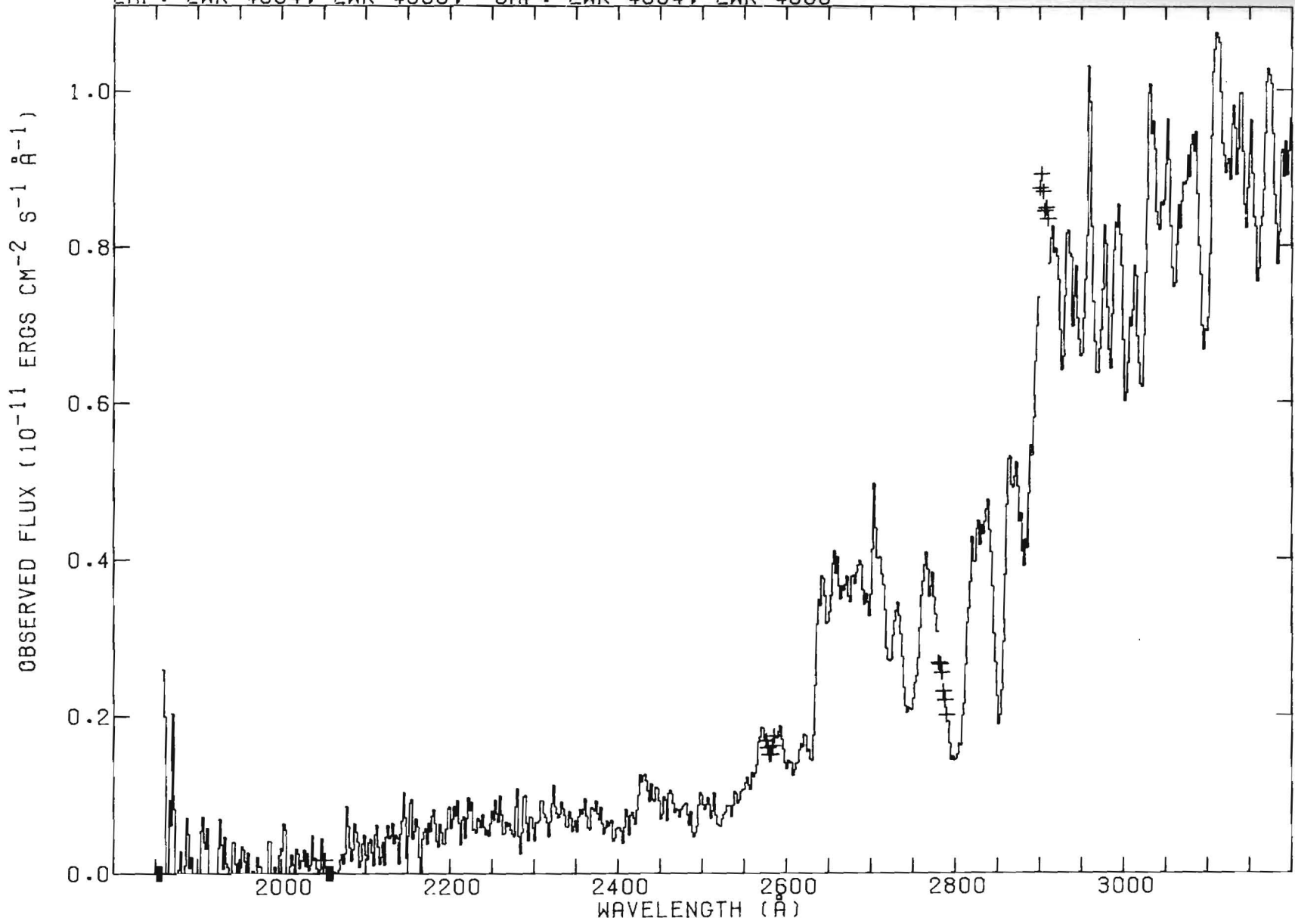
HD 27836 G1 V V=7.62 (B-V)=0.60 E(B-V)=-0.02
LAP: LWR 4127; SAP: LWR 4127



HD 115043 G1 V V=6.83 (B-V)=0.60 E(B-V)=-0.02
LAP: LWR 4862: SAP: LWR 4862

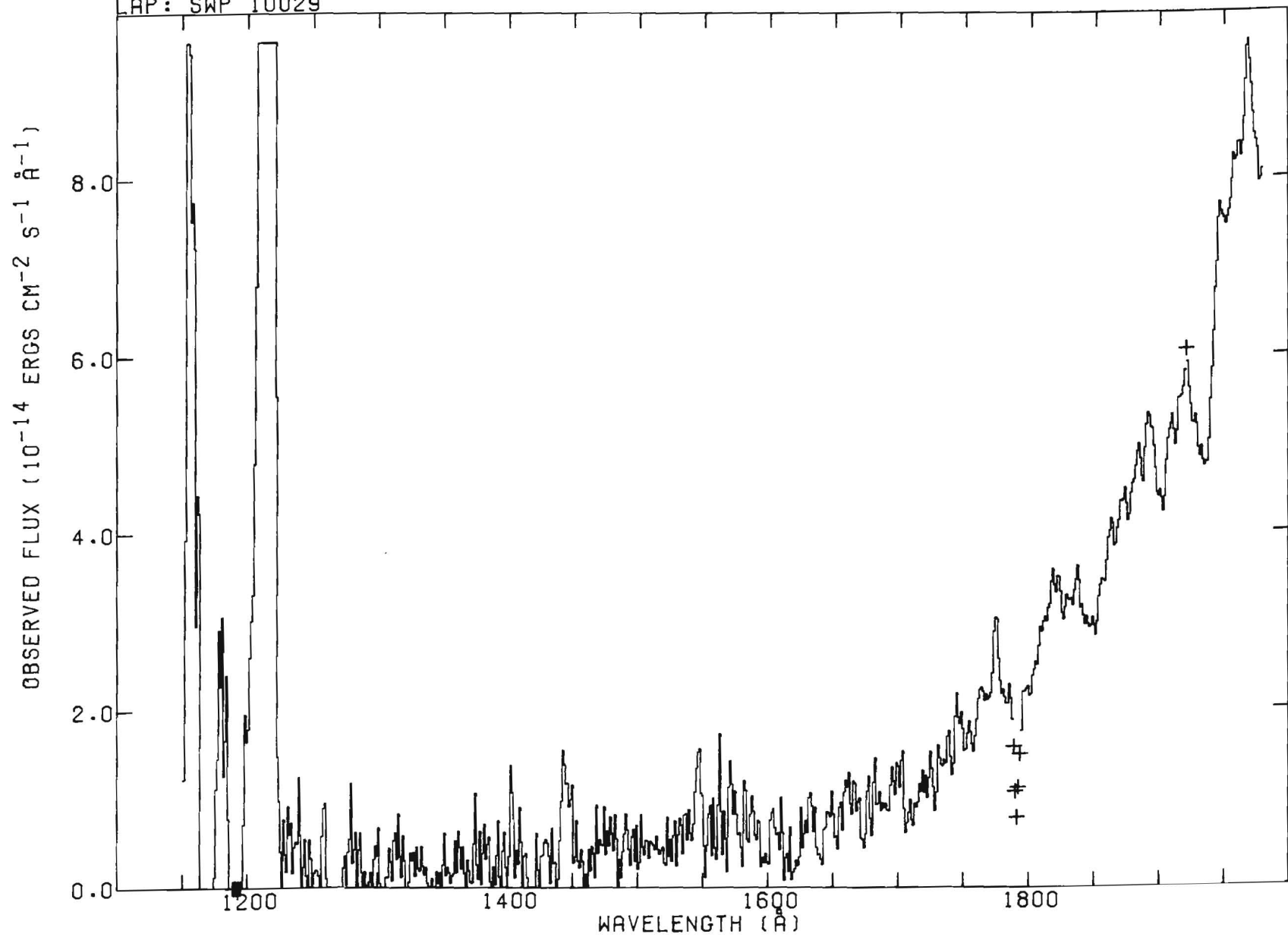


URANUS G2 V V=6.00 (B-V)=0.70 E(B-V)=0.07
LAP: LWR 4864, LWR 4865; SAP: LWR 4864, LWR 4865

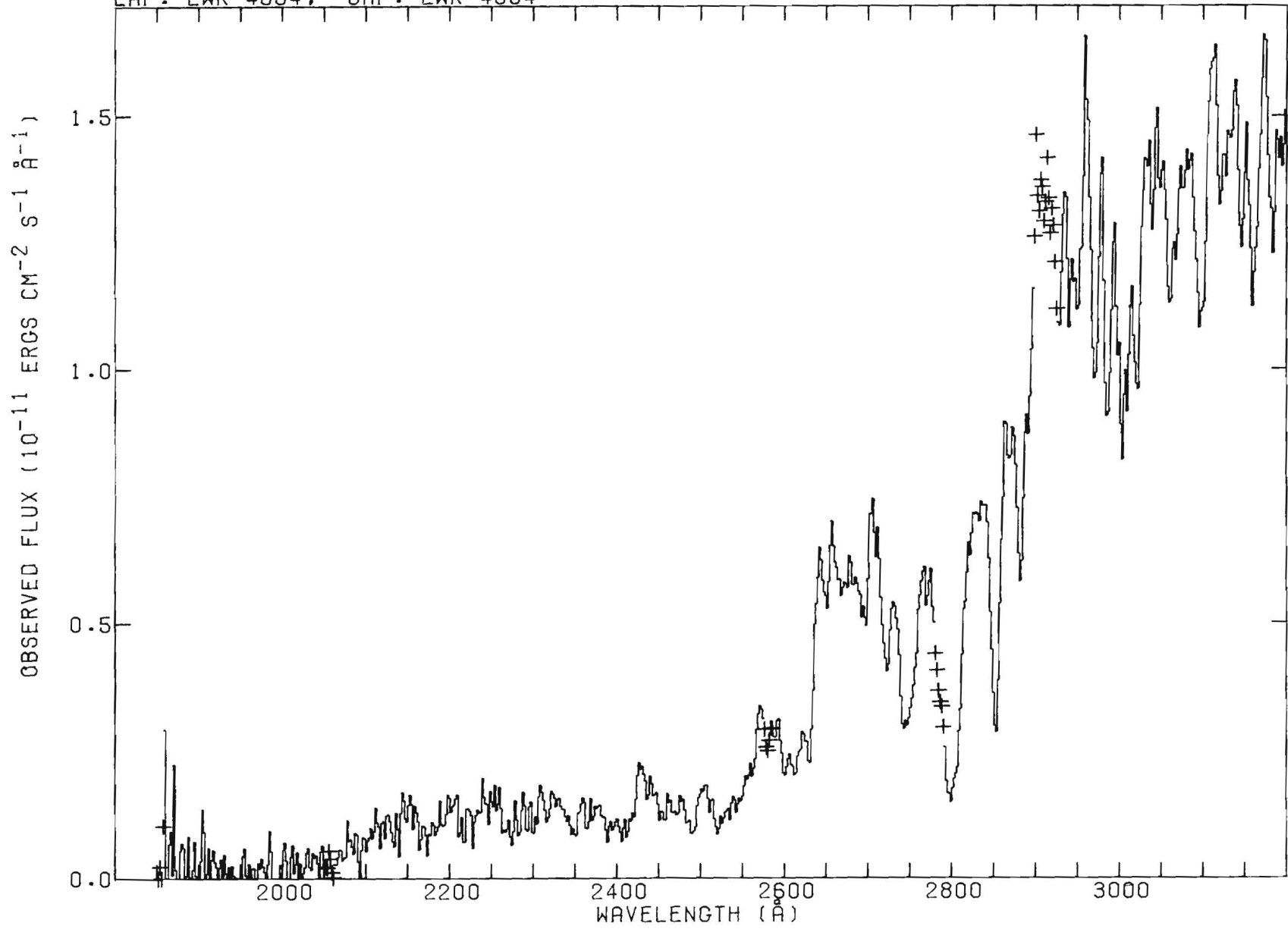


HD 10307 G2 V
LAP: SWP 10029

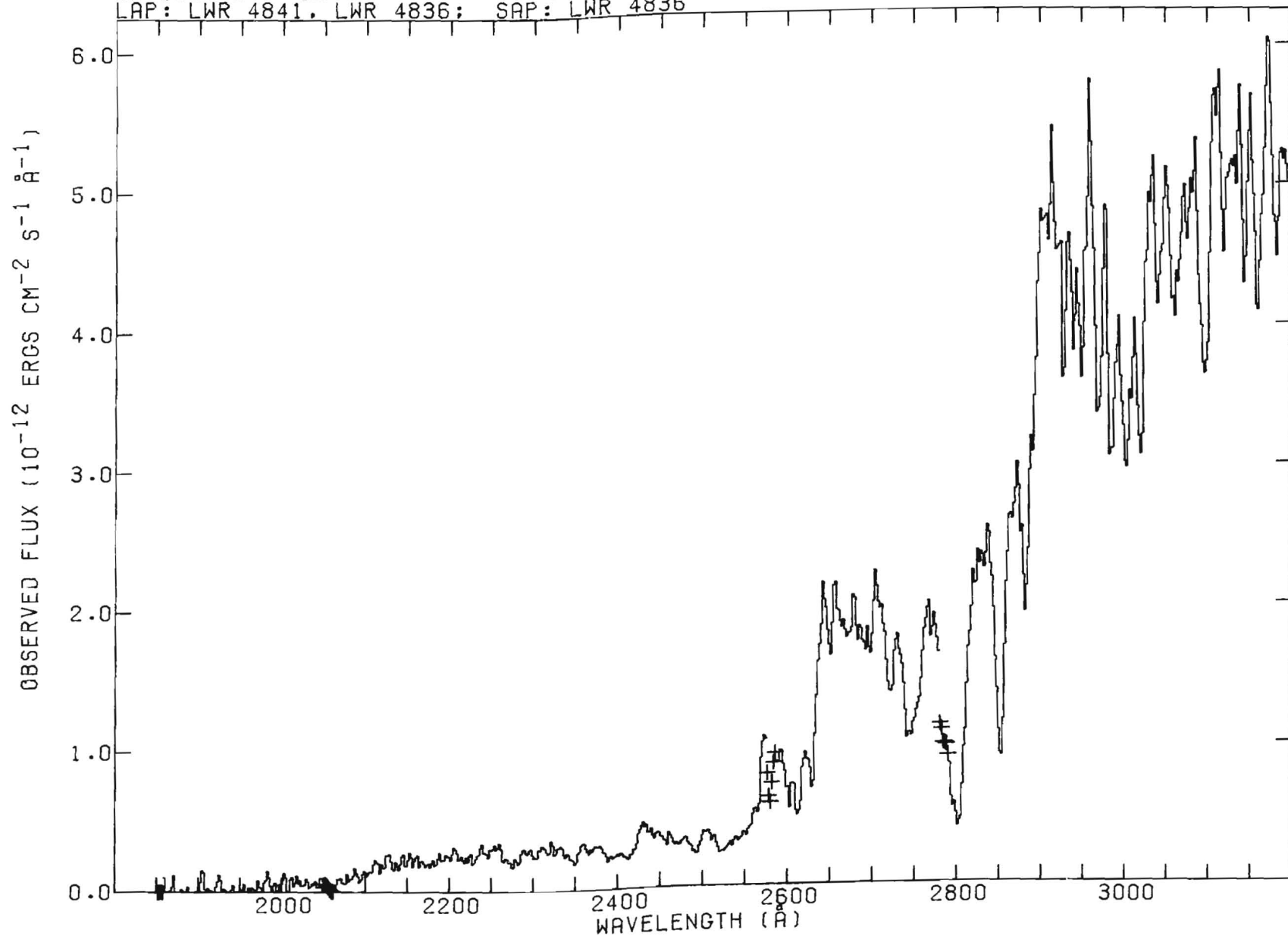
V=4.95 (B-V)=0.62 E(B-V)=-0.01



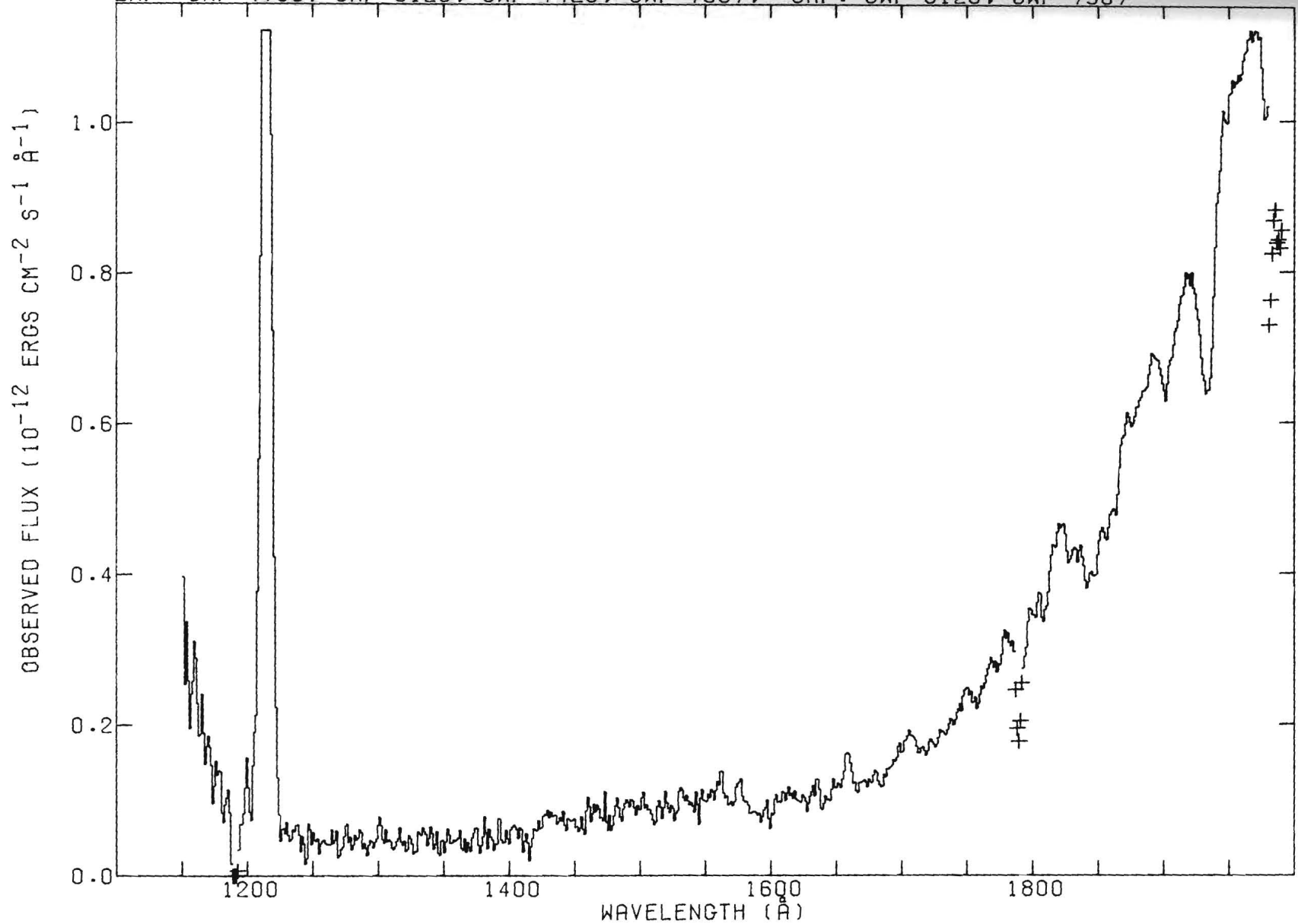
HD 10307 G2 V V=4.95 (B-V)=0.62 E(B-V)=-0.01
LAP: LWR 4854; SAP: LWR 4854



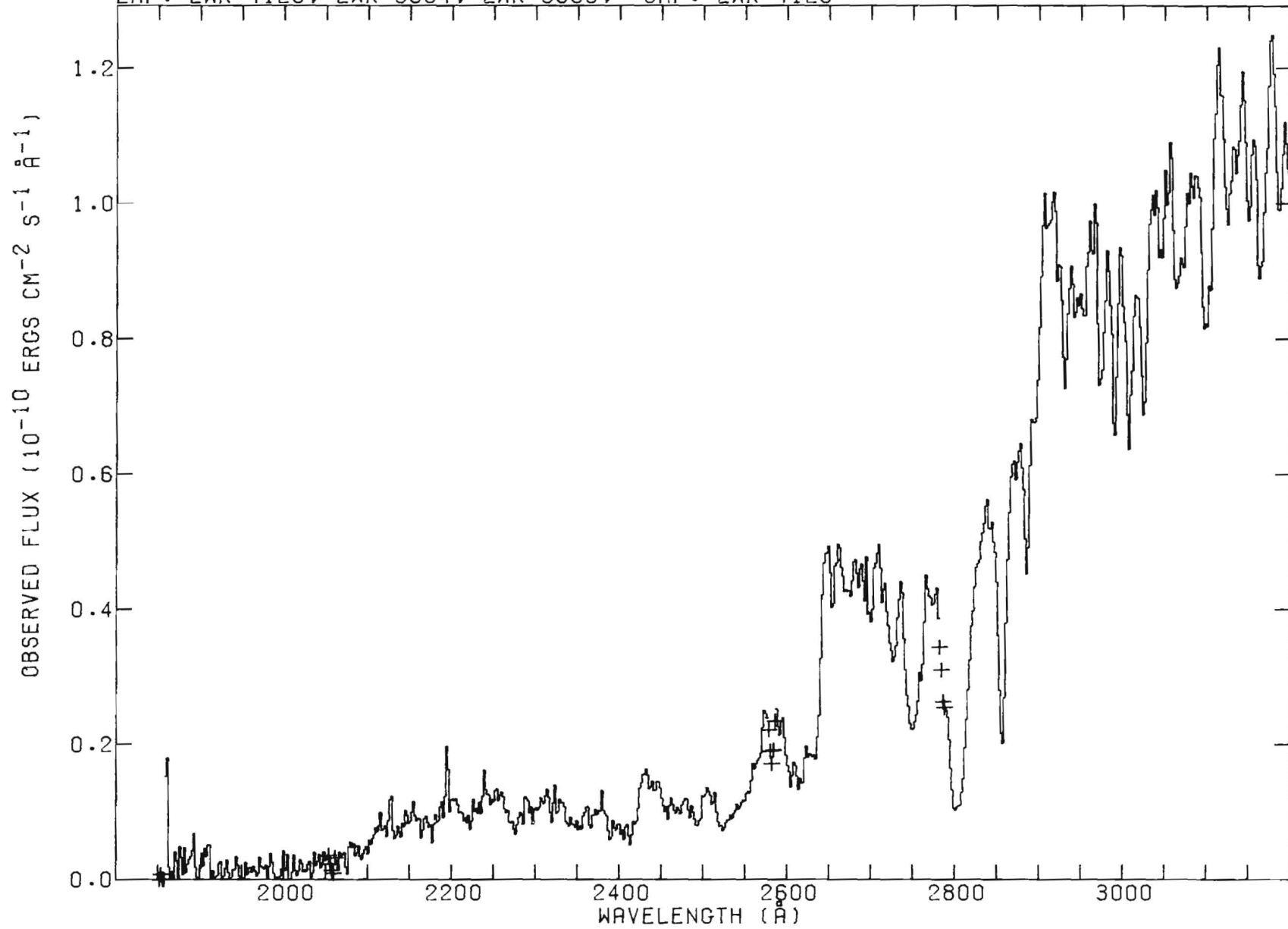
HD 186408 G2 V V=5.96 (B-V)=0.64 E(B-V)=0.01
LAP: LWR 4841, LWR 4836; SAP: LWR 4836



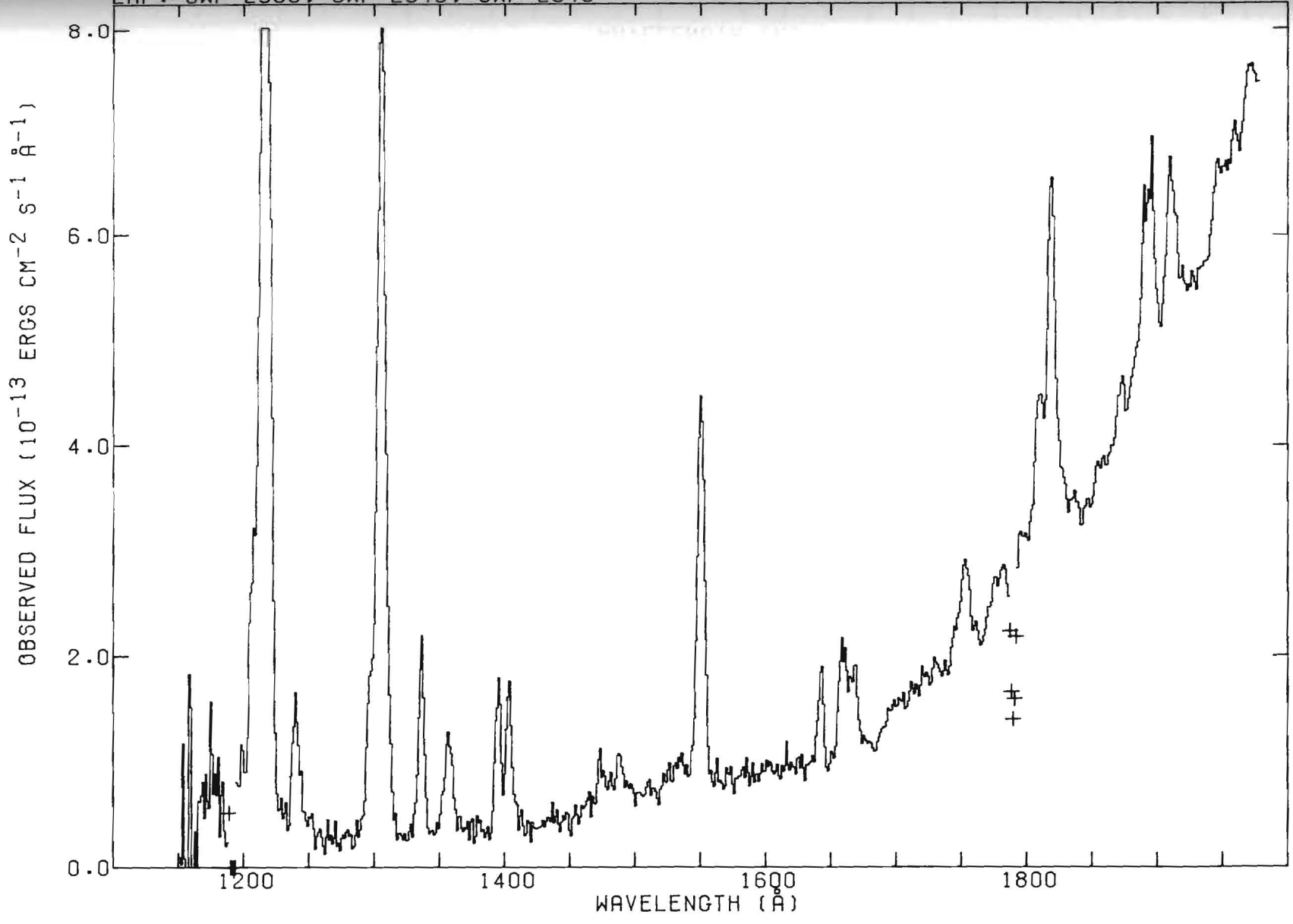
HD 2151 G2 IV V=2.80 (B-V)=0.62 E(B-V)=-0.02
LAP: SWP 4760, SWP 6128, SWP 7429, SWP 7307; SAP: SWP 6128, SWP 7307



