The Spectra

SN 1978G IC 5201

GALAXY DATA

coordinates [2000.0]	$22^h\,20\,57\overset{s}{.}4 \quad -46°\,02'\,05''$
morphological type	SBT6
heliocentric velocity [km s^{-1}]	844 ± 58
galactic absorption [A_B]	0.00
distance modulus	30.22
group affiliation	19–5 (Pavo - Ara)

SN DATA

classification	II
offset [arcsec]	96 West 42 North
coordinates* [2000.0]	$22^h20^m48\overset{s}{.}2 \quad -46°01'23''$
epoch of discovery [JD]	2443836
Light curve	
epoch of maximum [JD]	2443836
B magnitude at maximum	≤ 13.23
B-V color at maximum	≤ 0.37
β^B_{100} [$mag\,100d^{-1}$]	/
γ^B [$mag\,100d^{-1}$]	/

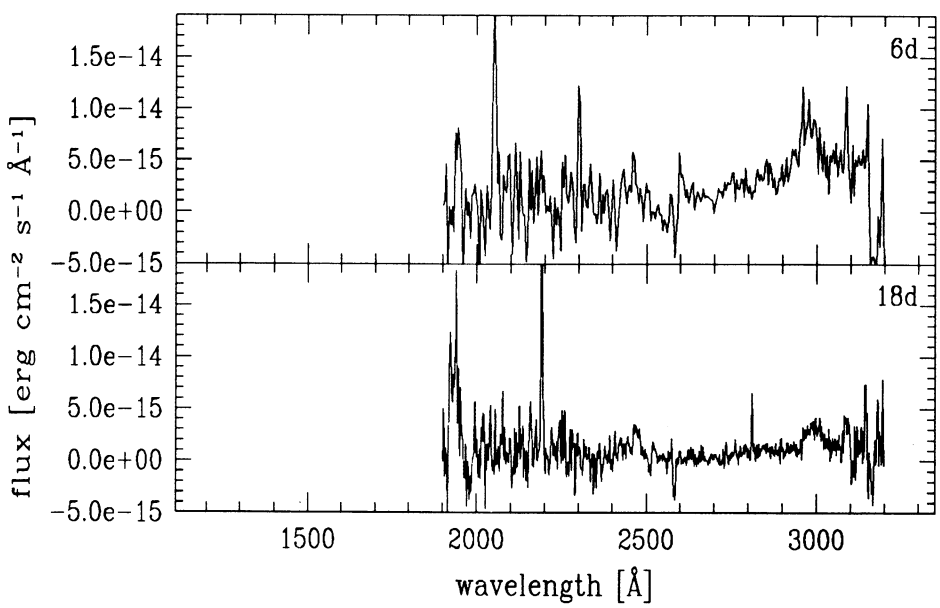

Figure 1: Selected IUE spectra

IUE spectra: ULDA tape **IC5201**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWR3074L	30/11/78	21:13	+6			15.21	
LWR3144L	11/12/78	19:30	+18			16.23	

REFERENCES

GENERAL - IAU Circulars No. 3309, 3316

RADIO - Weiler, K.W., Panagia, N., Sramek, R.A., van der Hulst, J.M., Roberts, M.S., 1989, ApJ 336, 421

SN 1979C NGC 4321 (M100)

GALAXY DATA

coordinates [2000.0]	$12^h\,22\,55\overset{s}{.}2 \quad +15°\,49'\,23''$
morphological type	SXS4
heliocentric velocity [km s^{-1}]	1579 ± 10
galactic absorption [A_B]	0.06
distance modulus	31.13
group affiliation	11–1 (Virgo)

SN DATA

classification	**II Linear**
offset [arcsec]	56 East 87 South
coordinates [2000.0]	$12^h22^m58\overset{s}{.}63 \quad +15°47'51\overset{''}{.}74$
epoch of discovery [JD]	2443979
Light curve	
epoch of maximum [JD]	2443979
B magnitude at maximum	11.6
B-V color at **7d**	0.15
β^B_{100} [$mag\,100d^{-1}$]	4.5
γ^B [$mag\,100d^{-1}$]	0.9

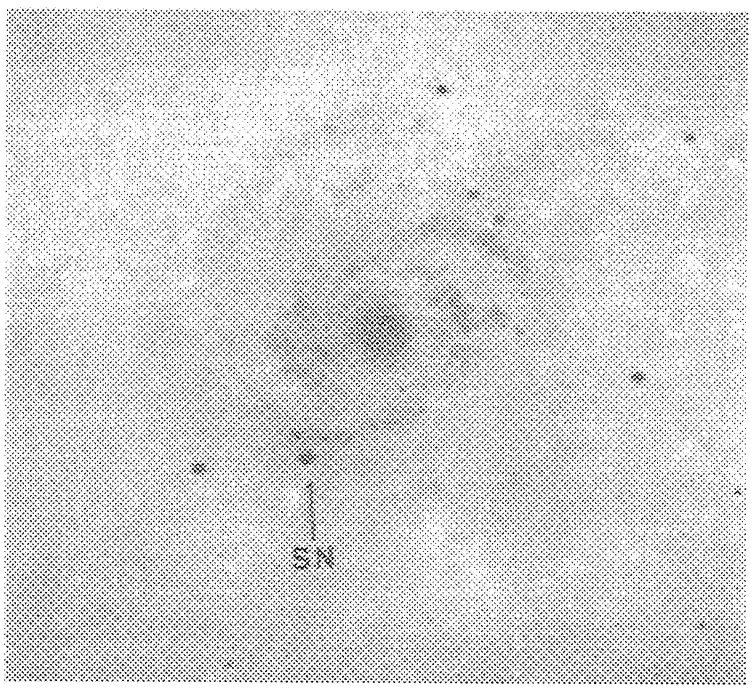

Figure 1: Map of SN 1979C (Panagia et al. 1980). North is top, east is left.

IUE spectra: ULDA tape **SN1979C**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWR4318L	21/04/79	19:35	+6	12.05		11.56	saturated
SWP4983L	21/04/79	21:10	+6	12.17	12.14		
LWR4319L	21/04/79	22:03	+6	12.12		11.36	
LWR4322L	22/04/79	03:11	+7	12.11		11.43	
LWR4322S	22/04/79	04:05	+7	12.11		12.69	
SWP4985L	22/04/79	04:46	+7	12.07	12.27		
SWP4985S	22/04/79	07:35	+7	12.07	13.23		
LWR4323L	22/04/79	08:12	+7	12.13		11.54	
SWP5010L	24/04/79	05:59	+9	12.18	12.85		
LWR4346L	24/04/79	08:09	+9	12.18		11.80	
LWR4357L	25