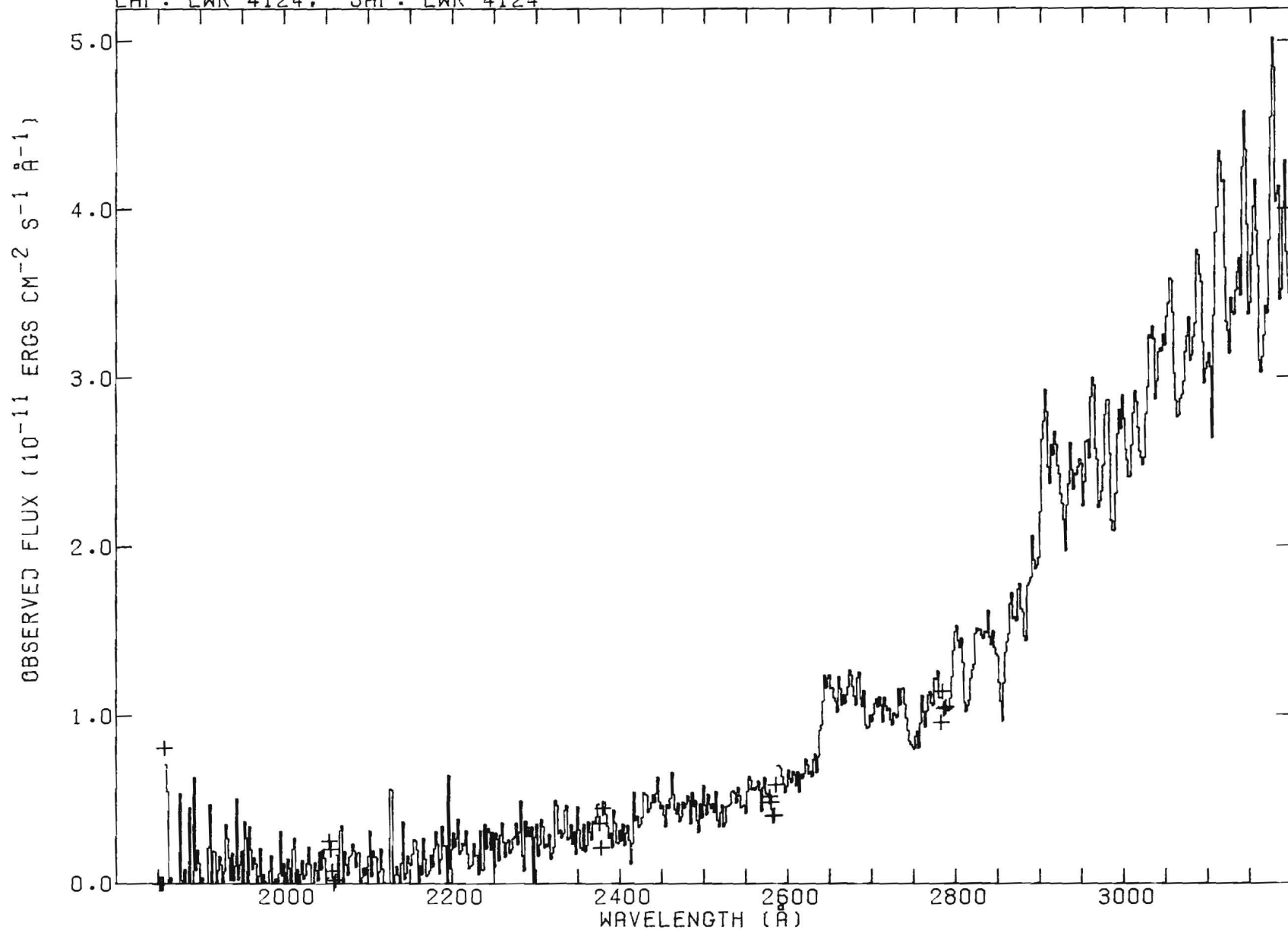
HD 2151 G2 IV V=2.80 (B-V)=0.62 E(B-V)=-0.02
LAP: LWR 4125, LWR 9864, LWR 9863; SAP: LWR 4125



HD 159181 G2 II + V=2.79 (B-V)=0.98 E(B-V)=0.11
LAP: SWP 2350, SWP 2349, SWP 2348

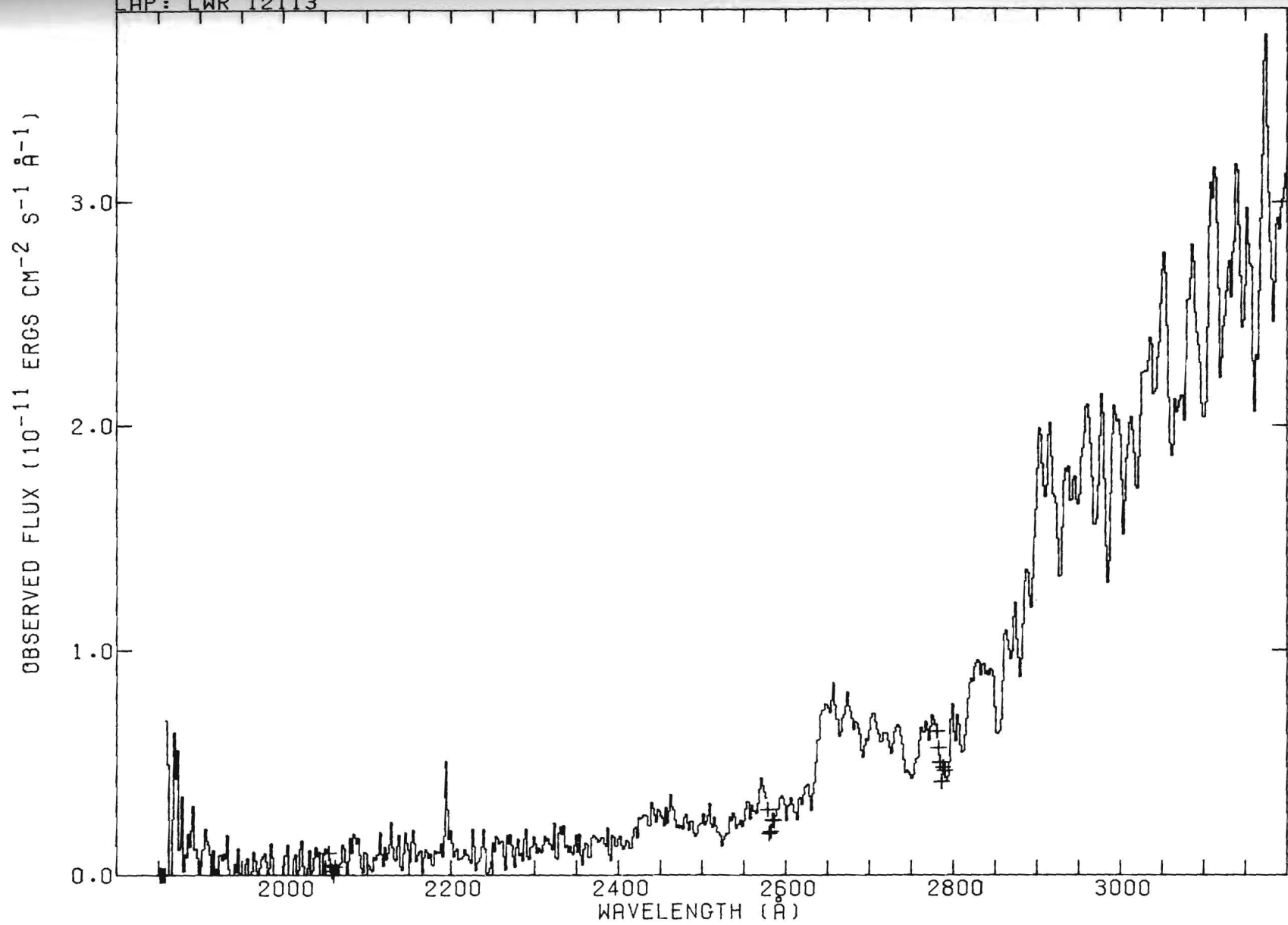


HD 159181 G2 II + V=2.79 (B-V)=0.98 E(B-V)=0.11
LAP: LWR 4124; SAP: LWR 4124

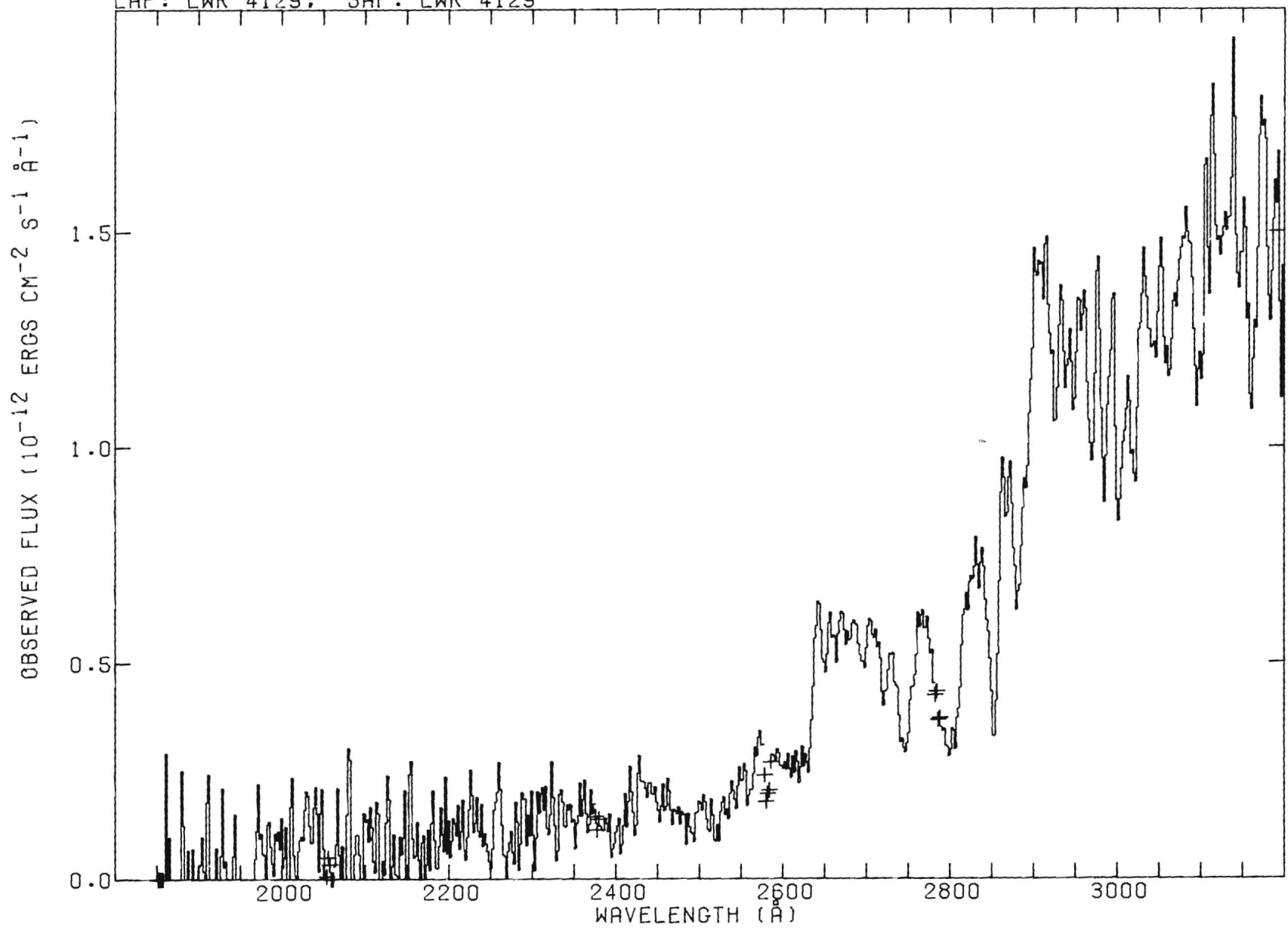


HD 209750 G2 IB
LAP: LWR 12113

V=2.96 (B-V)=0.98 E(B-V)=0.10

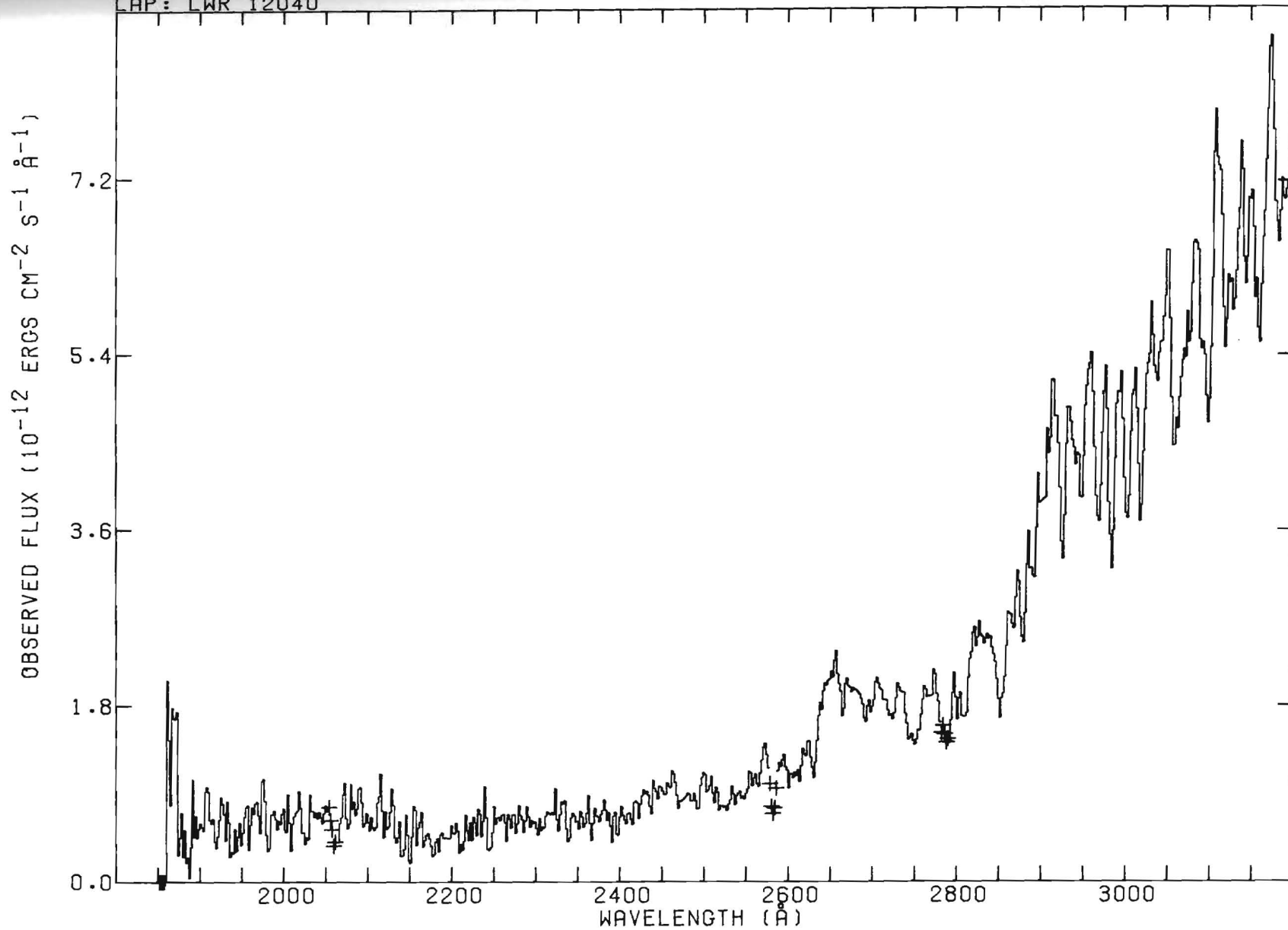


HD 26736 G3 V V=8.09 (B-V)=0.66 E(B-V)=0.01
LAP: LWR 4129; SAP: LWR 4129



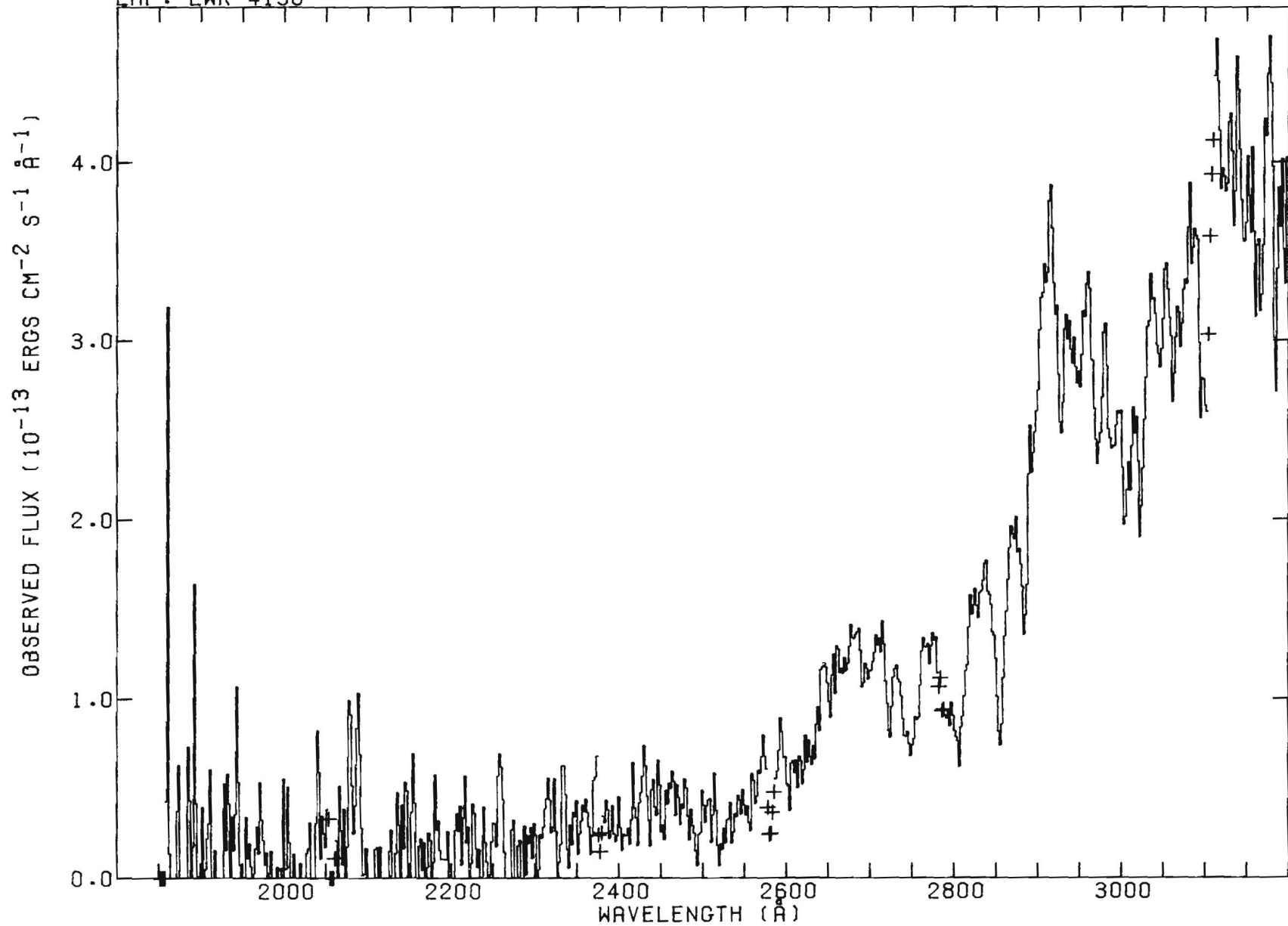
HD 192876 G3 IB
LAP: LWR 12040

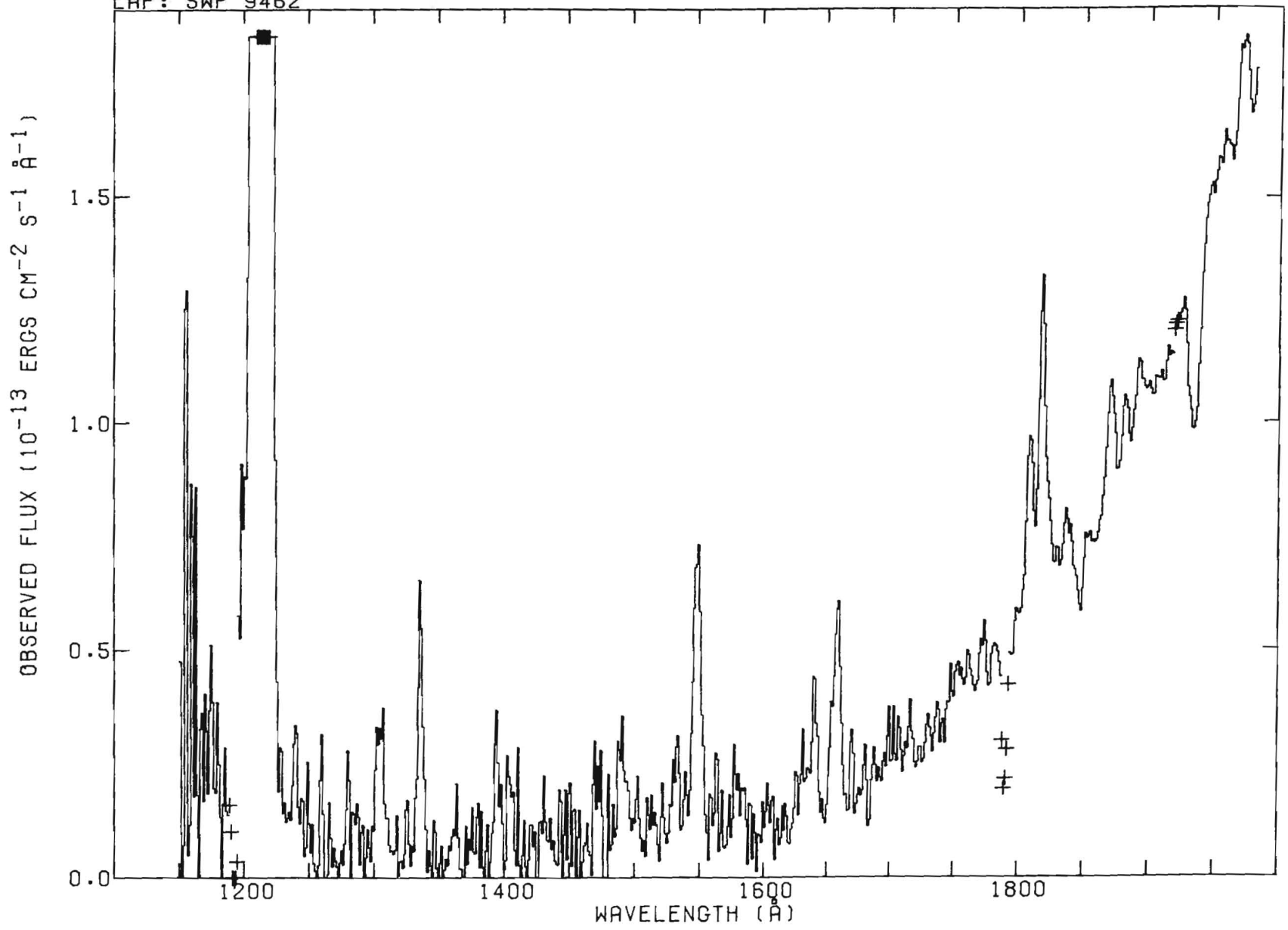
V=4.24 (B-V)=1.07 E(B-V)=0.15



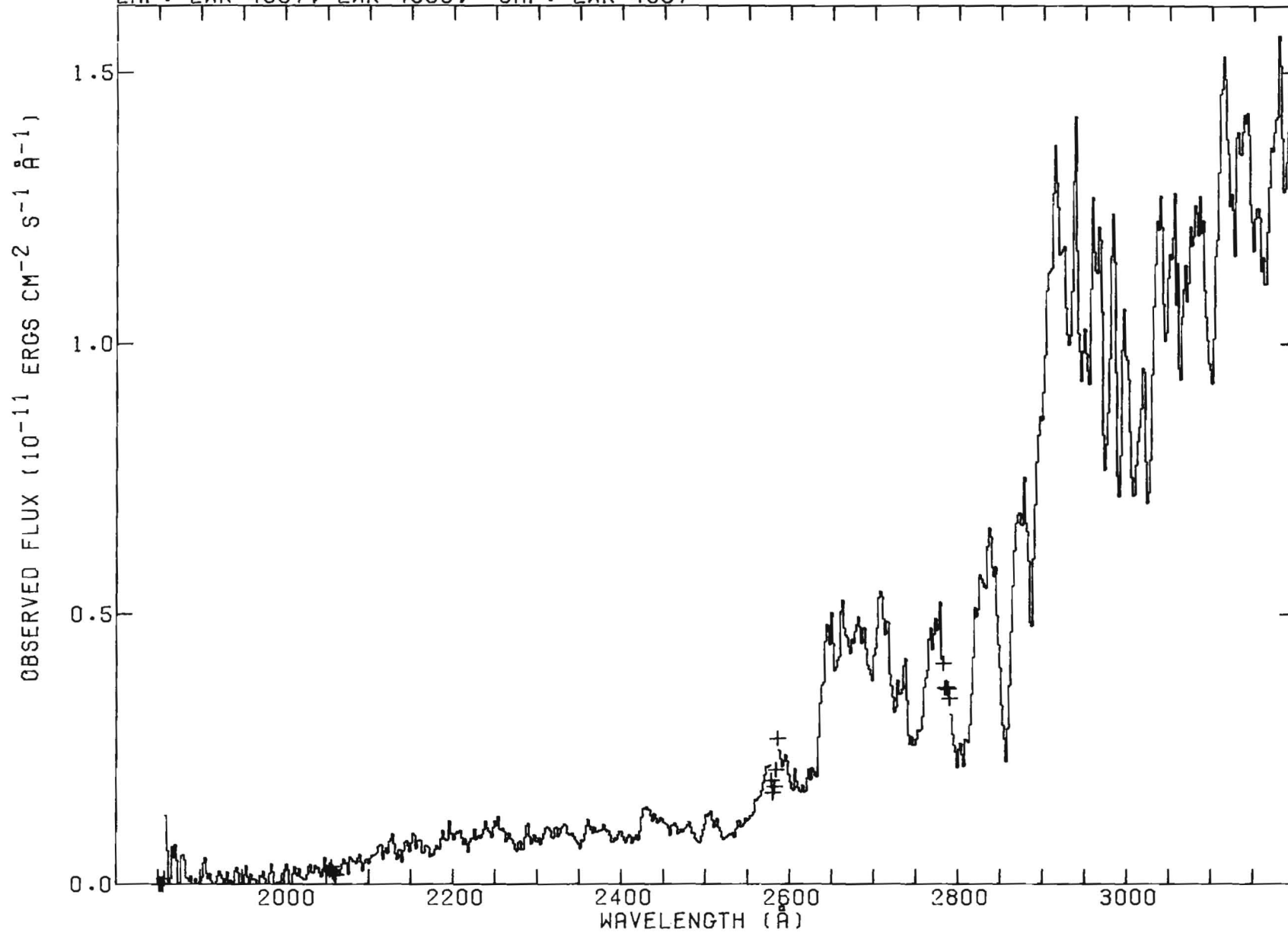
HD 26756 G5 V
LAP: LWR 4130

V=8.46 (B-V)=0.70 E(B-V)=0.02



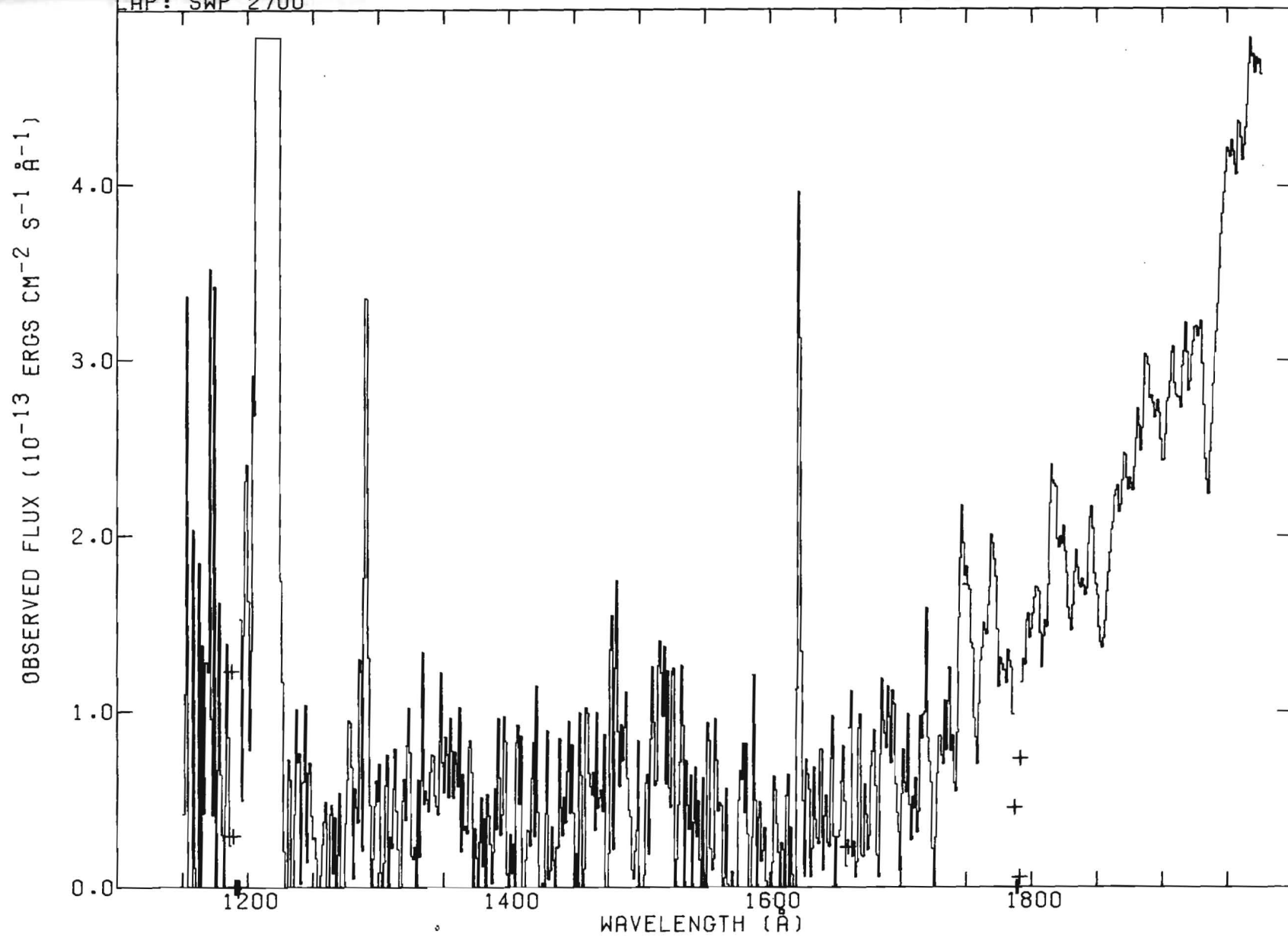


HD 20630 G5 V V=4.83 (B-V)=0.68 E(B-V)=0.00
LAP: LWR 4857, LWR 4858; SAP: LWR 4857

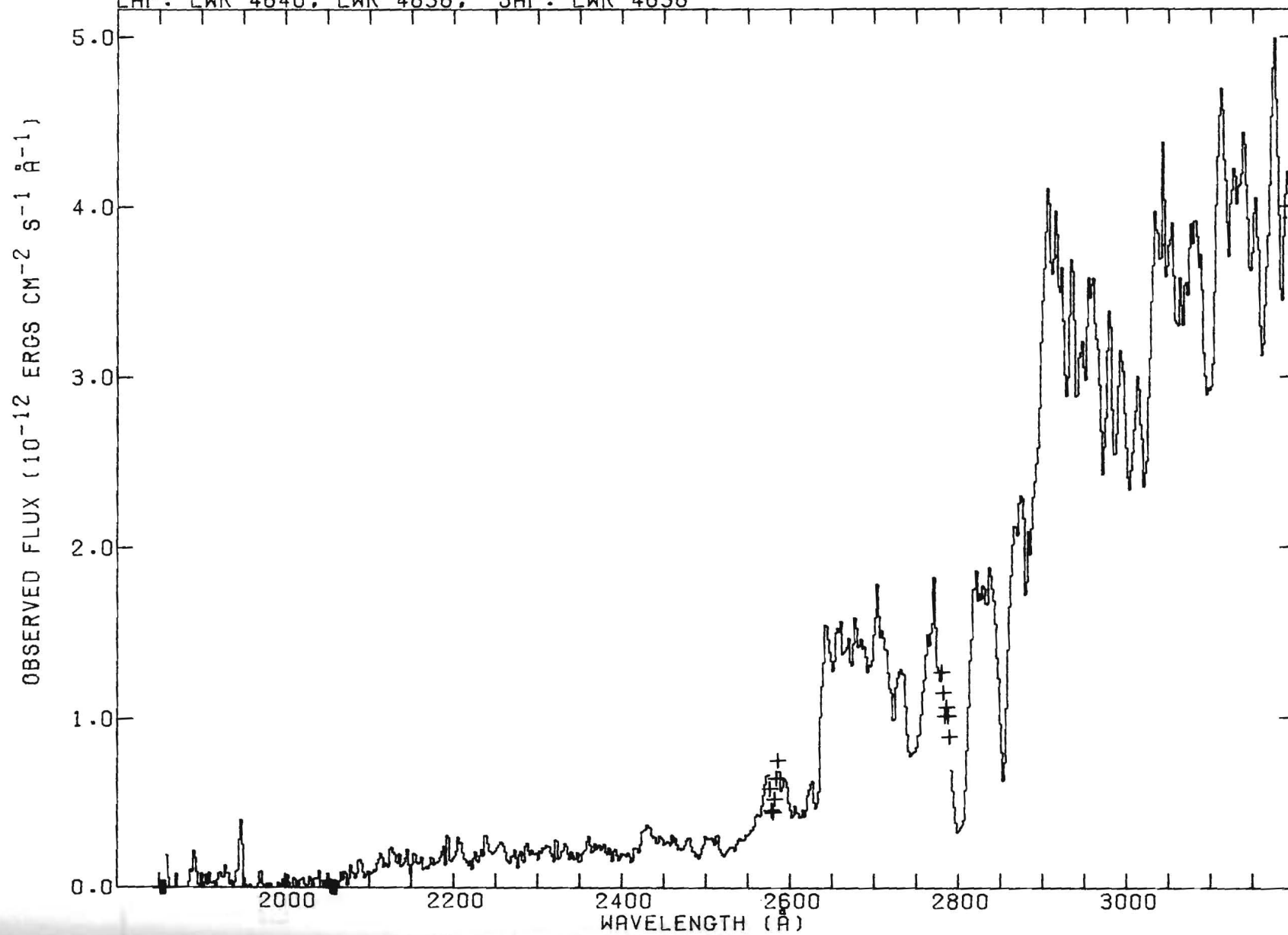


HD 186427 G5 V
LAP: SWP 2700

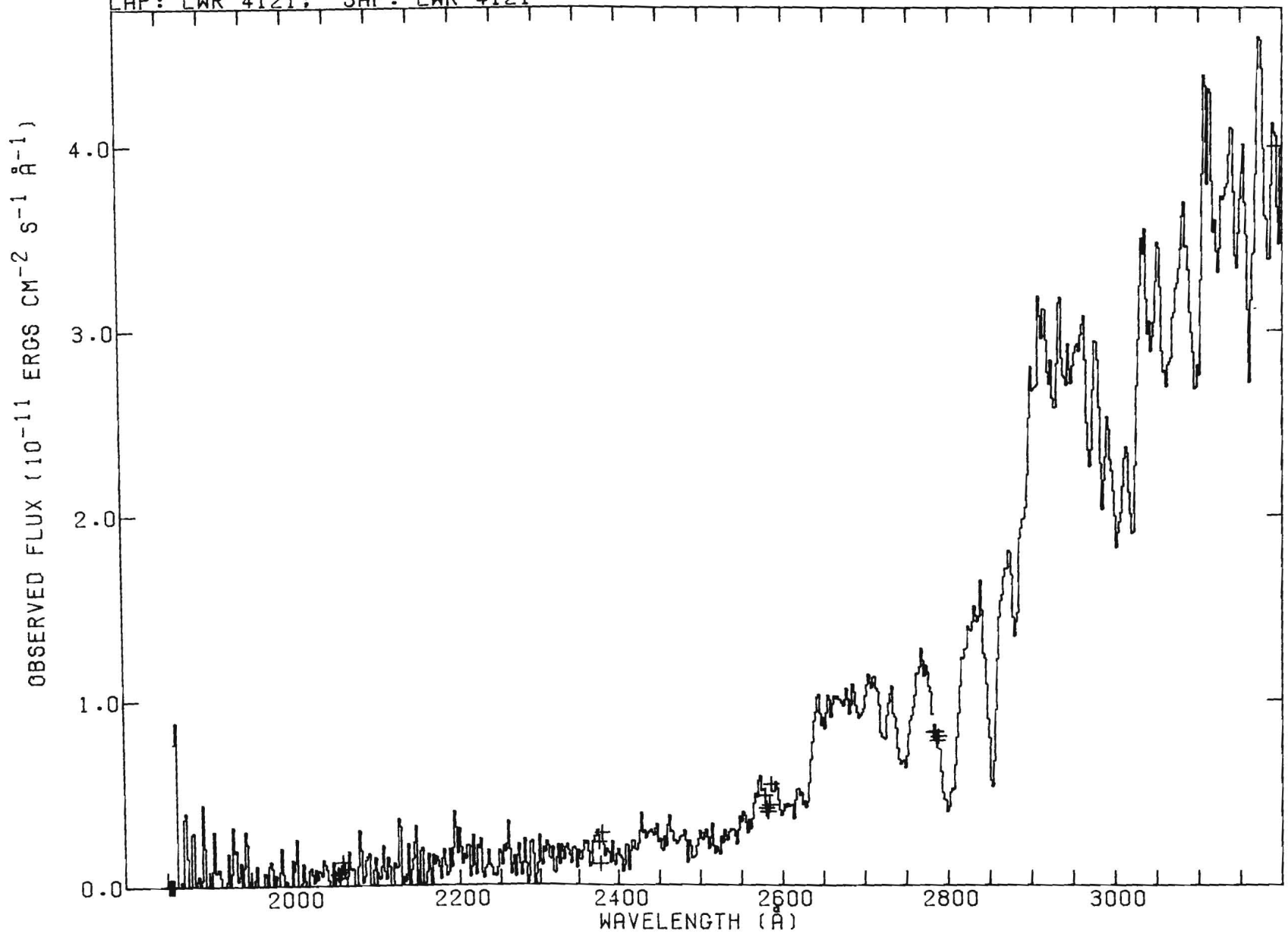
V=6.20 (B-V)=0.66 E(B-V)=-0.02



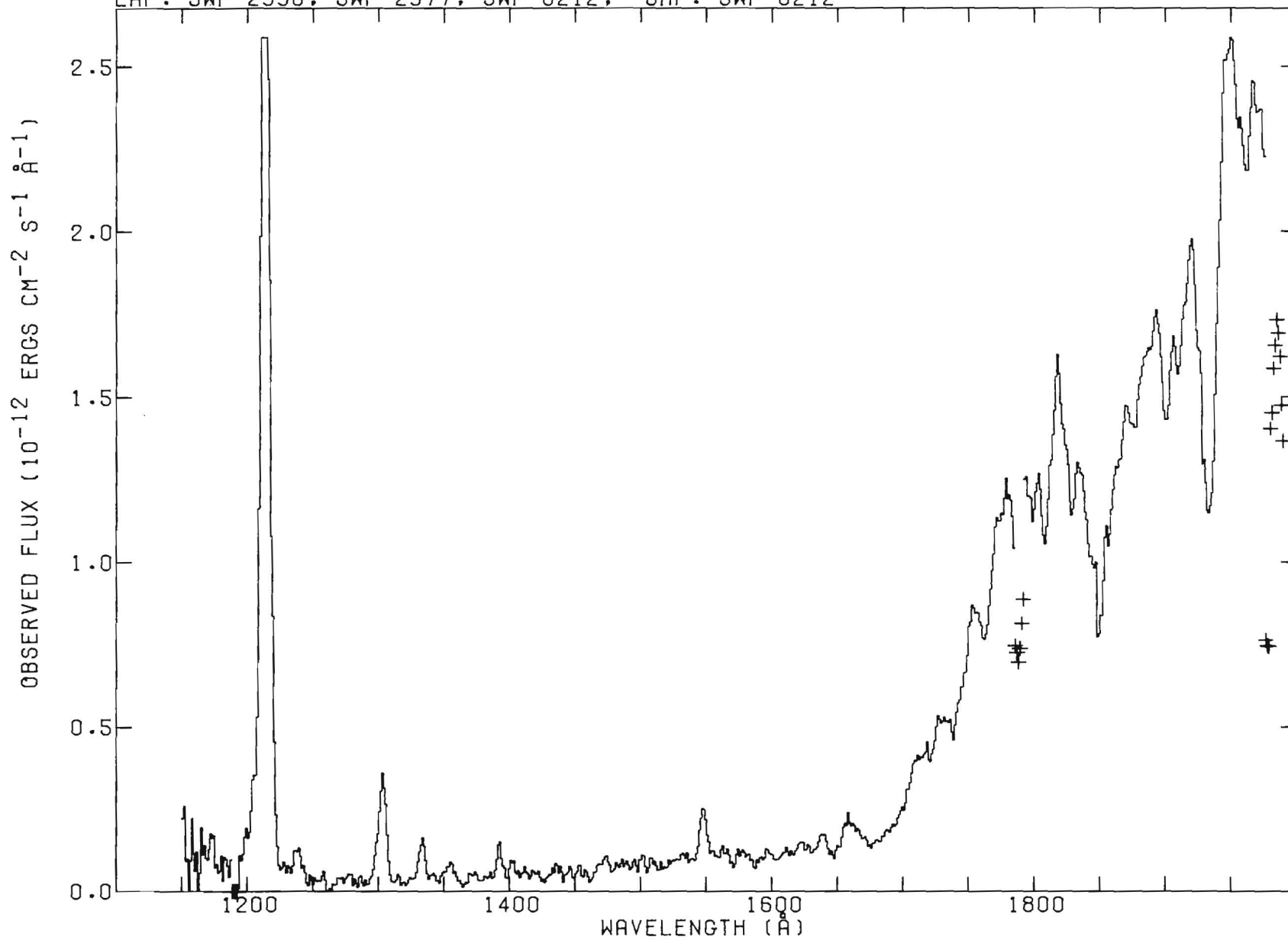
HD 186427 G5 V V=6.20 (B-V)=0.66 E(B-V)=-0.02
LAP: LWR 4840, LWR 4838; SAP: LWR 4838



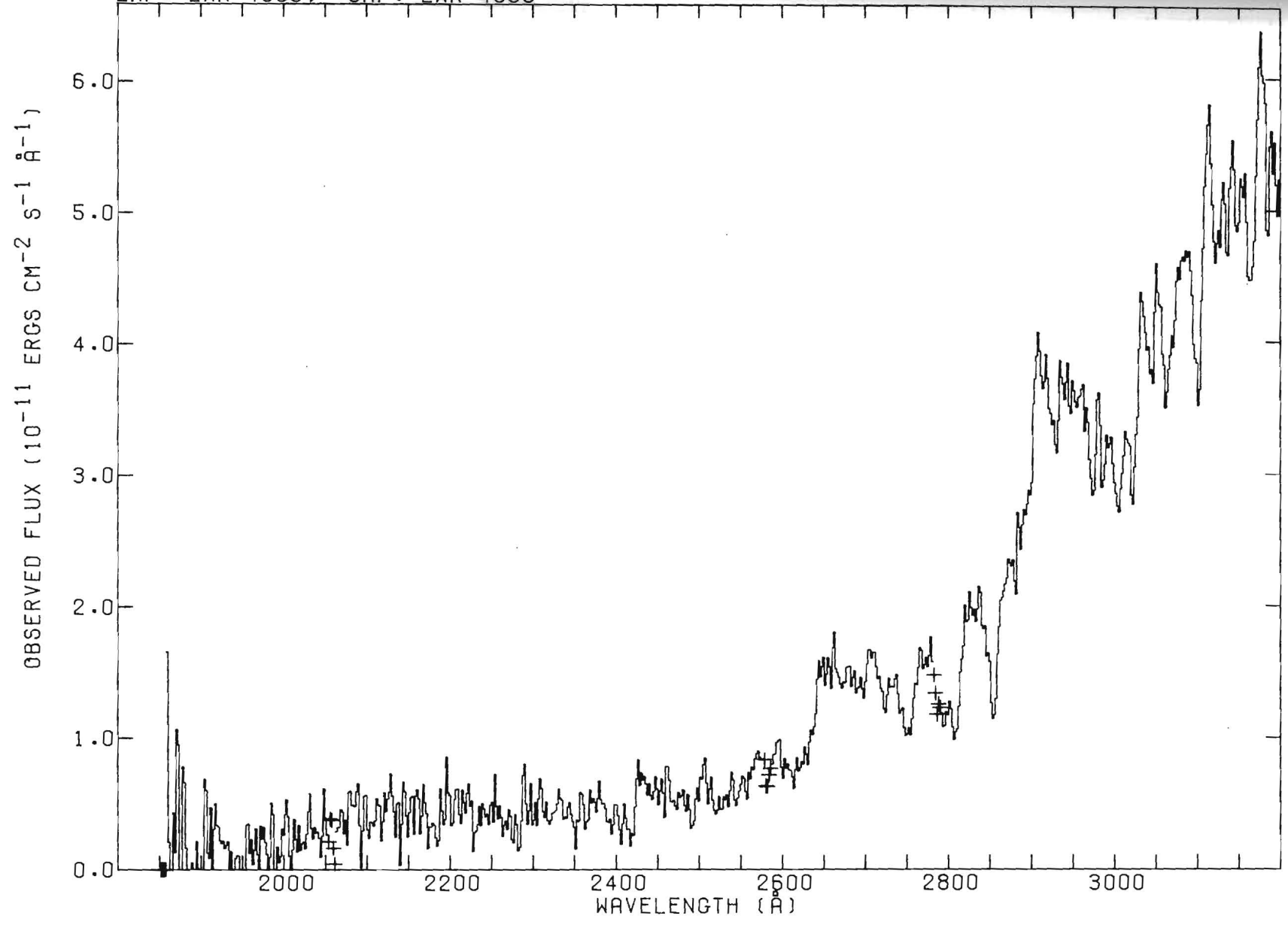
HD 161797 G5 IV V=3.42 (B-V)=0.75 E(B-V)=0.05
LAP: LWR 4121; SAP: LWR 4121



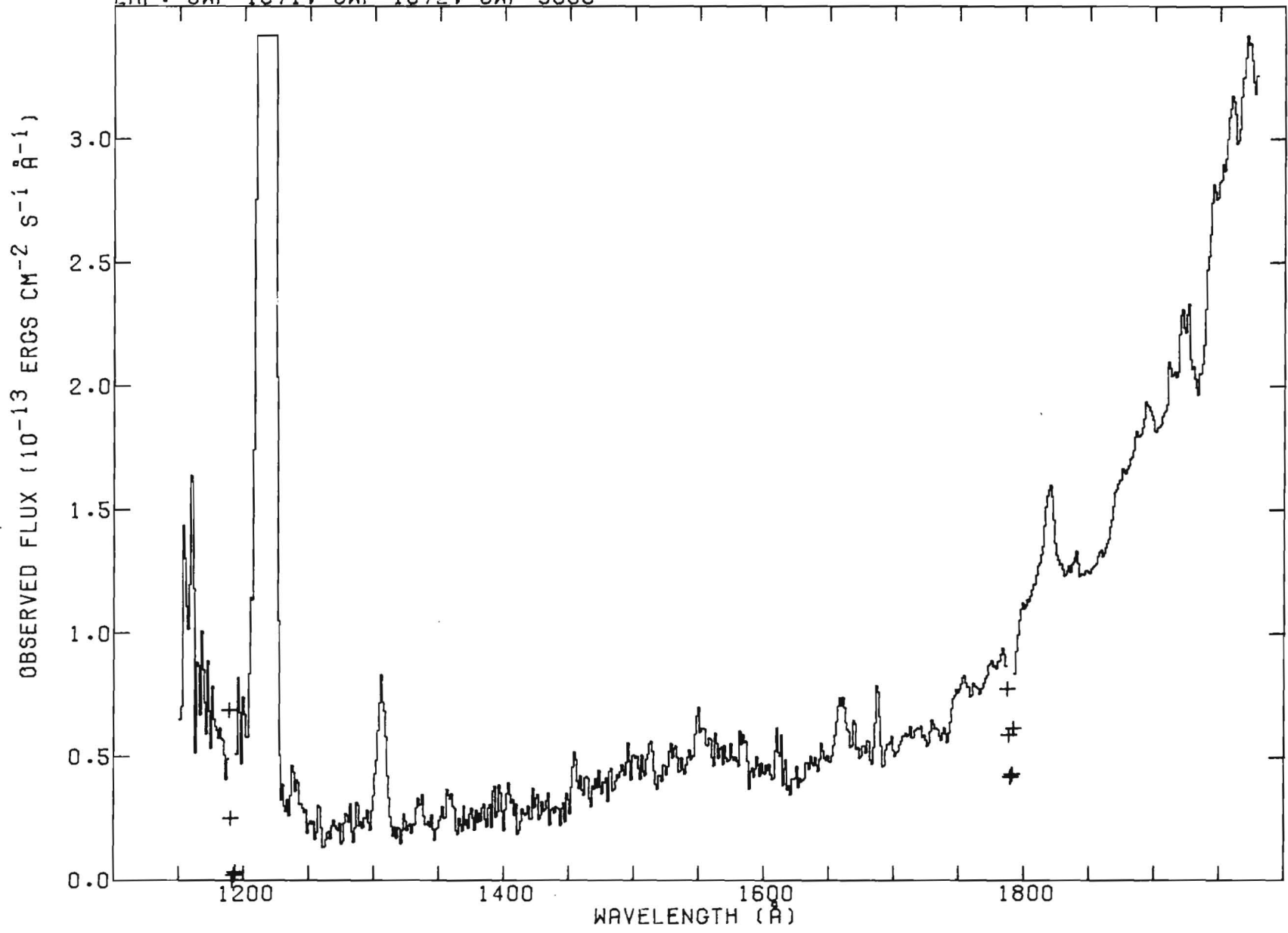
HD 93497 G5 III V=2.69 (B-V)=0.90 E(B-V)=0.00
LAP: SWP 2338, SWP 2377, SWP 8212; SAP: SWP 8212



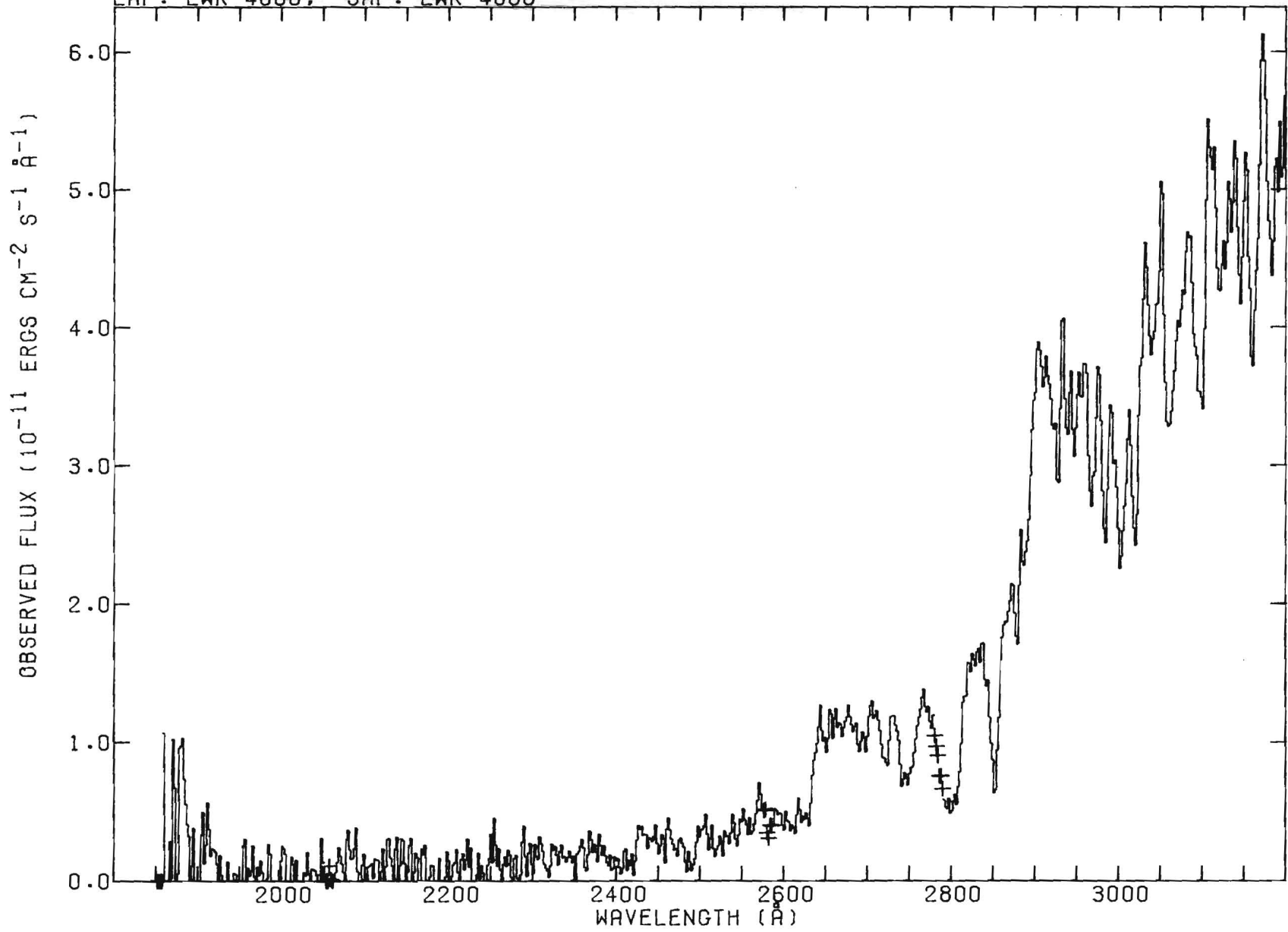
HD 93497 G5 III V=2.69 (B-V)=0.90 E(B-V)=0.00
LAP: LWR 4859; SAP: LWR 4859



HD 109379 G5 III V=2.65 (B-V)=0.89 E(B-V)=-0.01
LAP: SWP 1571, SWP 1572, SWP 3585

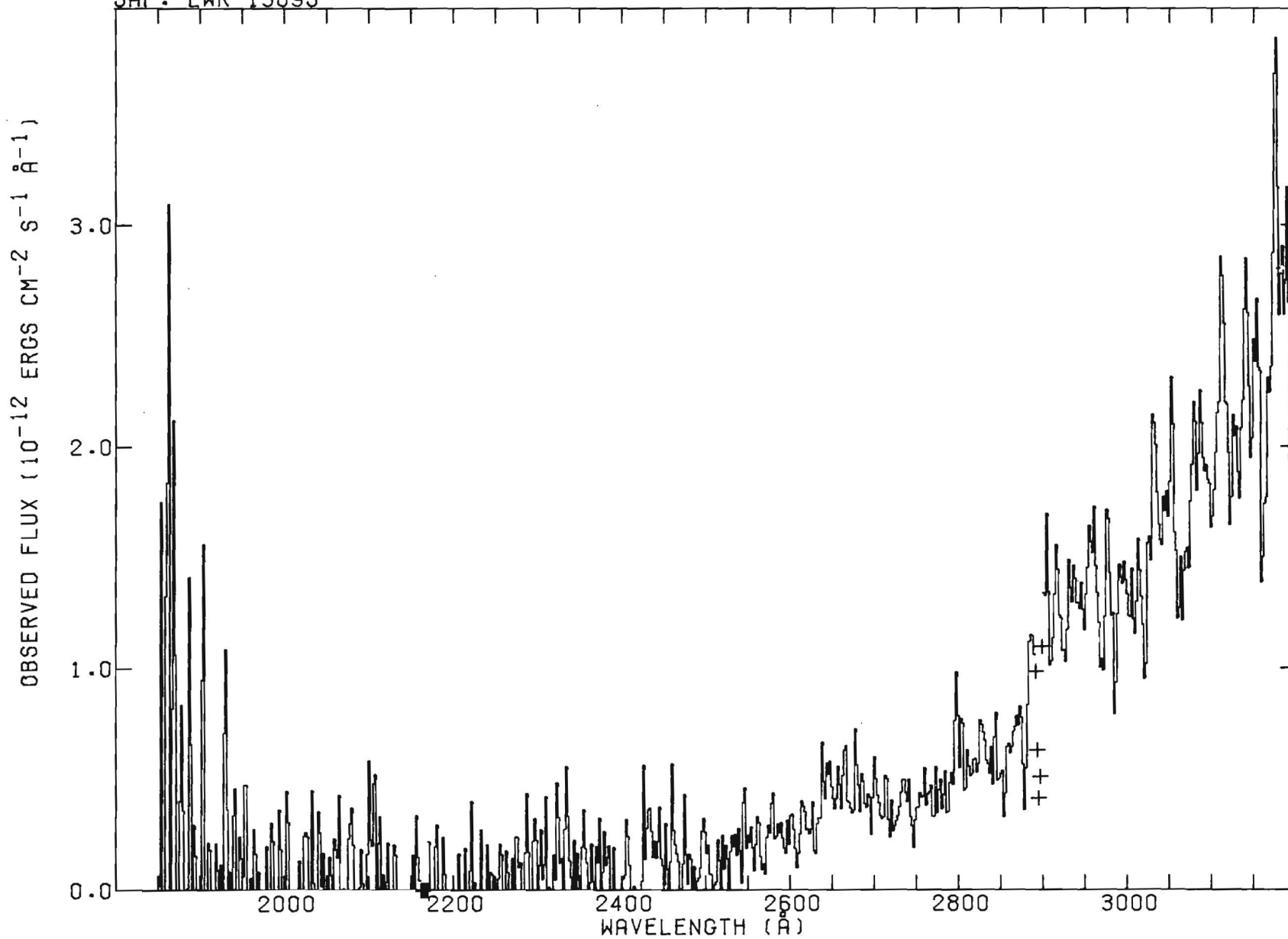


HD 109379 G5 III V=2.65 (B-V)=0.89 E(B-V)=-0.01
LAP: LWR 4866; SAP: LWR 4866



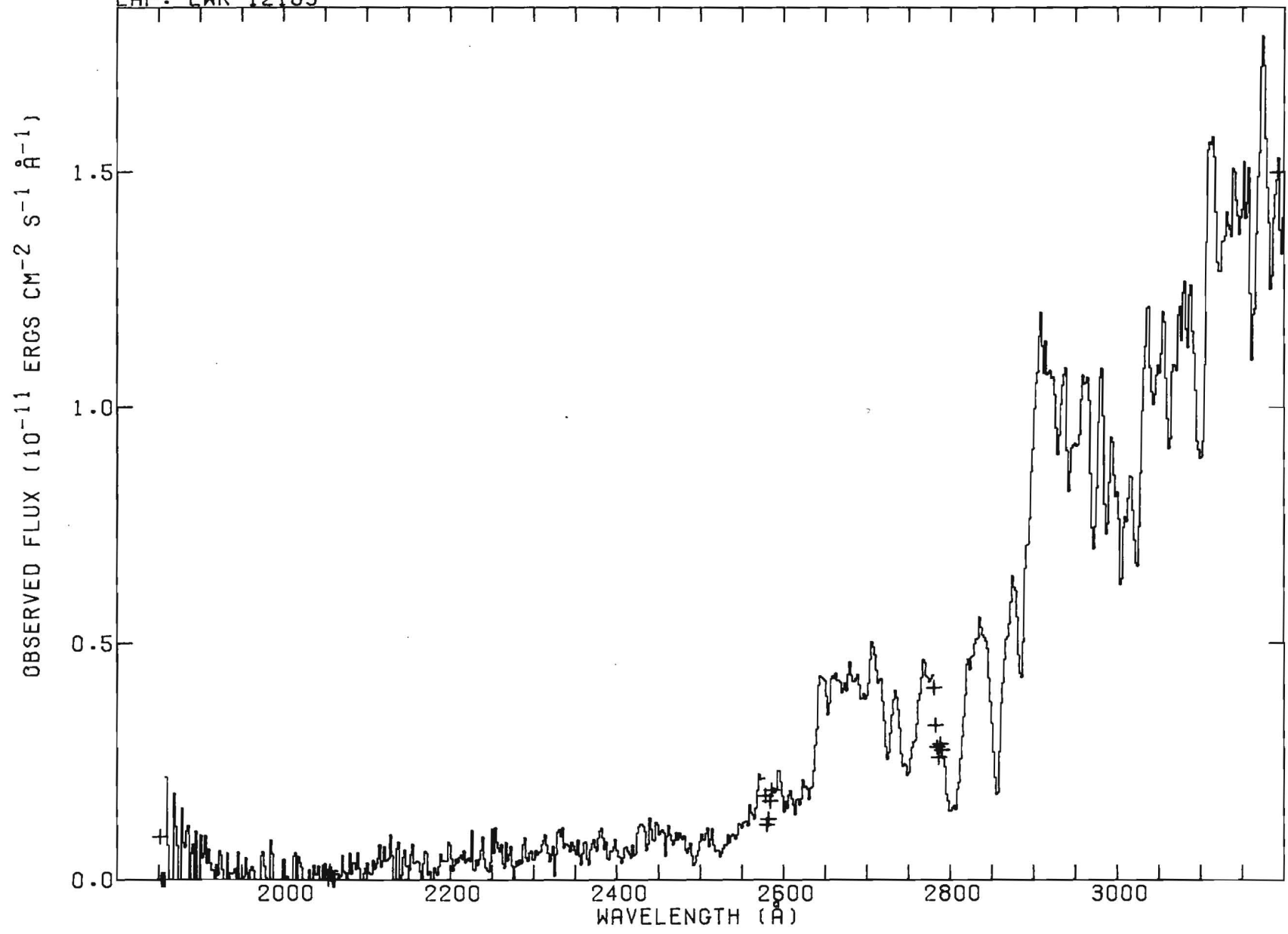
HD 206859 G5 IB
SAP: LWR 13095

V=4.34 (B-V)=1.17 E(B-V)=0.17

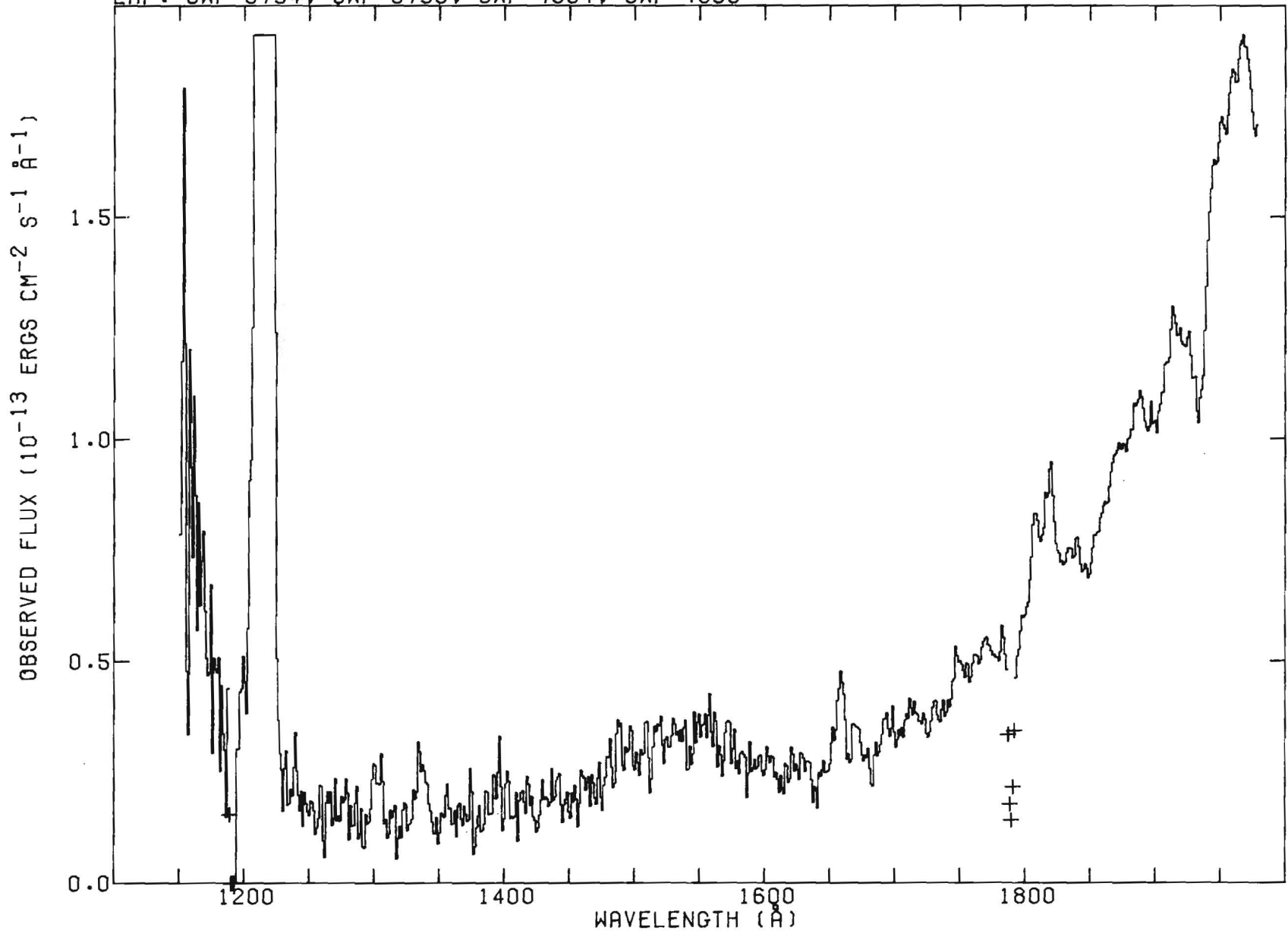


HD 115617 G6 V
LAP: LWR 12163

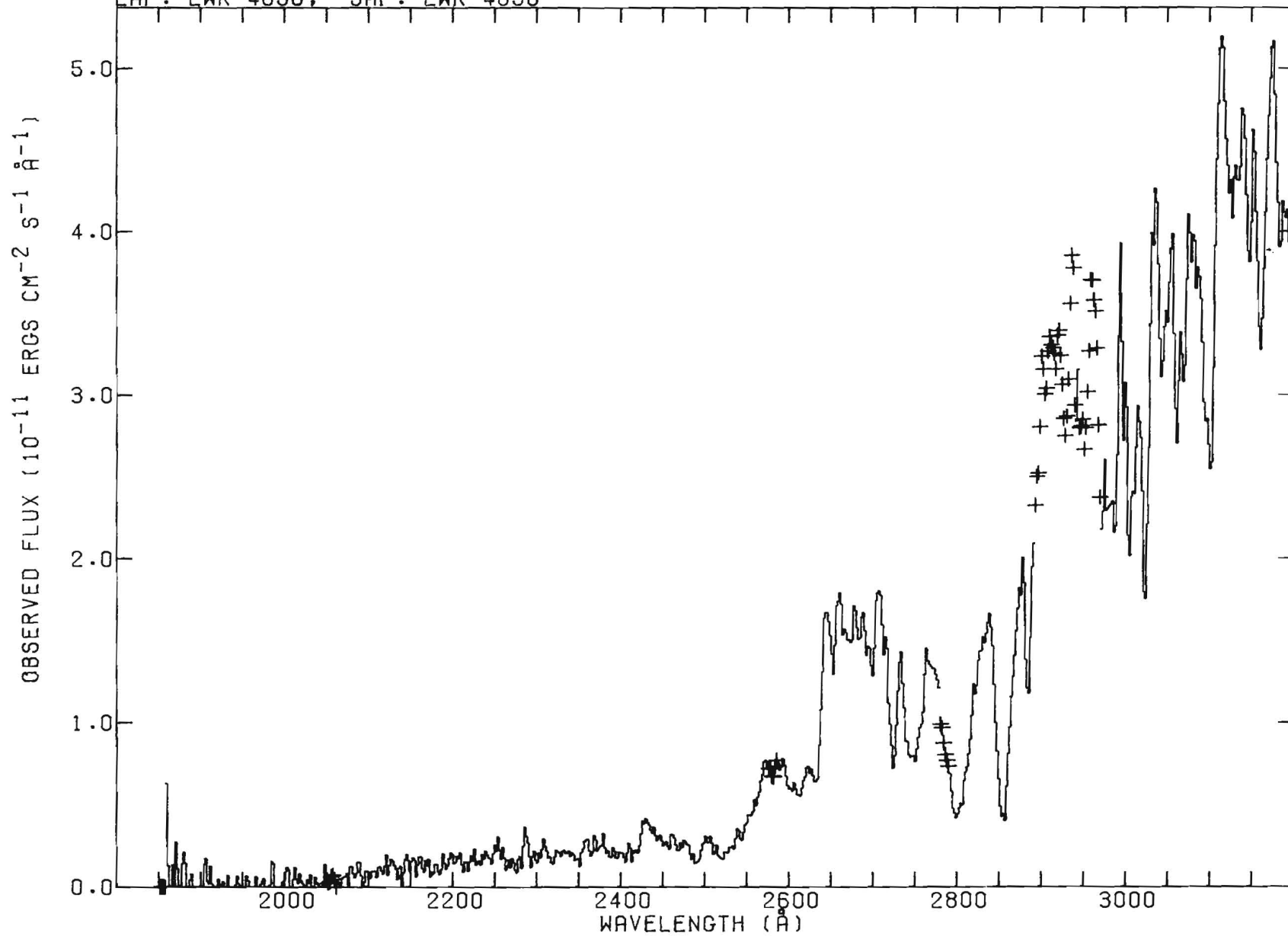
V=4.74 (B-V)=0.71 E(B-V)=-0.01



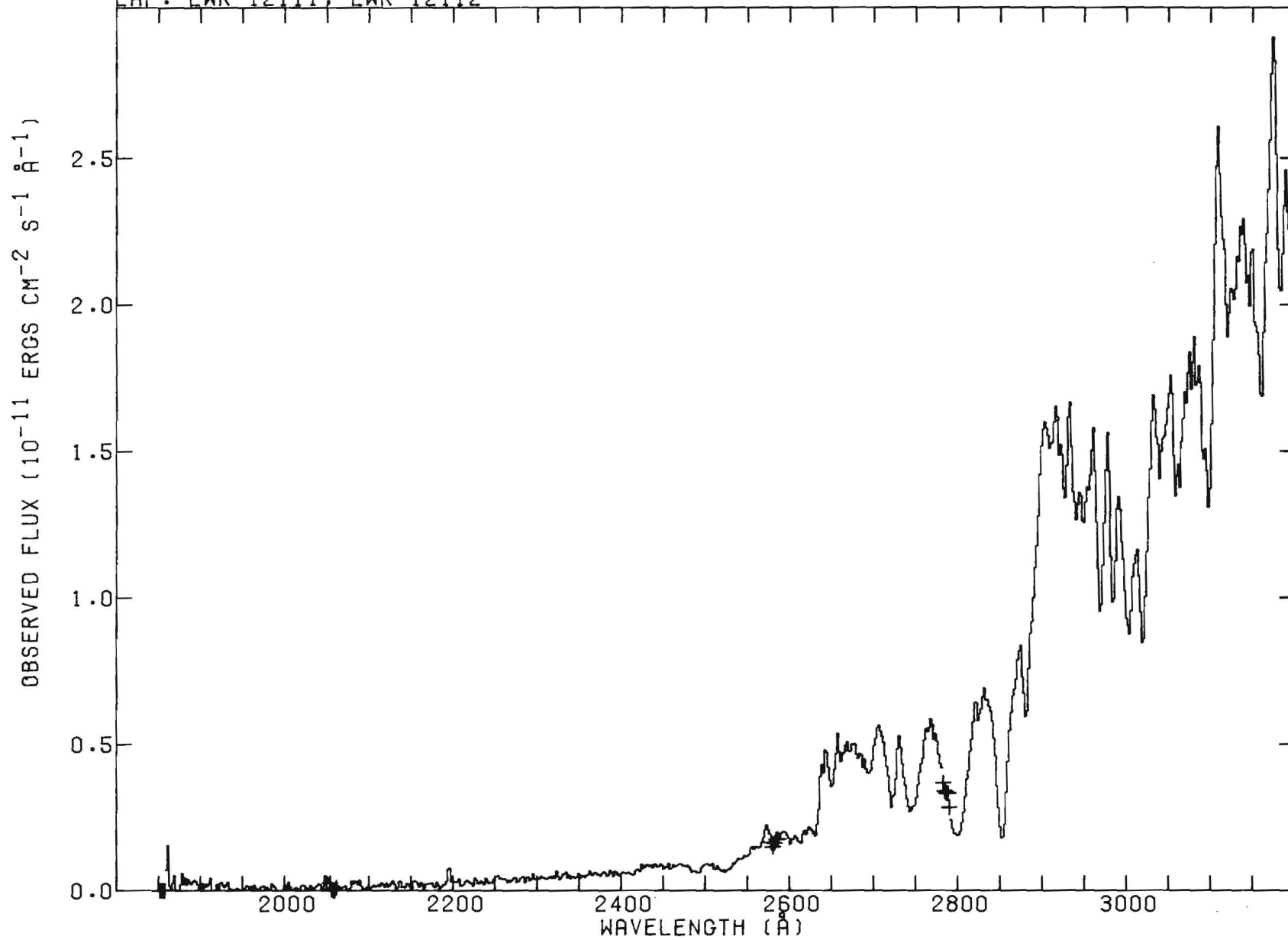
HD 10700 G8 V V=3.50 (B-V)=0.72 E(B-V)=-0.02
LAP: SWP 5734, SWP 5733, SWP 4054, SWP 4033



HD 10700 G8 V V=3.50 (B-V)=0.72 E(B-V)=-0.02
LAP: LWR 4856; SAP: LWR 4856

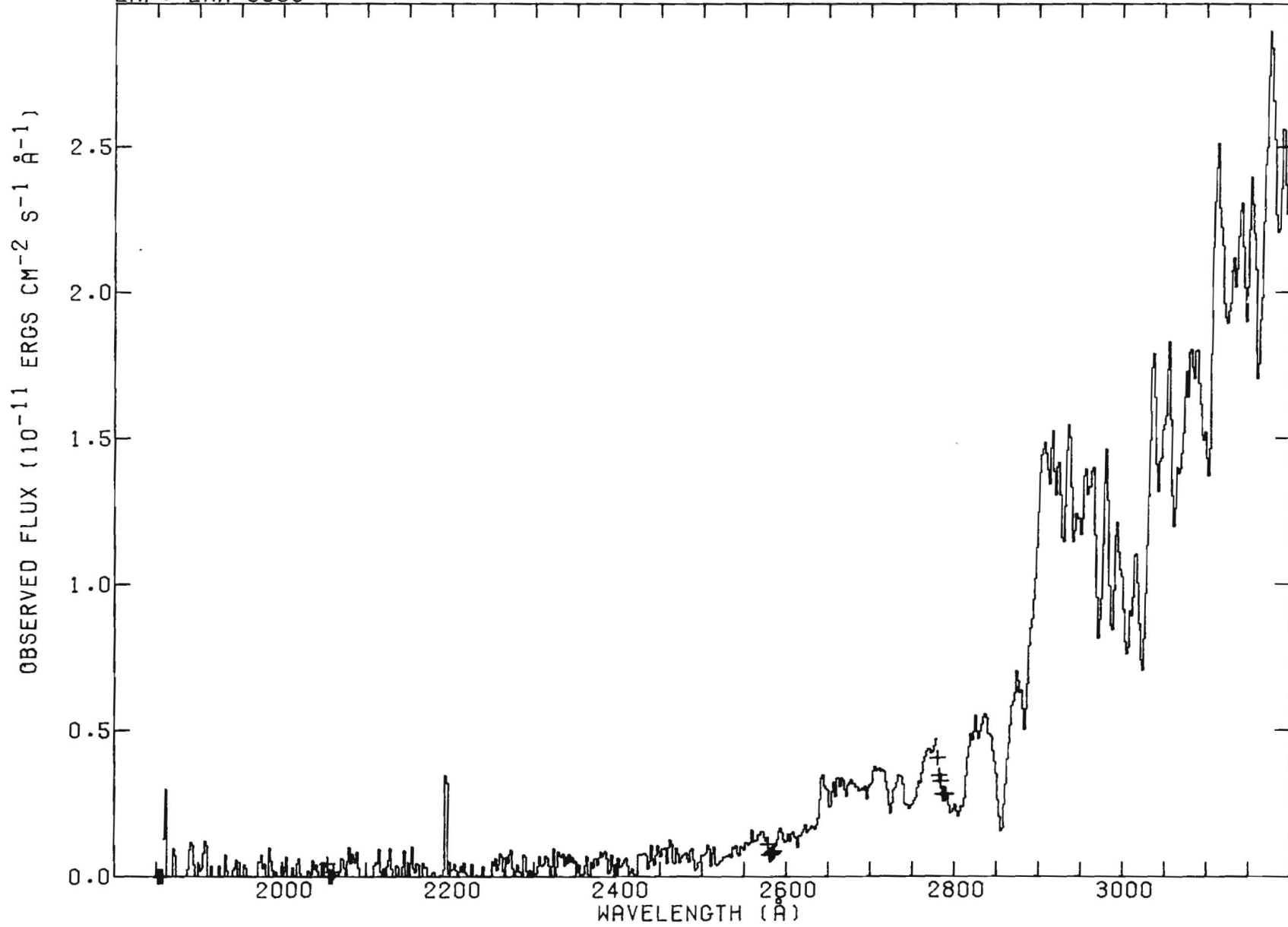


HD 188512 G8 IV V=3.71 (B-V)=0.86 E(B-V)= 0.04
LAP: LWR 12111, LWR 12112

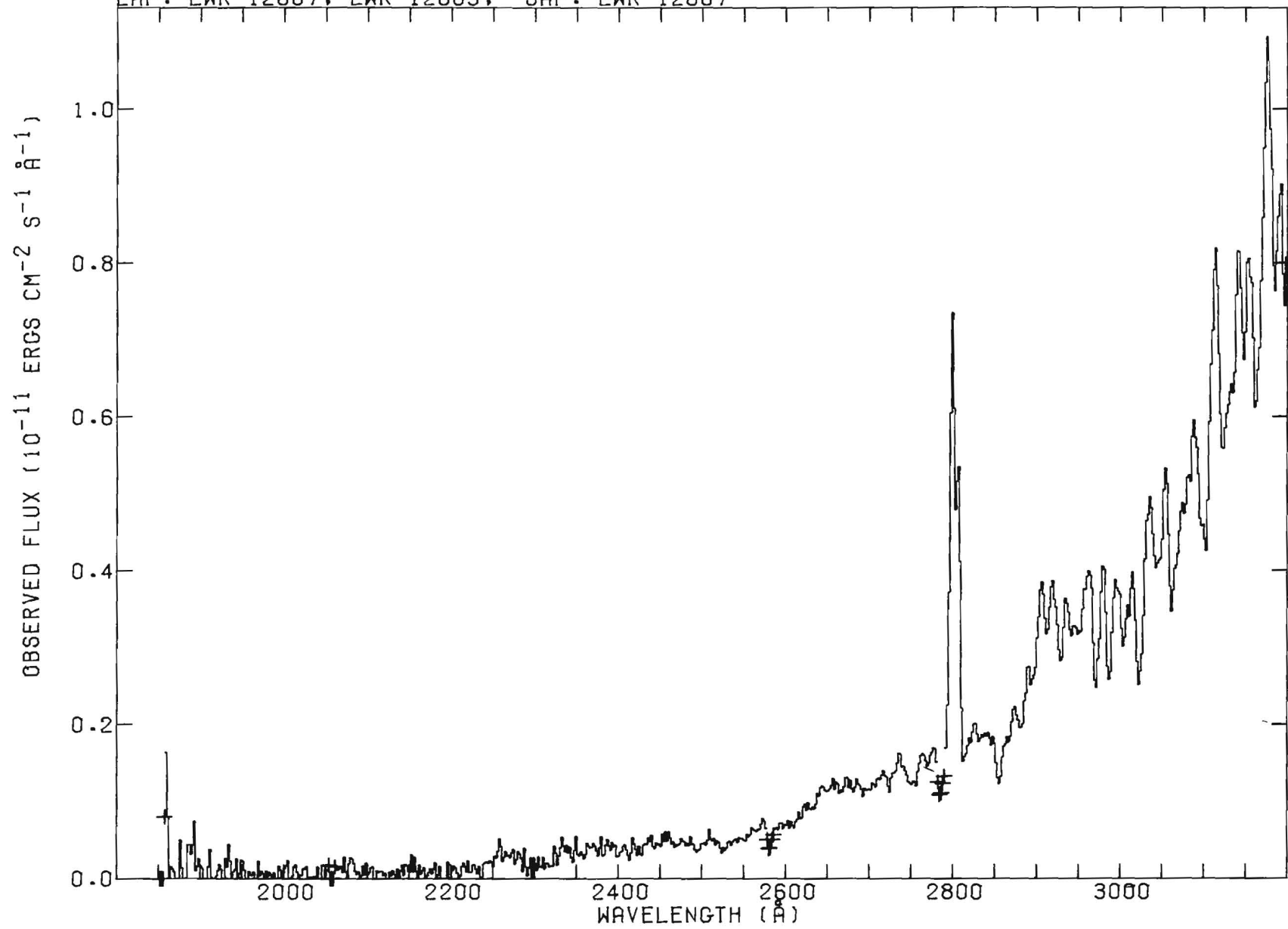


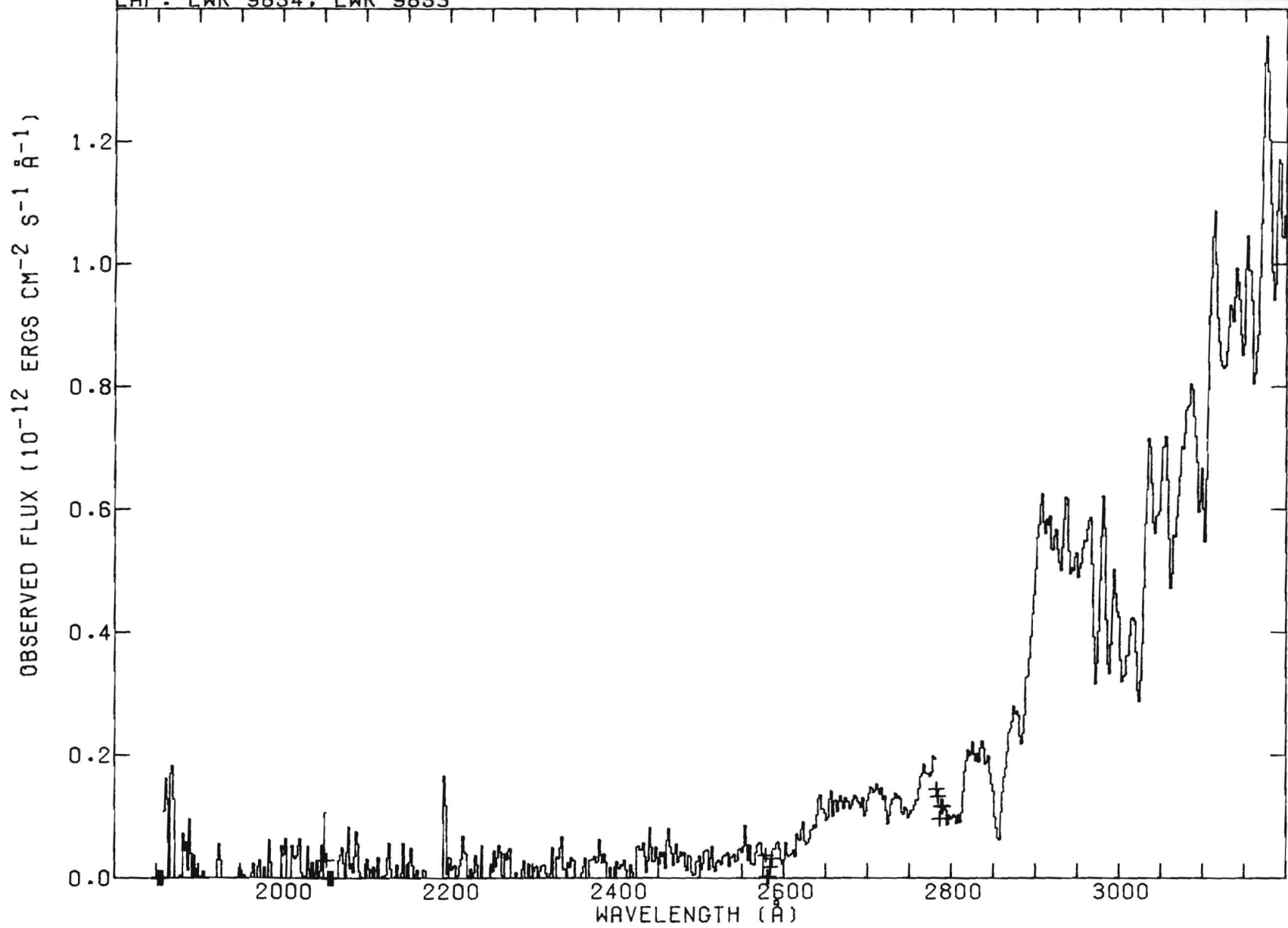
HD 76294 G8 III
LAP: LWR 9650

V=3.11 (B-V)=1.00 E(B-V)=0.05

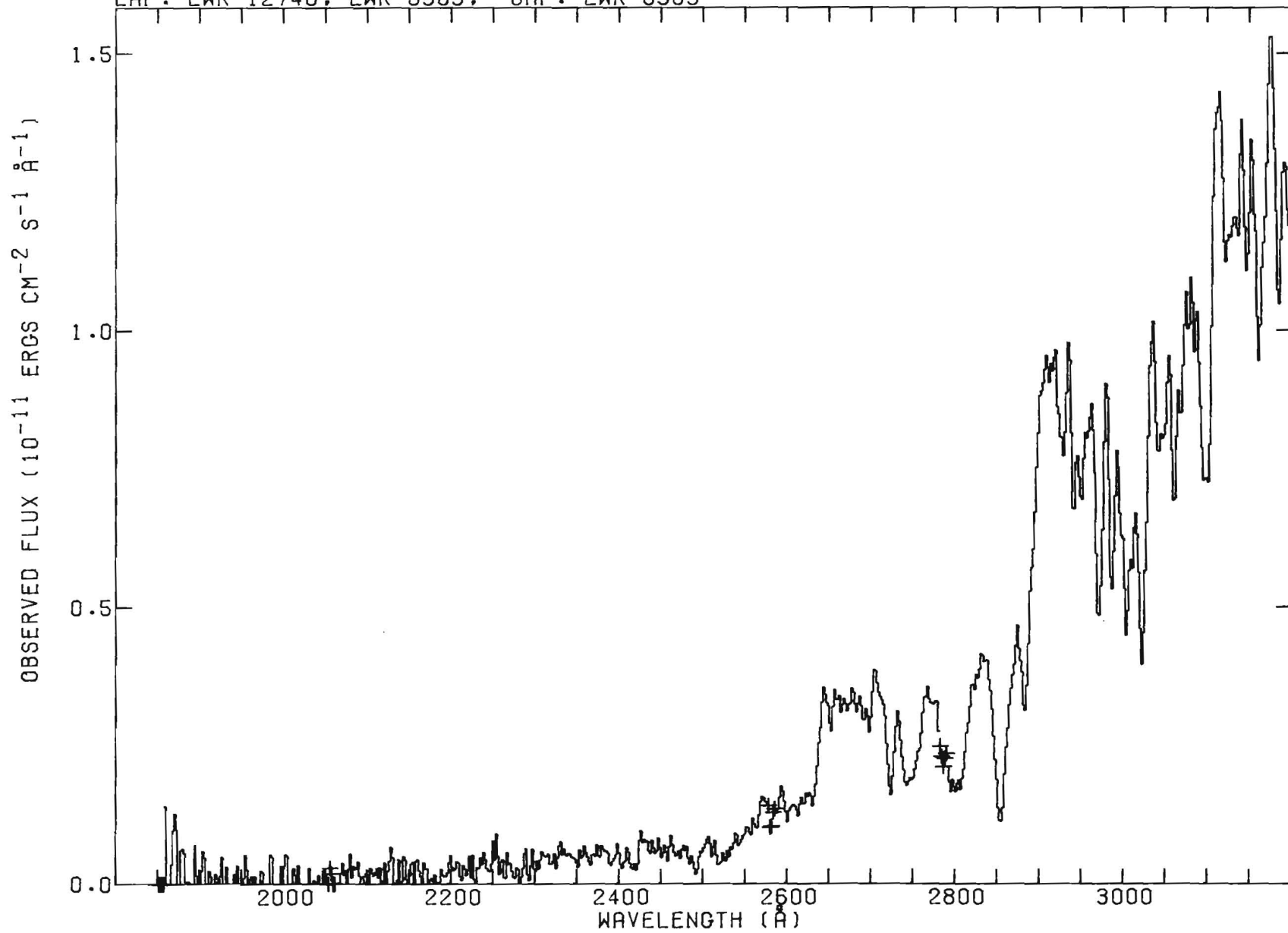


HD 48329 G8 IB V=2.98 (B-V)=1.40 E(B-V)=0.26
LAP: LWR 12667, LWR 12669; SAP: LWR 12667



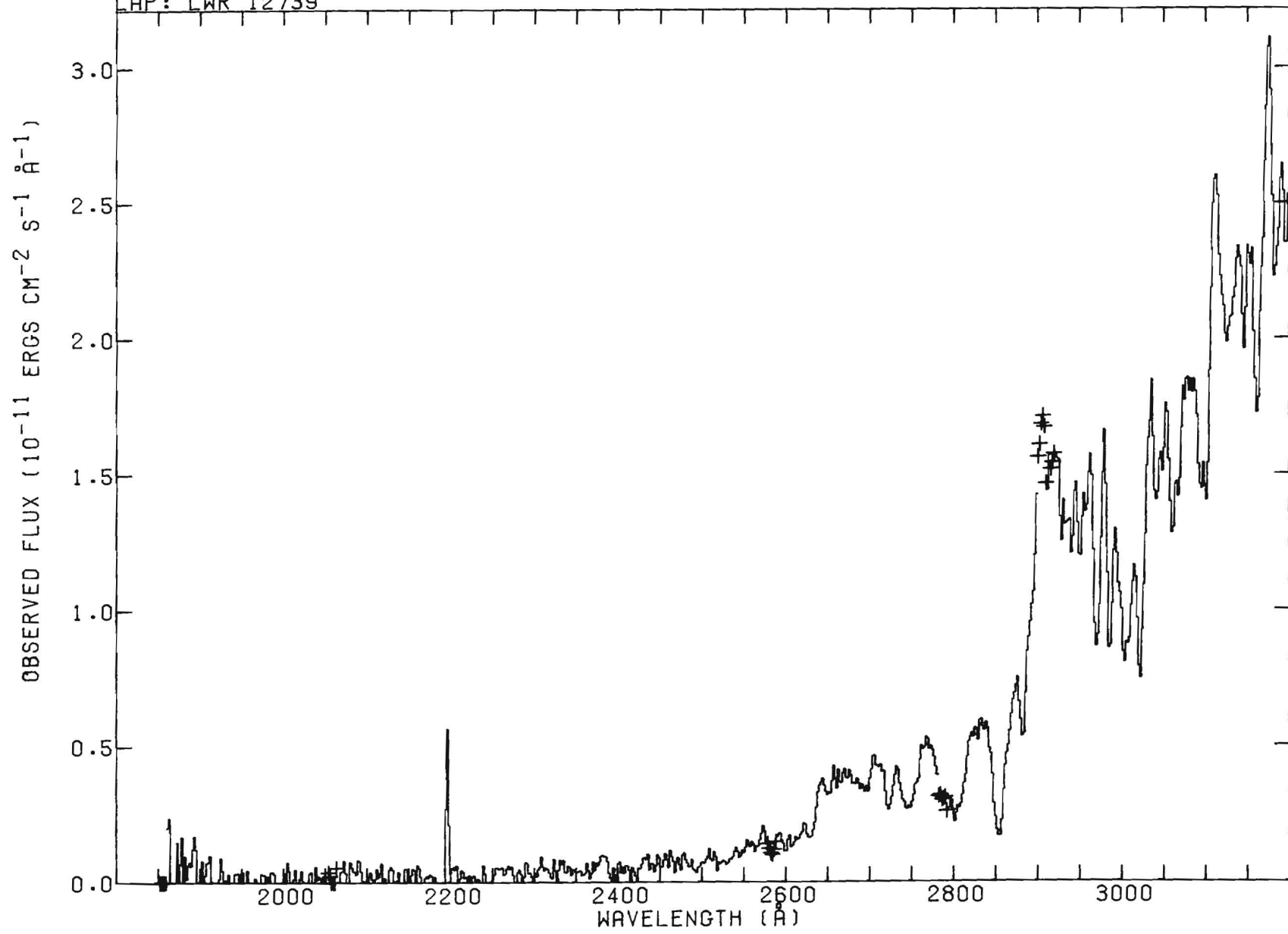


HD 185144 KO V V=4.68 (B-V)=0.79 E(B-V)=-0.02
LAP: LWR 12746, LWR 5989: SAP: LWR 5989

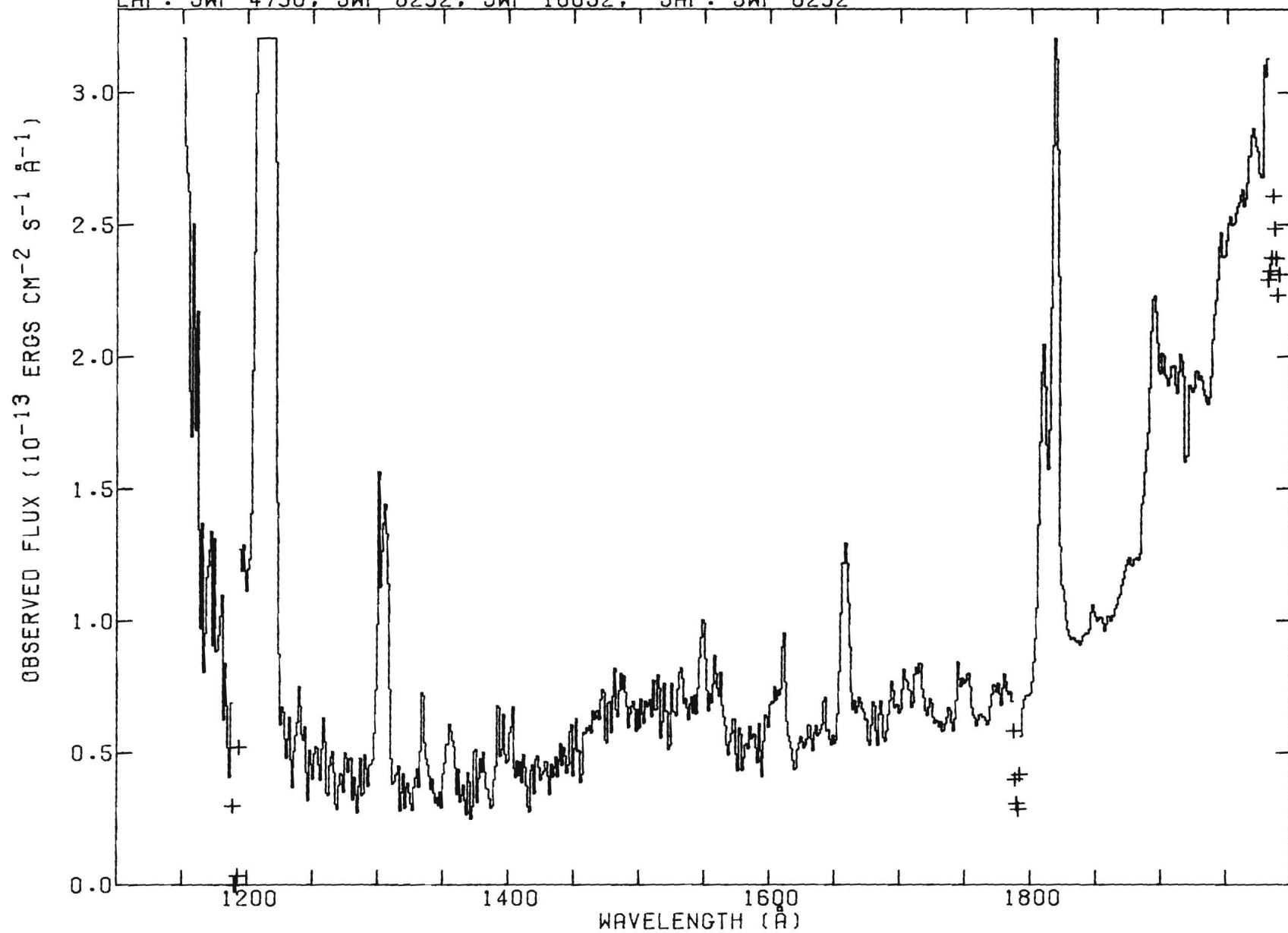


HD 198149 KO IV
LAP: LWR 12739

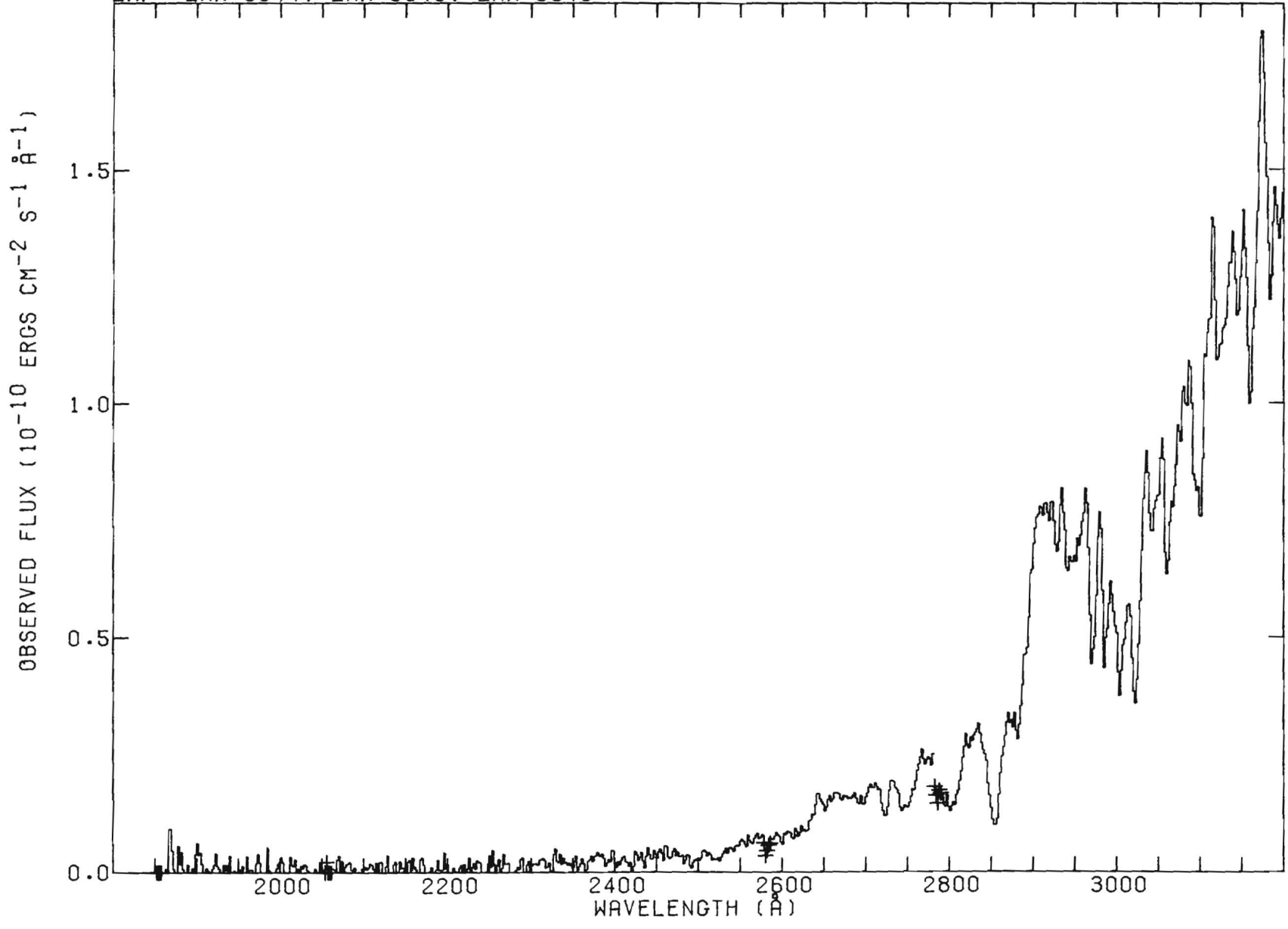
V=3.43 (B-V)=0.92 E(B-V)=0.01



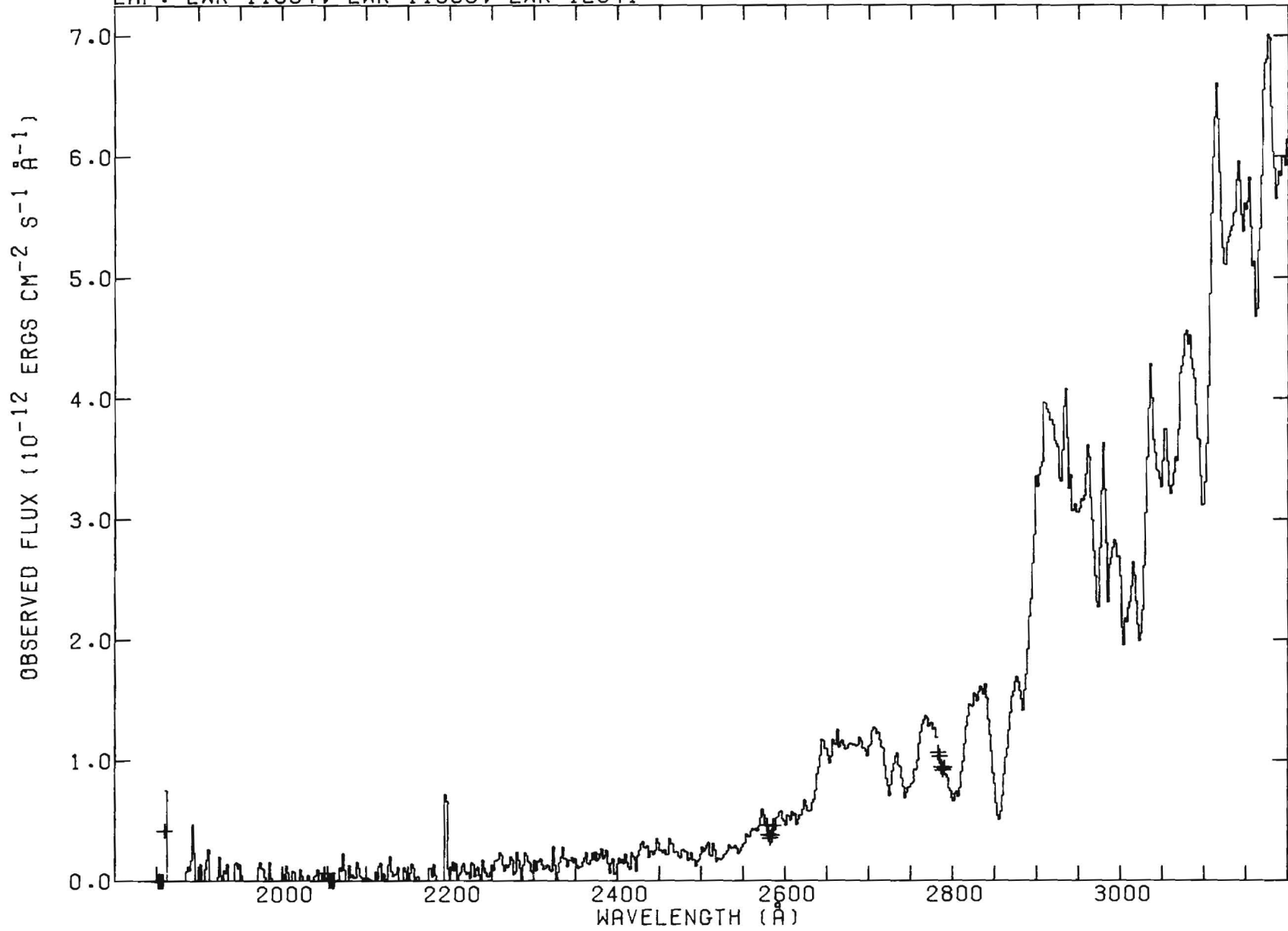
HD 62509 KO III + V=1.14 (B-V)=1.00 E(B-V)=-0.01
LAP: SWP 4730, SWP 8232, SWP 10052; SAP: SWP 8232



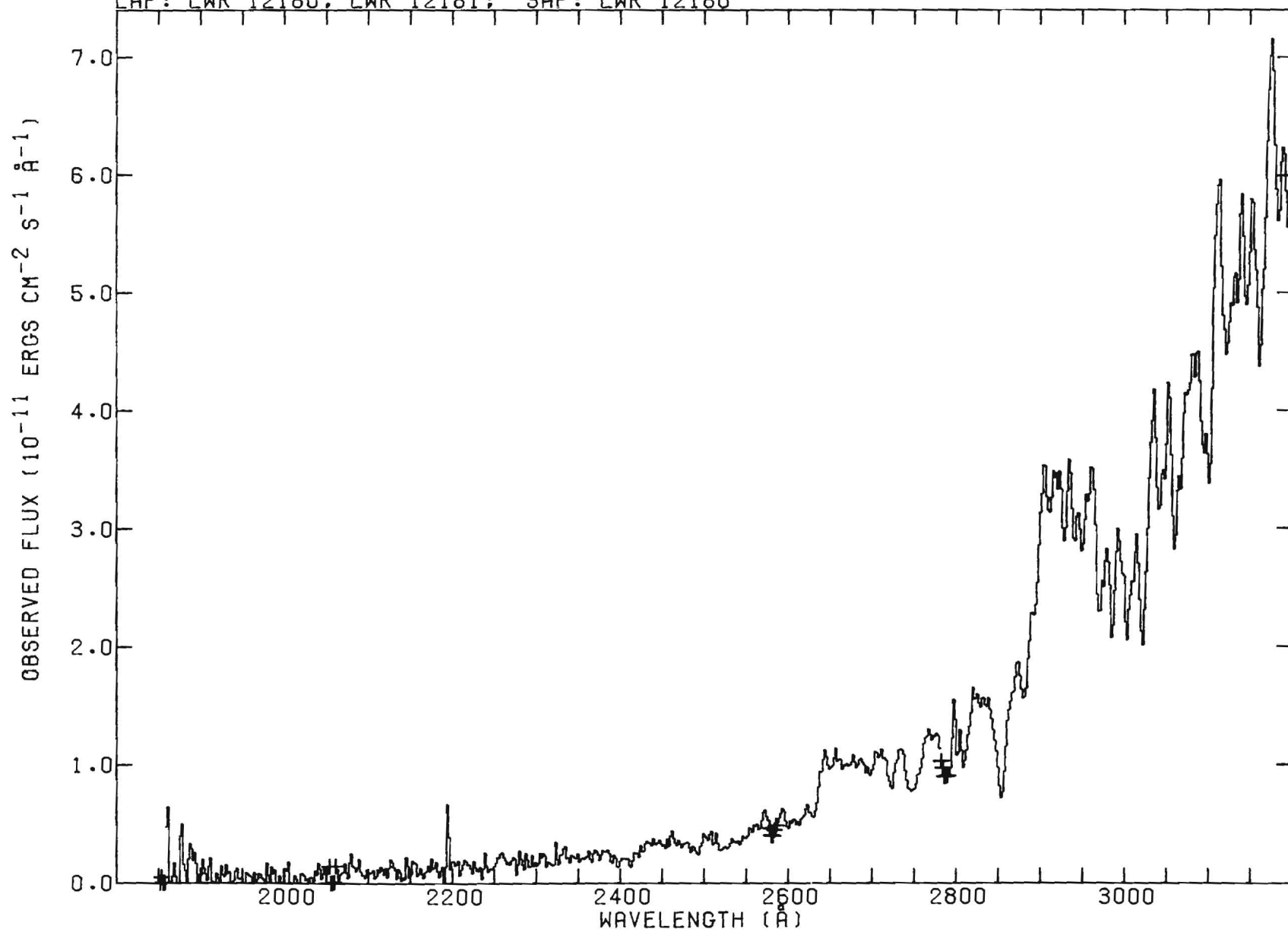
HD 62509 KO III + V=1.14 (B-V)=1.00 E(B-V)=-0.01
LAP: LWR 9844, LWR 9843, LWR 9845



HD 10476 K1 V V=5.24 (B-V)=0.84 E(B-V)=-0.02
LAP: LWR 11854, LWR 11855, LWR 12041

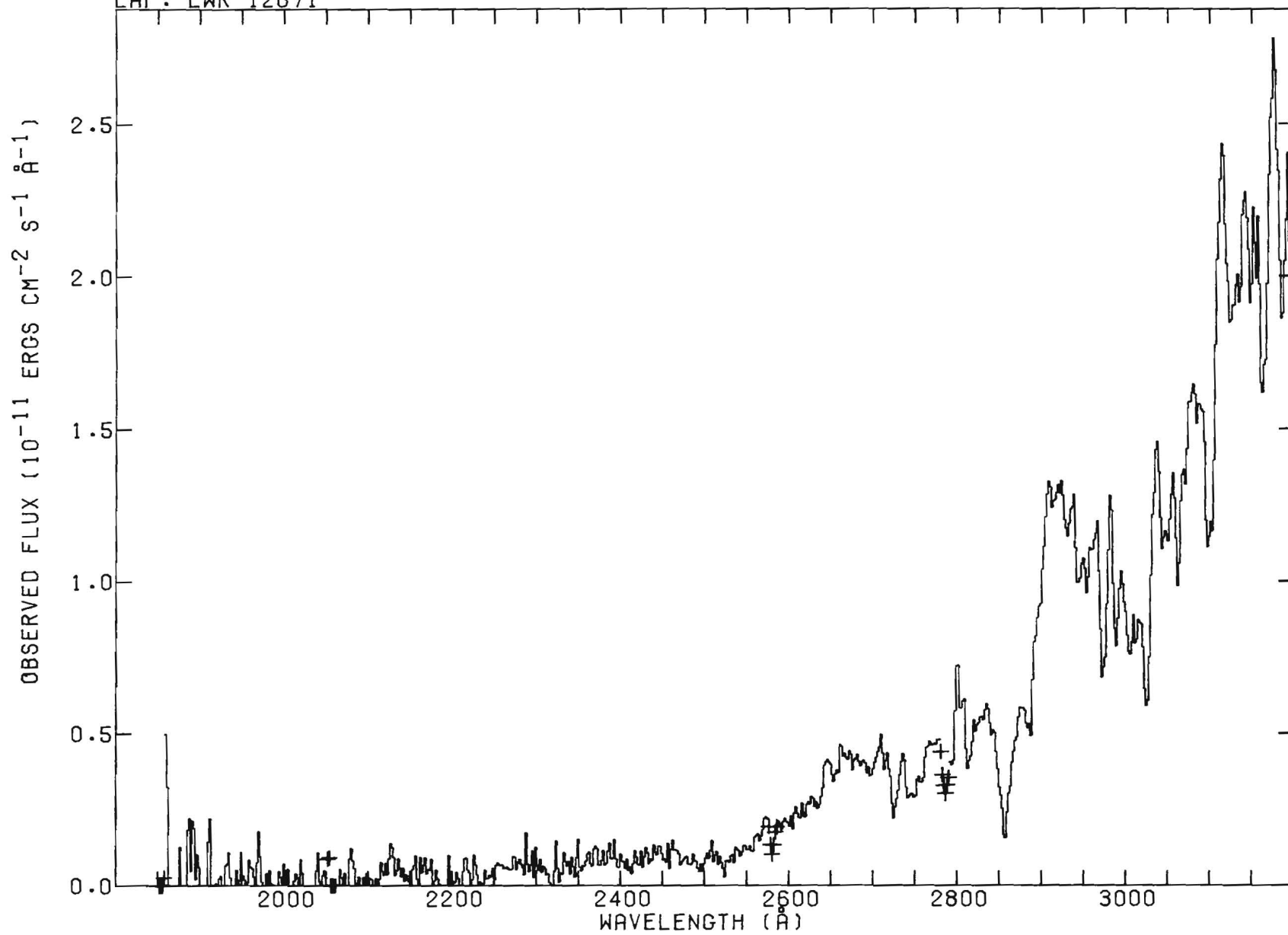


HD 4128 K1 III V=2.04 (B-V)=1.02 E(B-V)=-0.07
LAP: LWR 12180, LWR 12181; SAP: LWR 12180

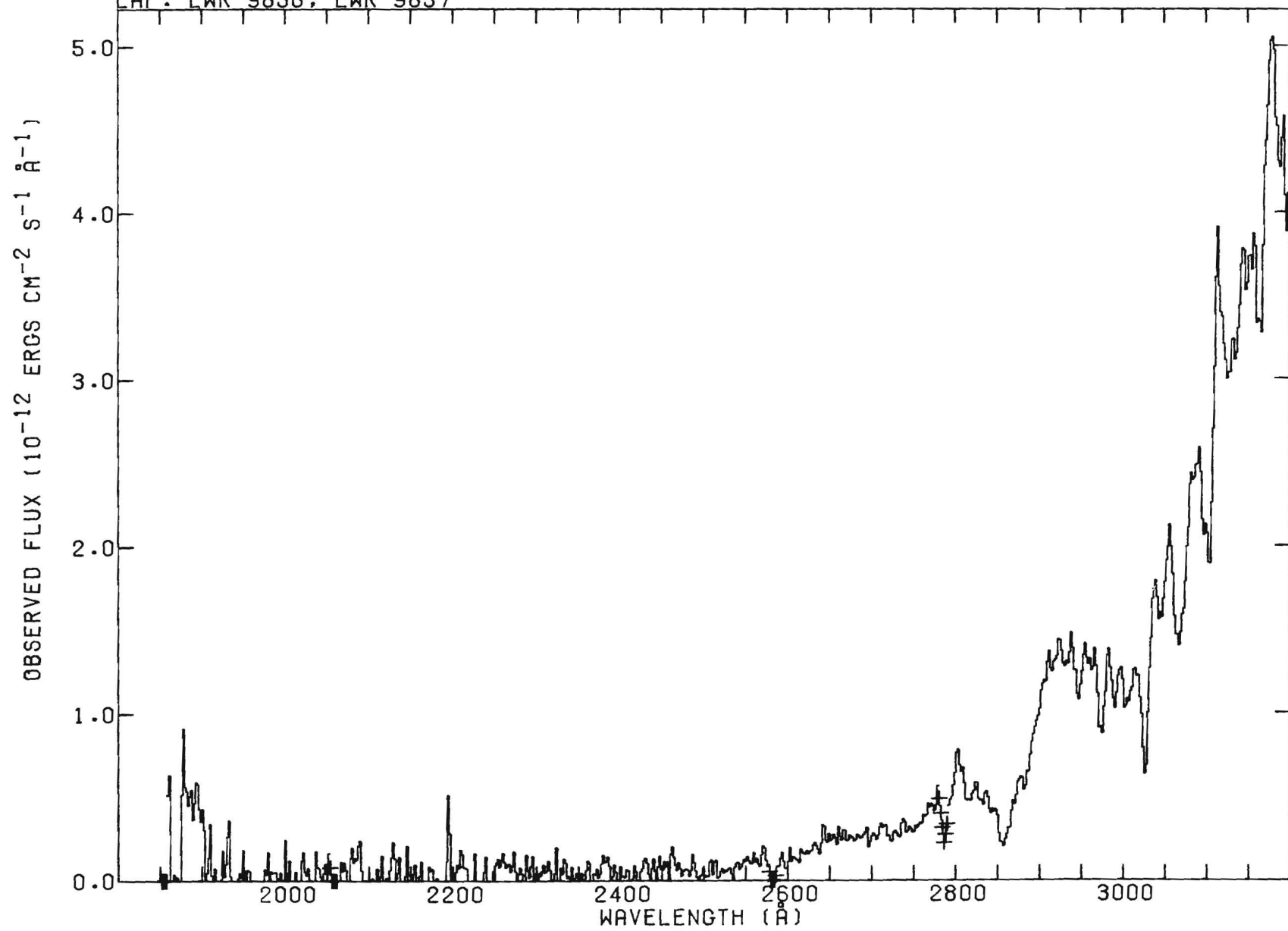


HD 22049 K2 V
LAP: LWR 12671

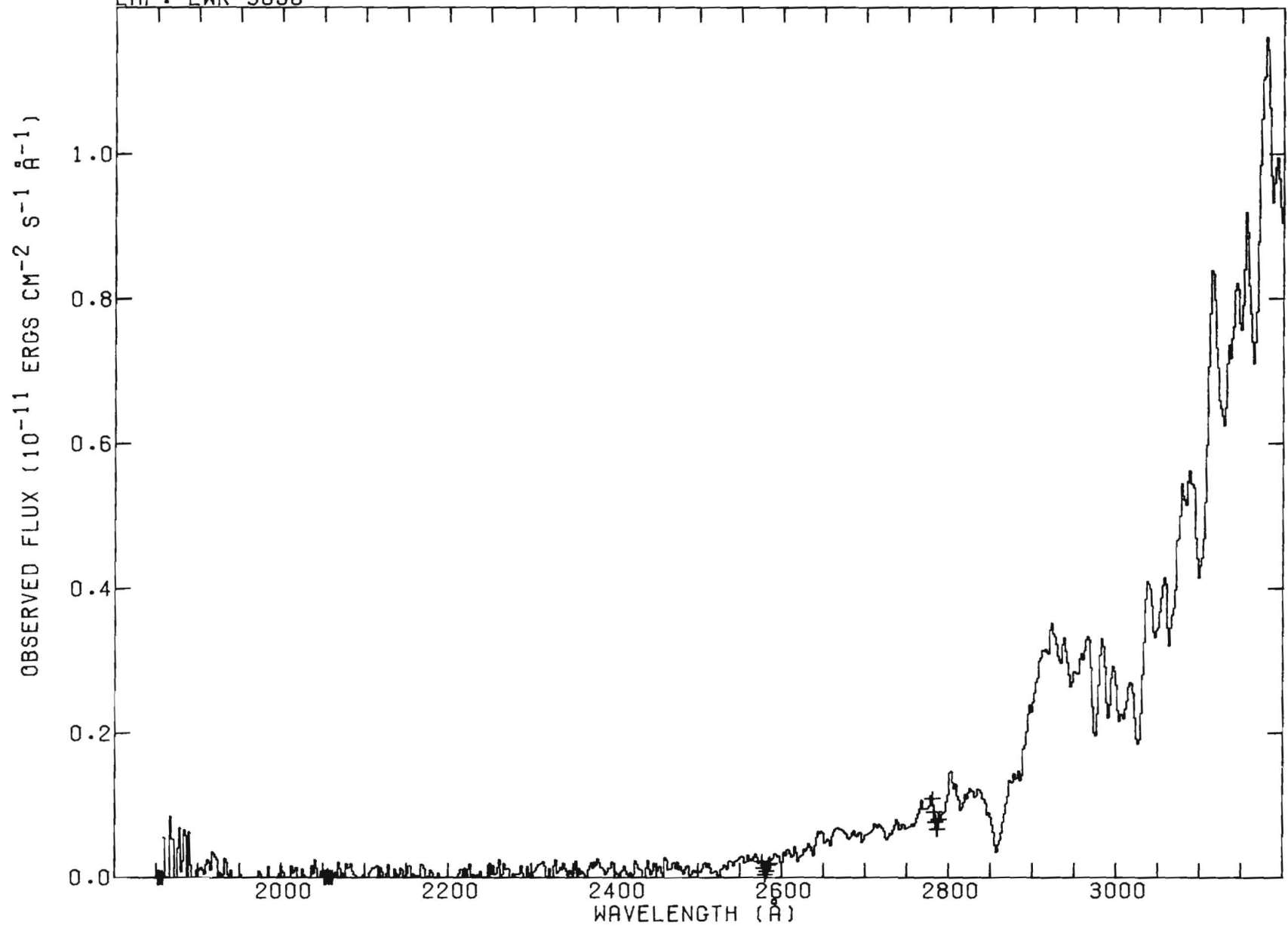
V=3.73 (B-V)=0.88 E(B-V)=-0.04



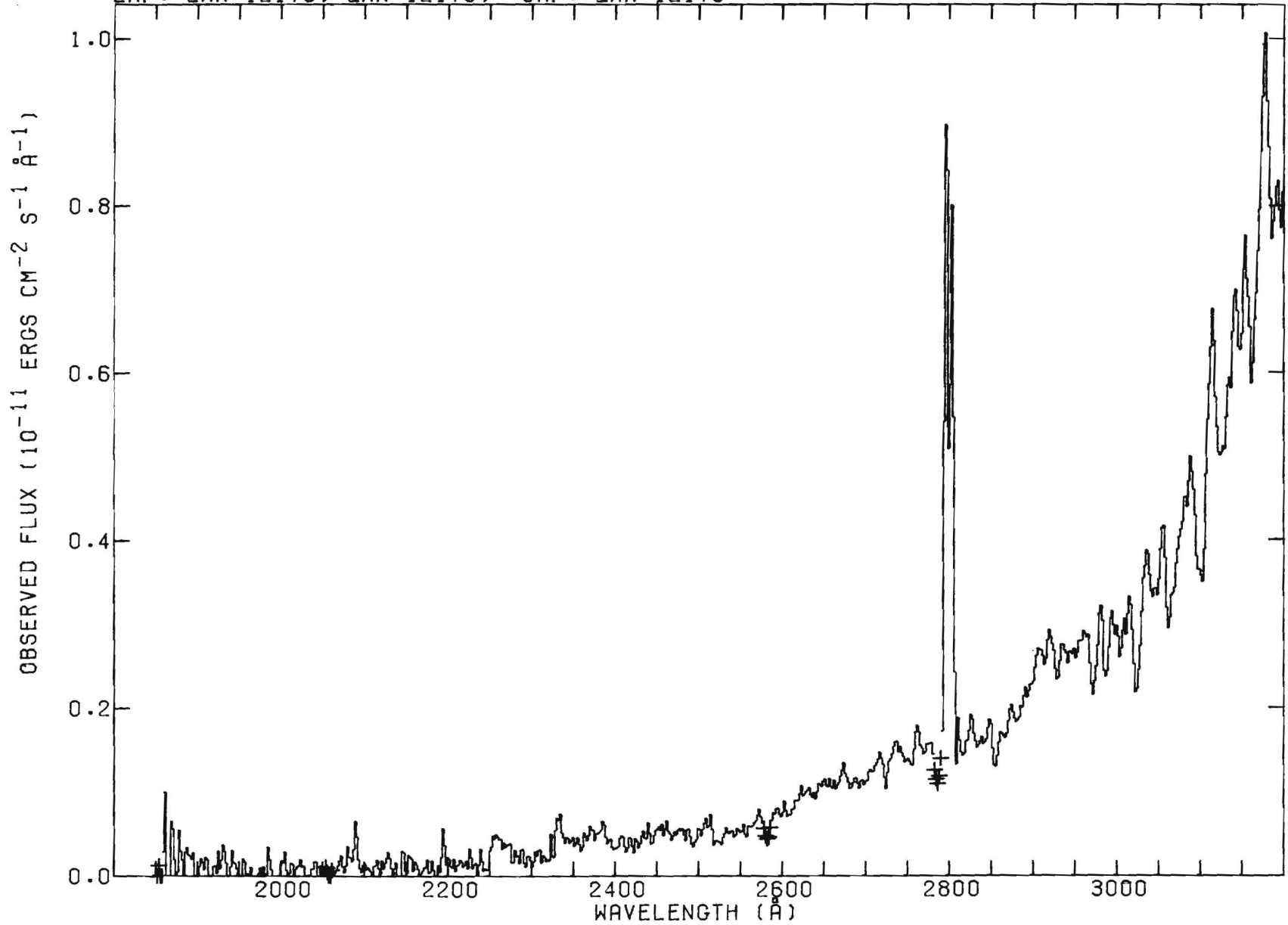
HD 85503 K2 III V=3.88 (B-V)=1.22 E(B-V)=0.06
LAP: LWR 9856, LWR 9857



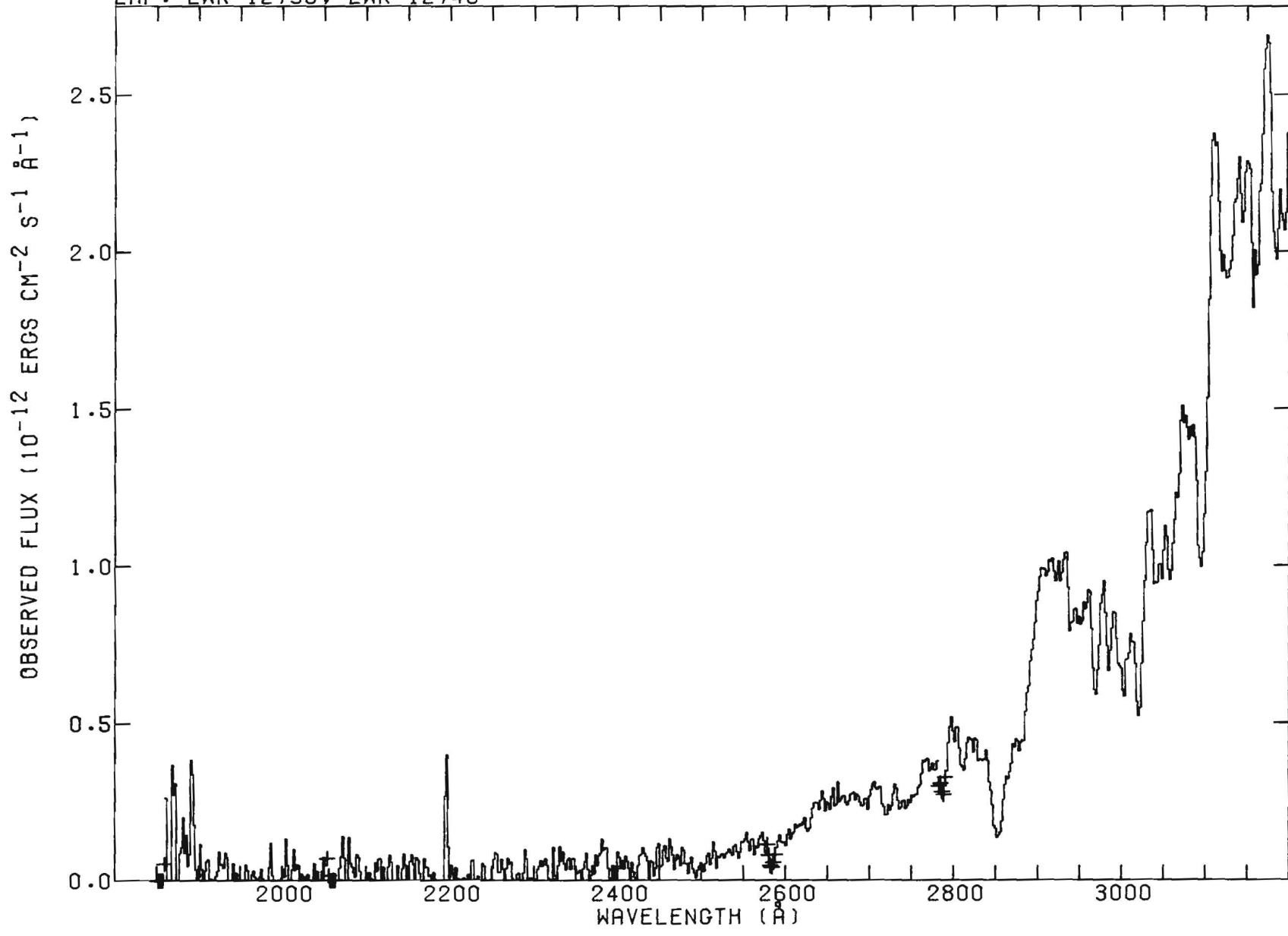
HD 137759 K2 III V=3.29 (B-V)=1.16 E(B-V)=0.00
LAP: LWR 9858



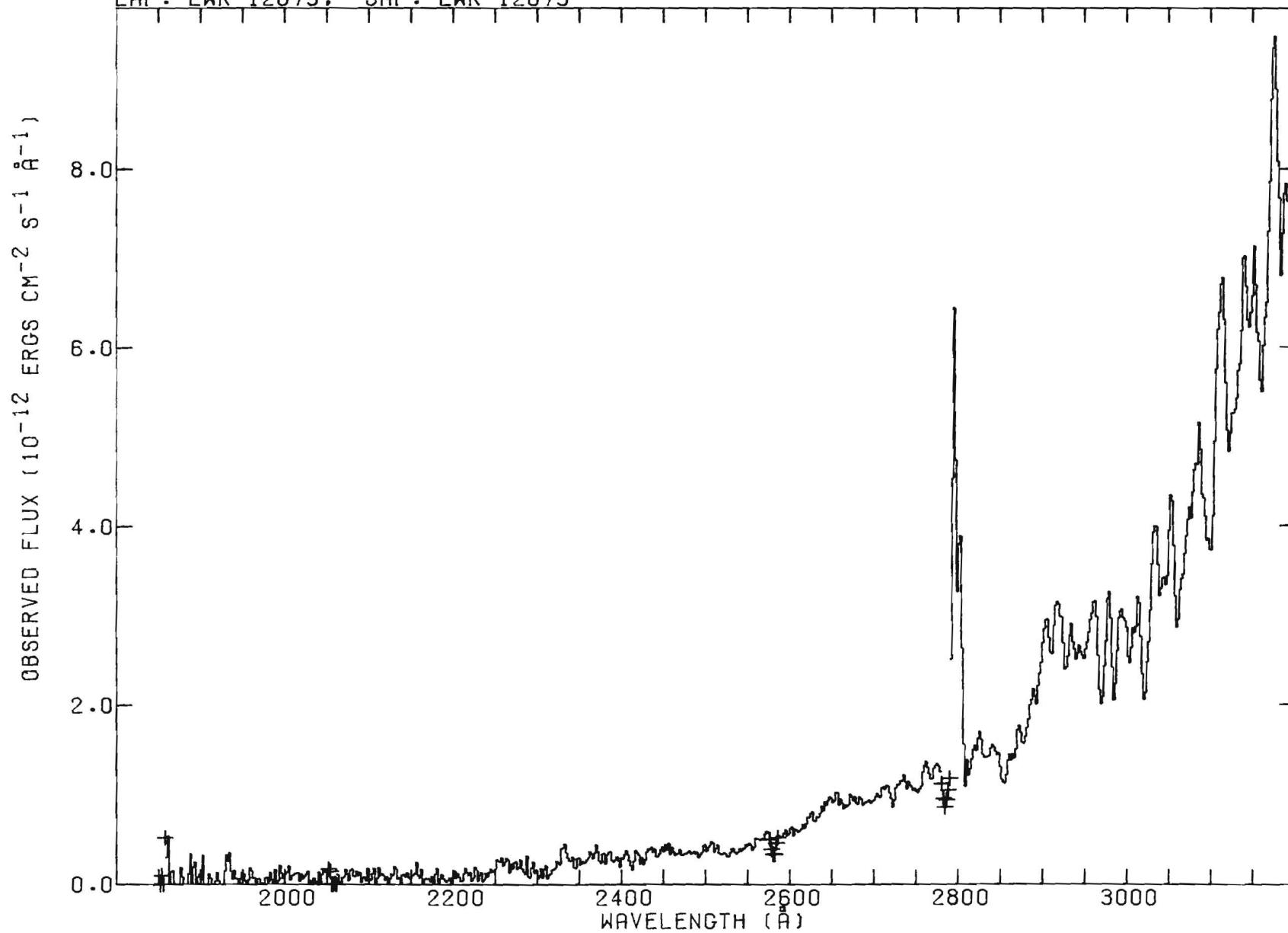
HD 206778 K2 IB V=2.39 (B-V)=1.53 E(B-V)=0.30
LAP: LWR 12178, LWR 12179; SAP: LWR 12179



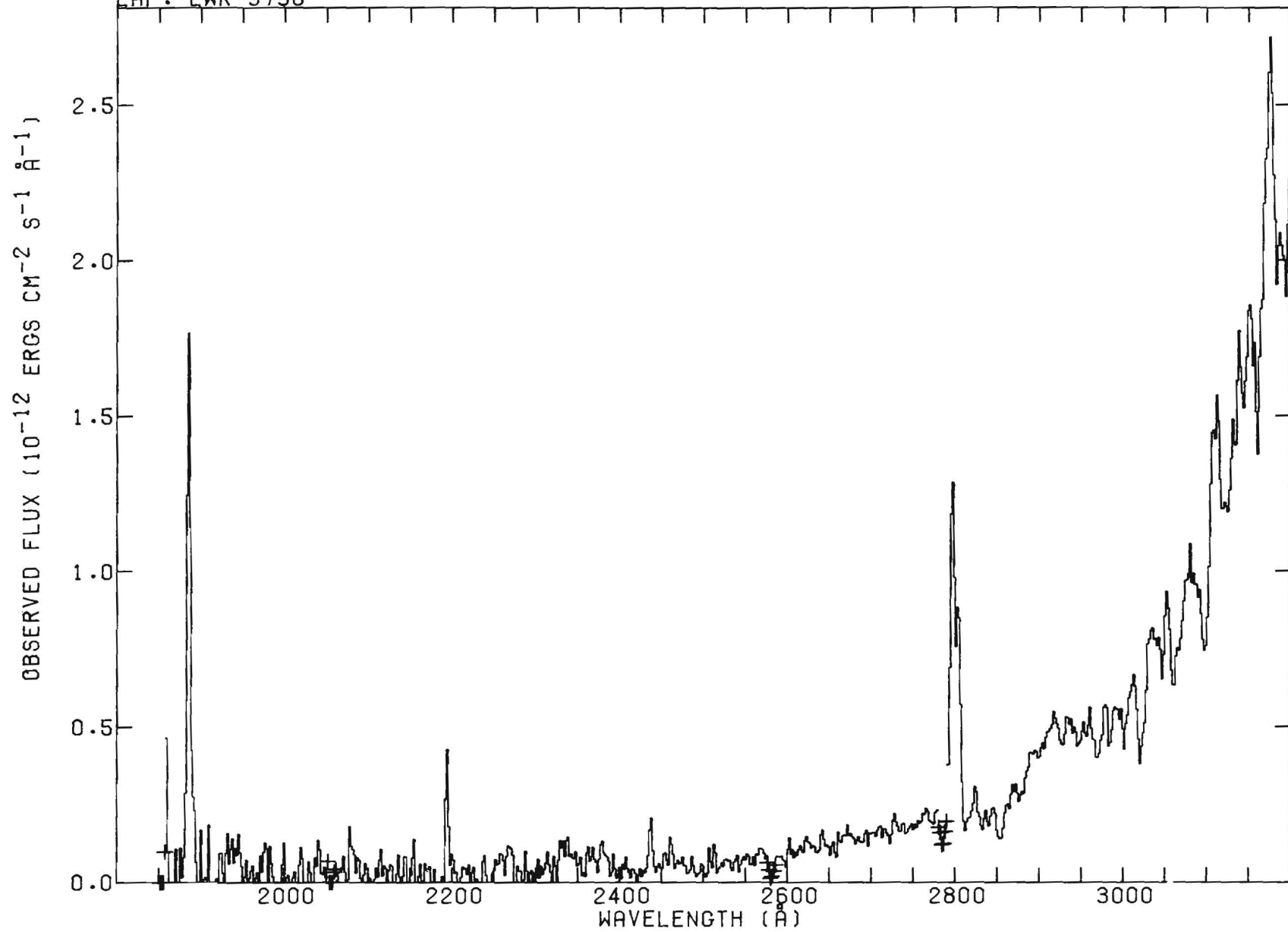
HD 219134 K3 V V=5.56 (B-V)=1.01 E(B-V)=0.06
LAP: LWR 12738, LWR 12740



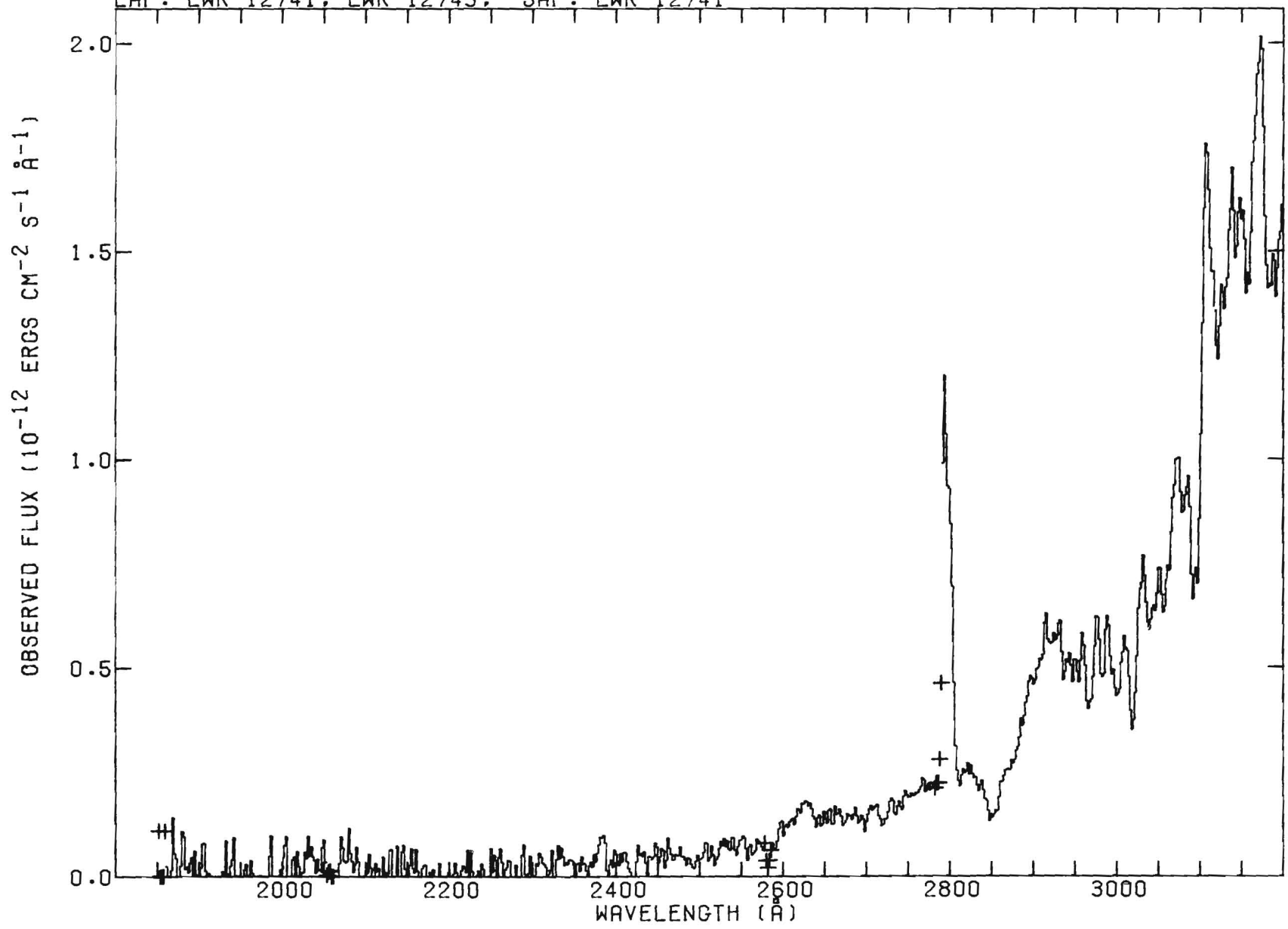
HD 157244 K3 IB V=2.85 (B-V)=1.46 E(B-V)=0.04
LAP: LWR 12673; SAP: LWR 12673



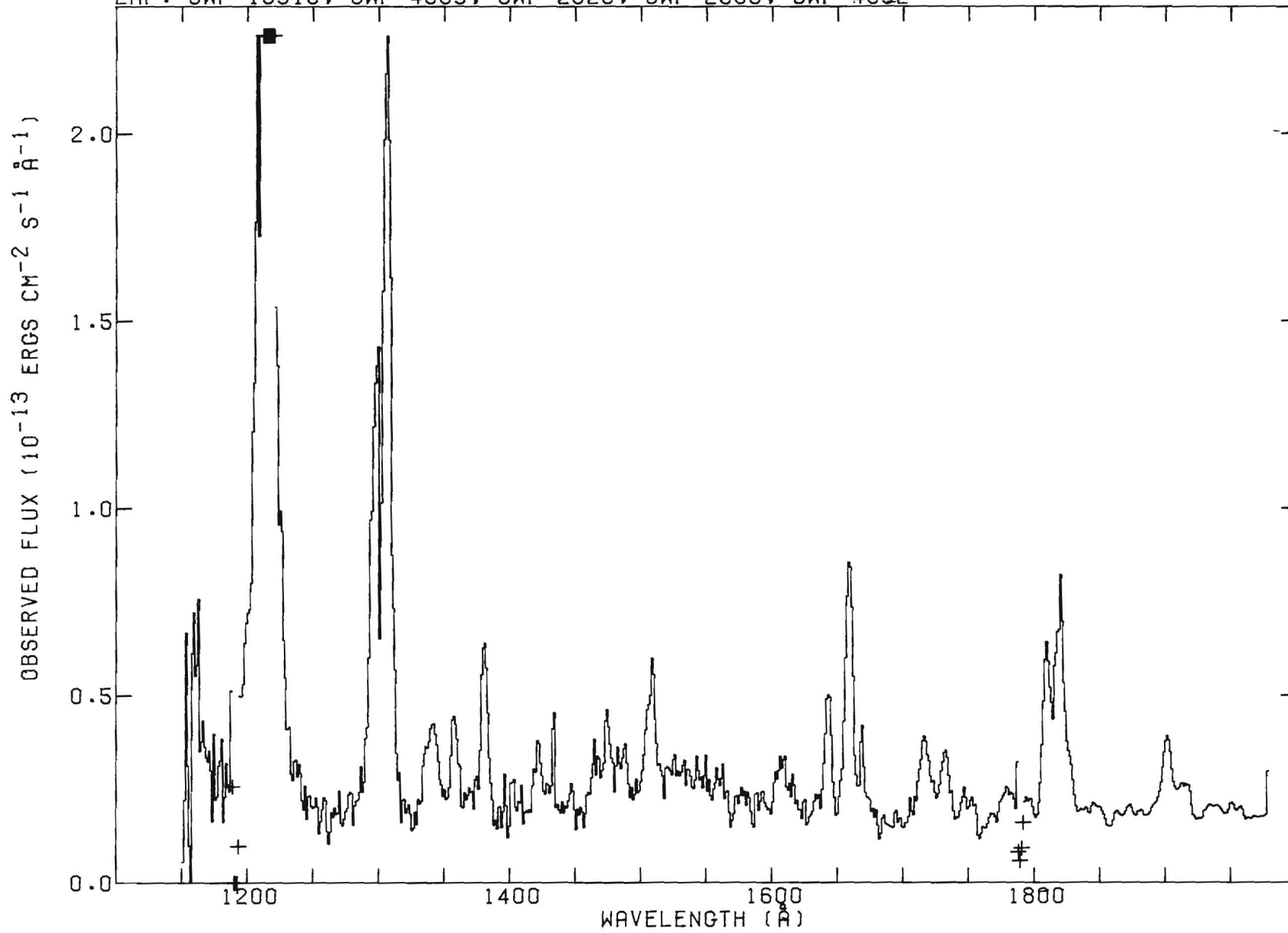
HD 69267 K4 III + V=3.52 (B-V)=1.48 E(B-V)=0.05
LAP: LWR 9738



HD 201091 K5 V V=5.21 (B-V)=1.18 E(B-V)=0.03
LAP: LWR 12741, LWR 12743; SAP: LWR 12741

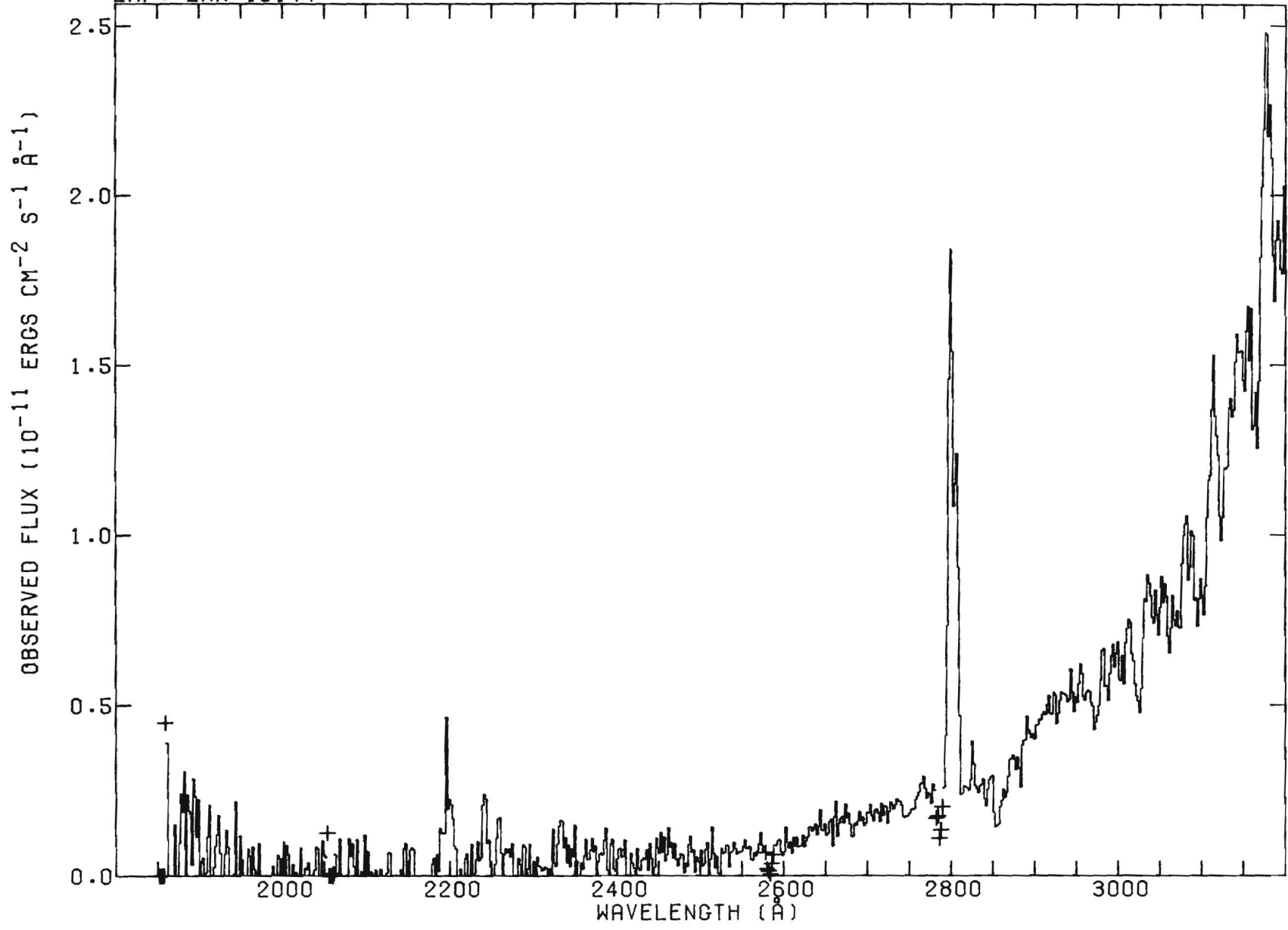


HD 29139 K5 III V=0.85 (B-V)=1.54 E(B-V)=0.03
LAP: SWP 10918, SWP 4053, SWP 2825, SWP 2806, SWP 4032

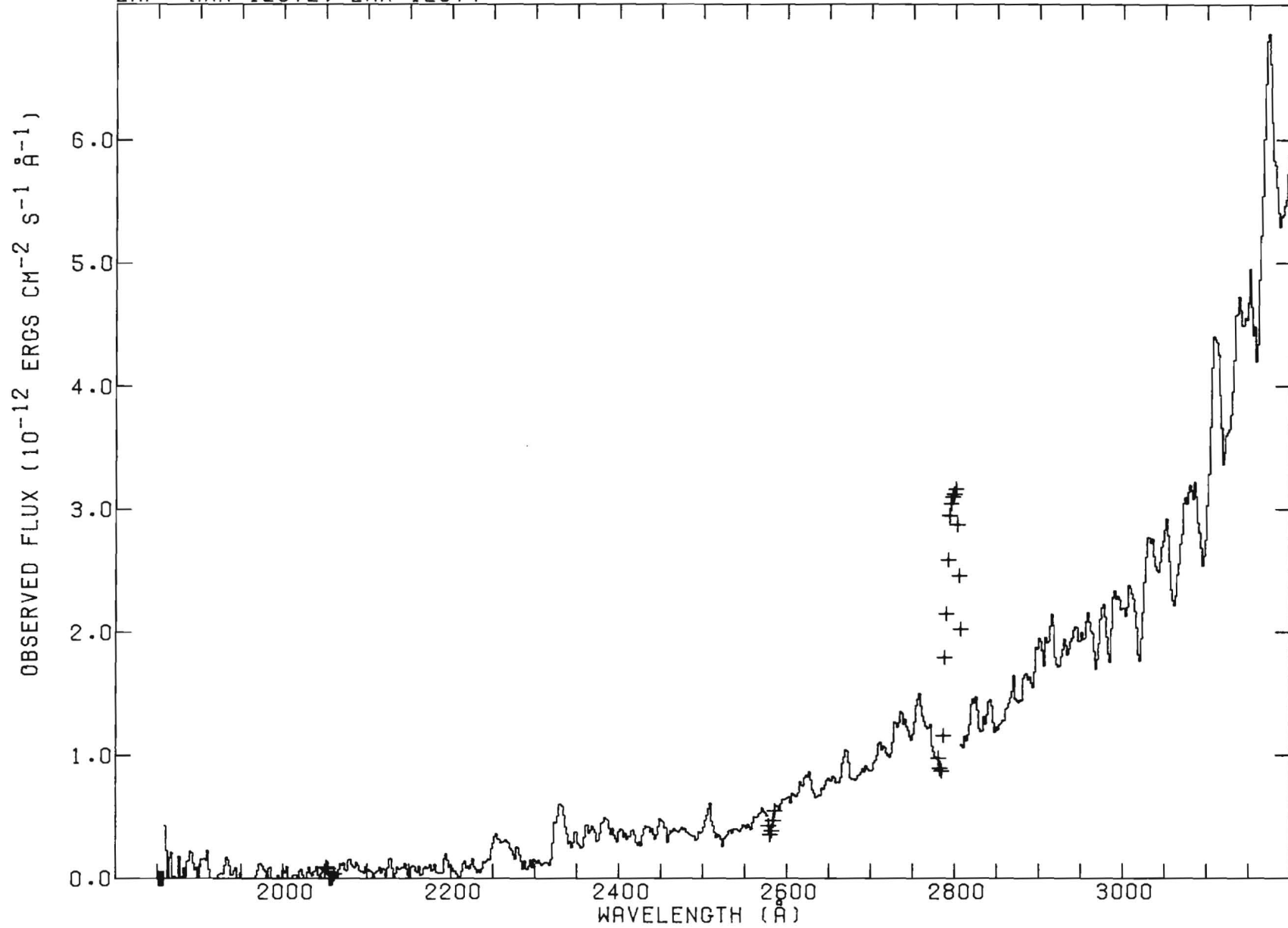


HD 29139 K5 III
LAP: LWR 10144

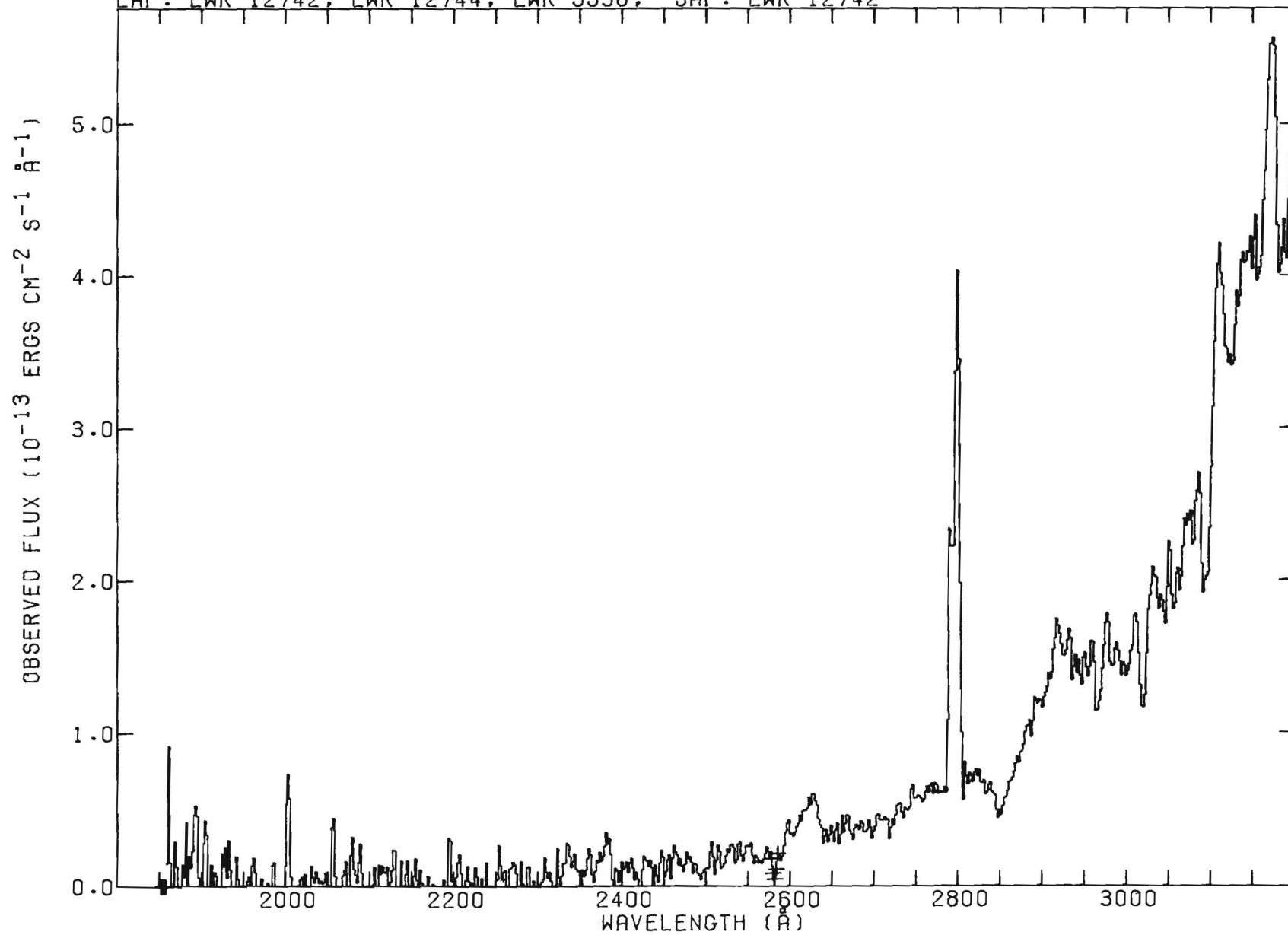
V=0.85 (B-V)=1.54 E(B-V)=0.03



HD 78647 K5 IB V=2.21 (B-V)=1.66 E(B-V)=0.06
LAP: LWR 12672, LWR 12674

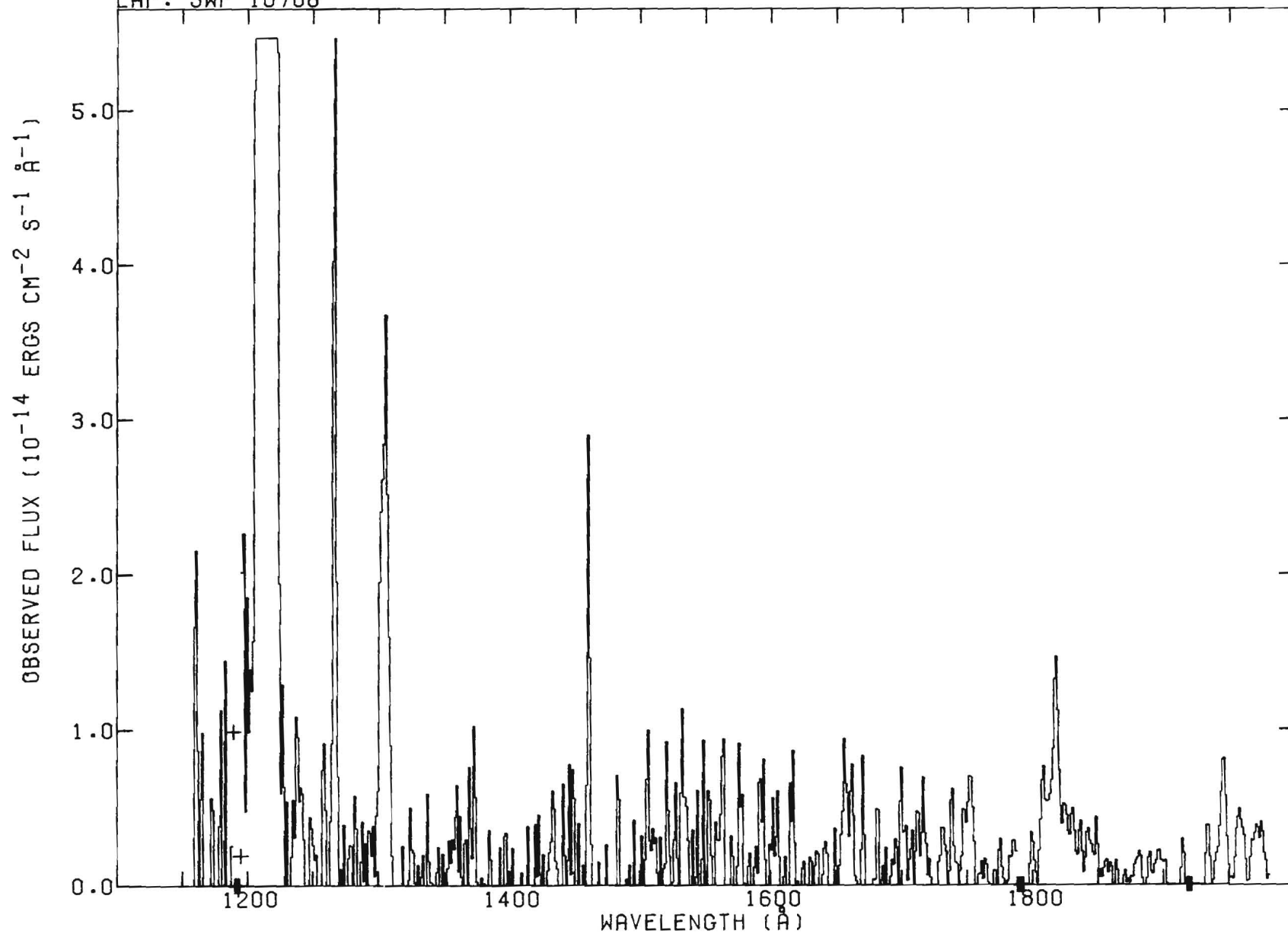


HD 201092 K7 V V=6.03 (B-V)=1.37 E(B-V)=0.04
LAP: LWR 12742, LWR 12744, LWR 5538; SAP: LWR 12742

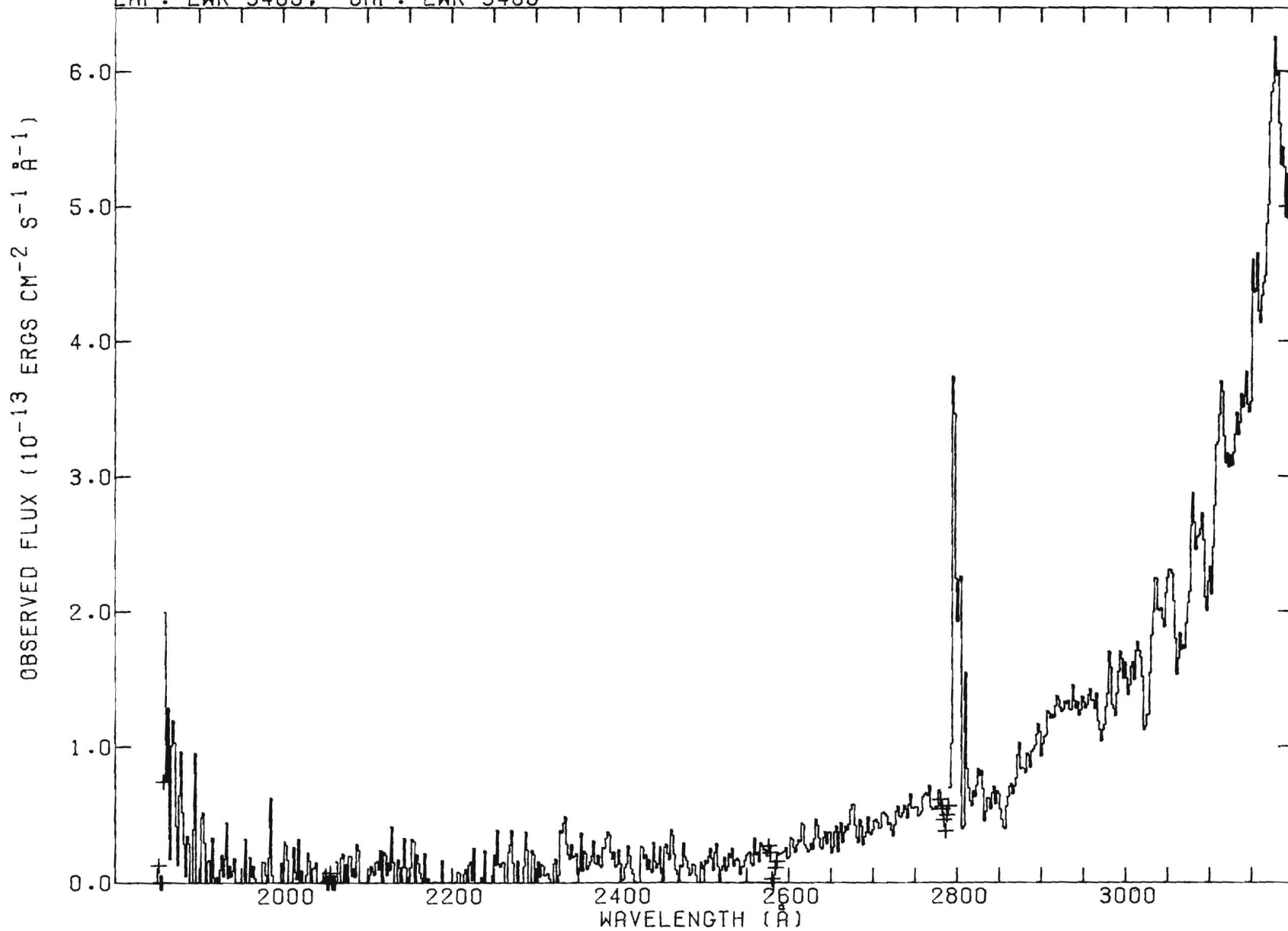


HD 17709 K7 III
LAP: SWP 10708

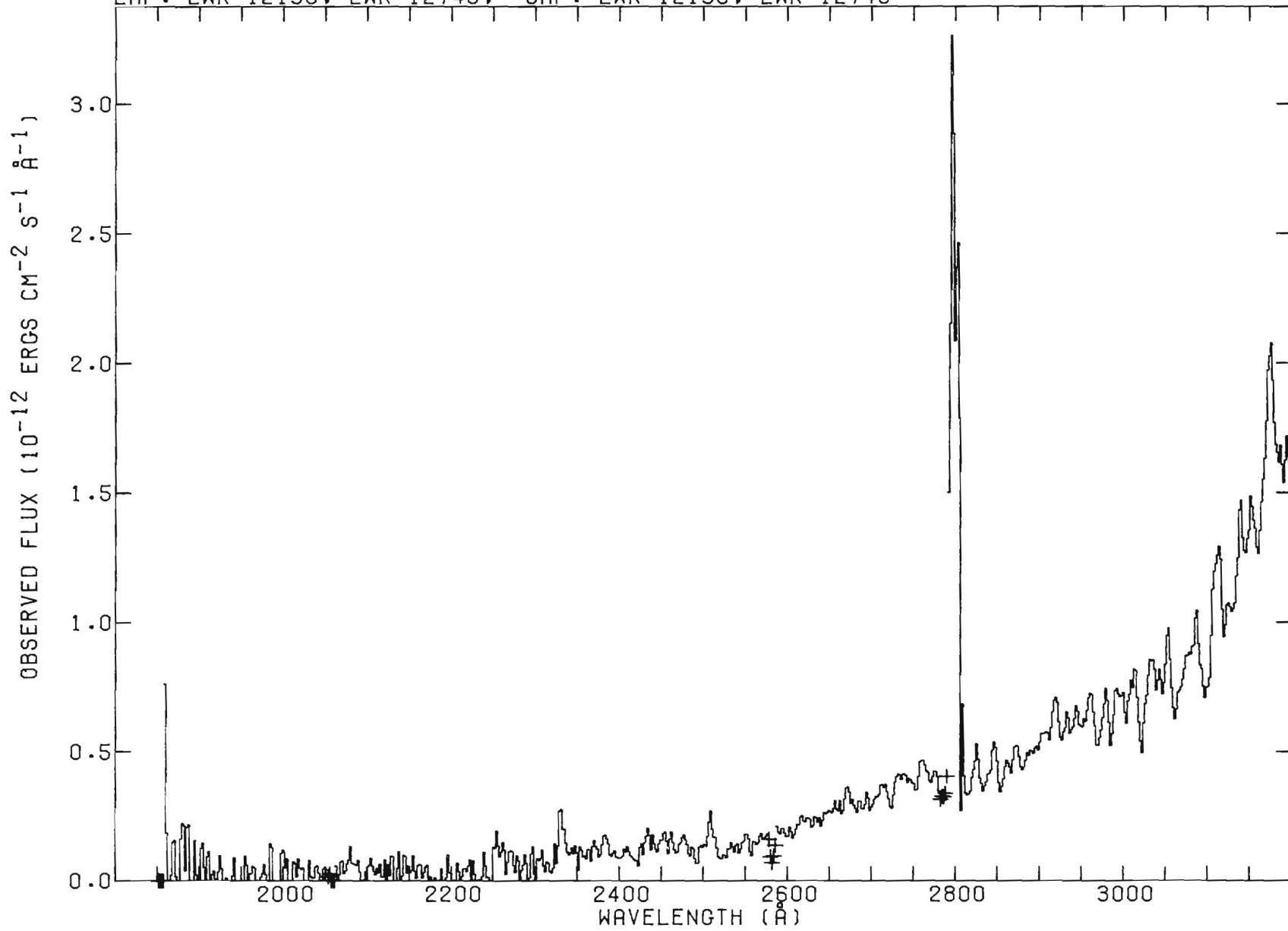
V=4.53 (B-V)=1.56 E(B-V)=0.03



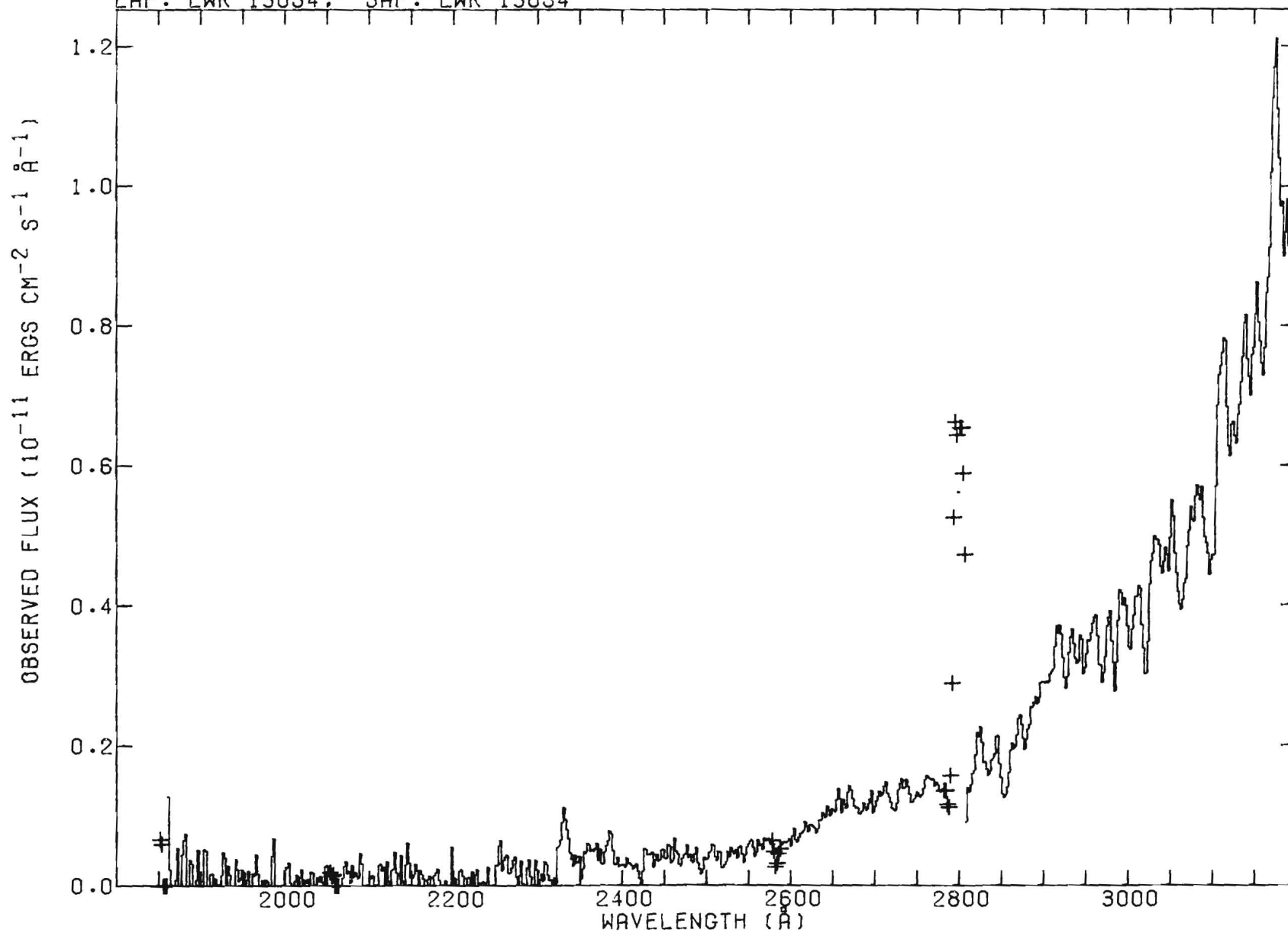
HD 17709 K7 III V=4.53 (B-V)=1.56 E(B-V)=0.03
LAP: LWR 9405; SAP: LWR 9405



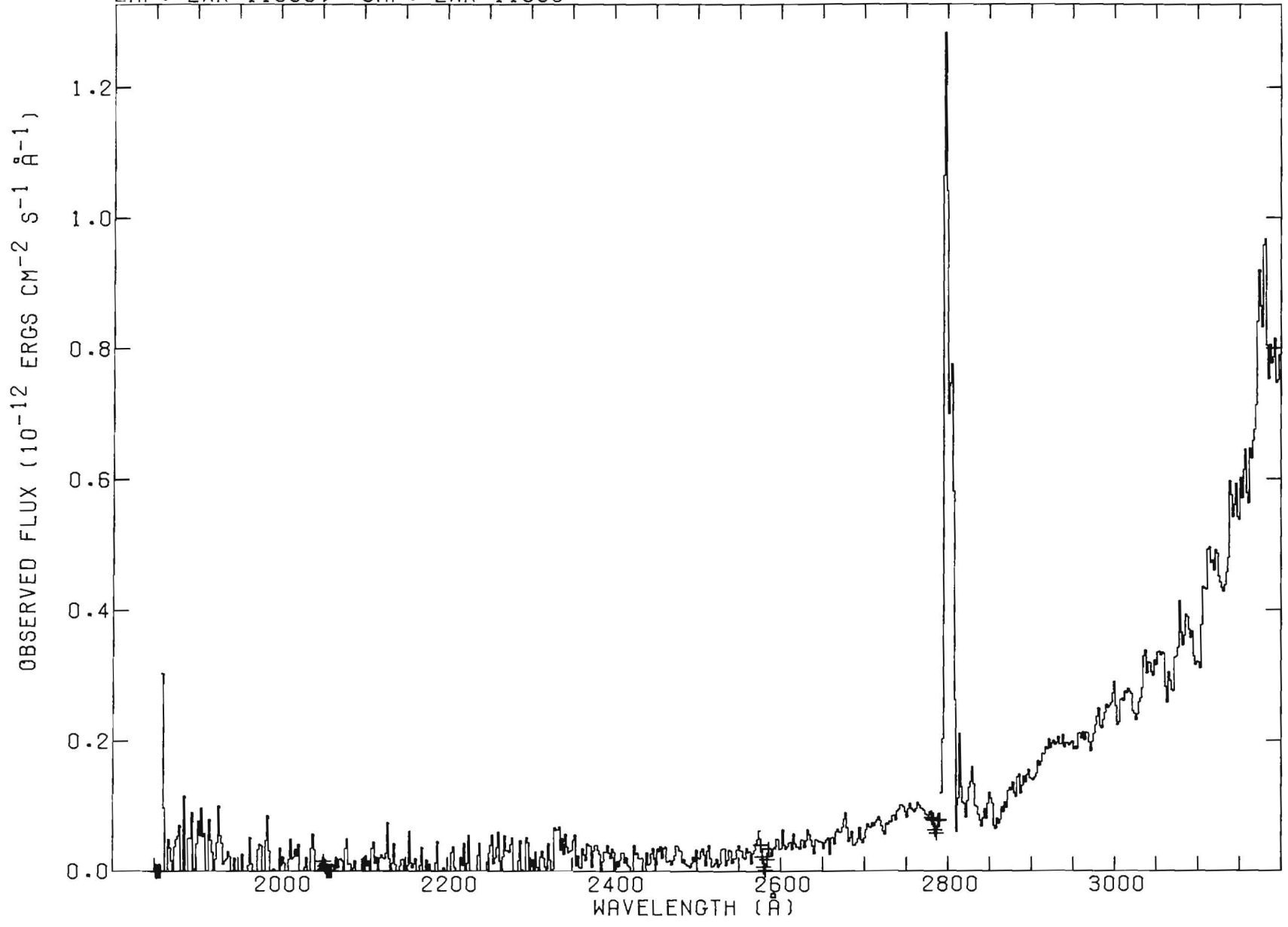
HD 52877 K7 IB V=3.46 (B-V)=1.74 E(B-V)=0.12
LAP: LWR 12190, LWR 12748; SAP: LWR 12190, LWR 12748



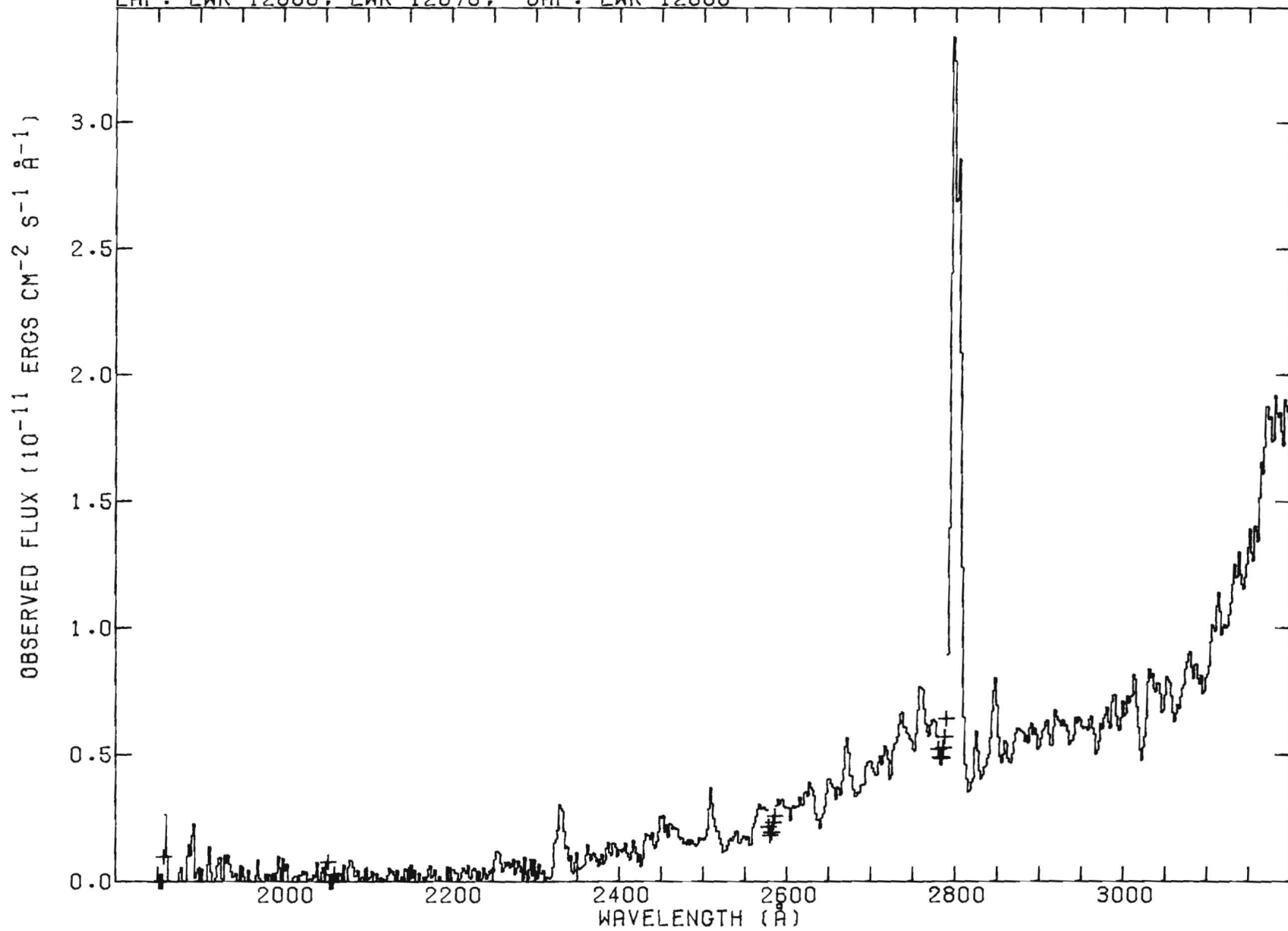
HD 89758 MO III V=3.05 (B-V)=1.59 E(B-V)=0.02
LAP: LWR 13054; SAP: LWR 13054



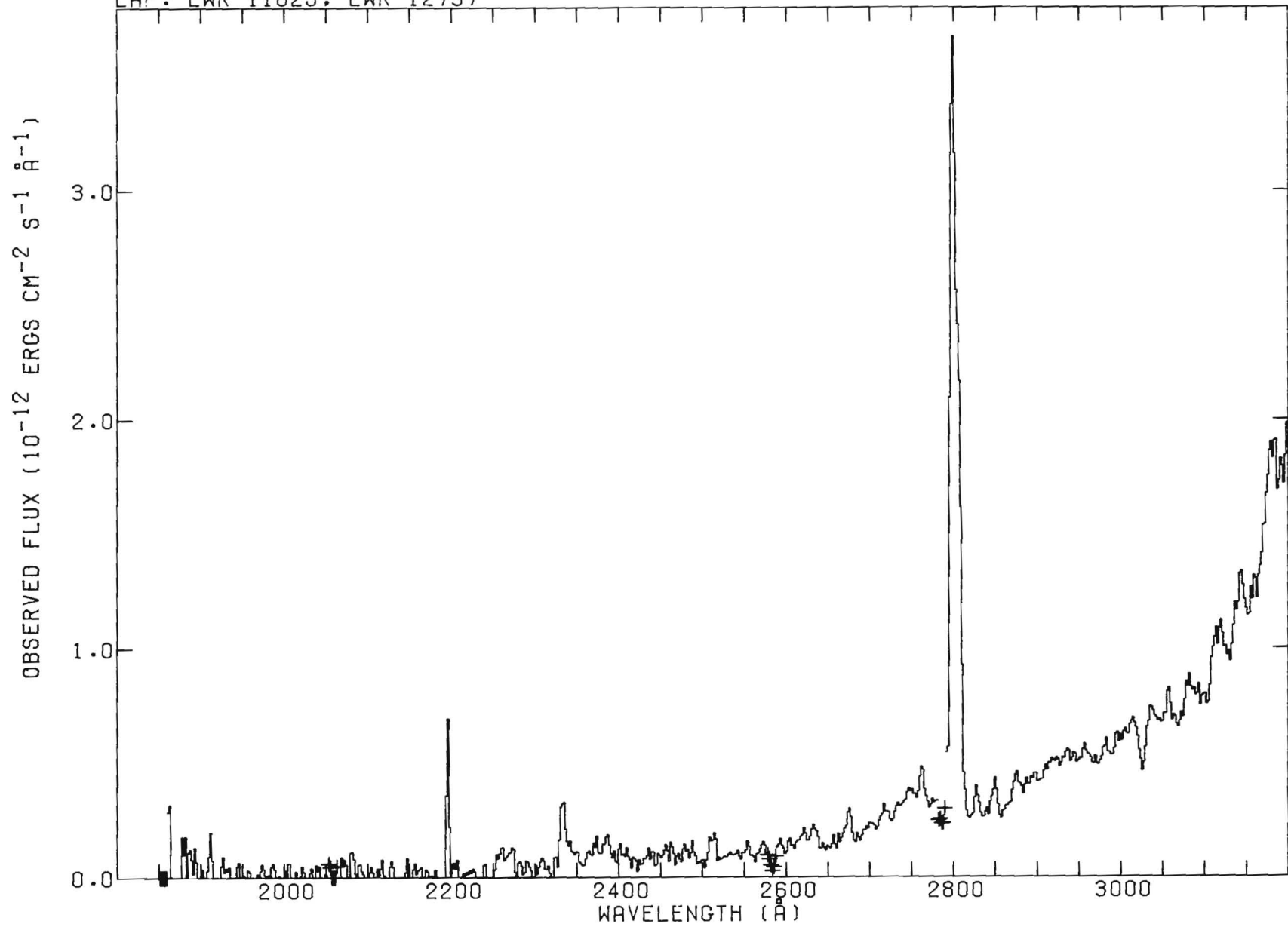
HD 102212 M1 IIIAB V=4.03 (B-V)=1.51 E(B-V)=-0.09
LAP: LWR 11960; SAP: LWR 11960



HD 39801 M2 IAB V=0.50 (B-V)=1.86 E(B-V)=0.21
LAP: LWR 12668, LWR 12670; SAP: LWR 12668



HD 44478 M3 IIIAB V=2.88 (B-V)=1.64 E(B-V)=0.04
LAP: LWR 11825, LWR 12737



HD 19058 M4 IIB-IIIA V=3.39 (B-V)=1.65 E(B-V)=0.00
LAP: LWR 11563, LWR 11822; SAP: LWR 11563, LWR 11822

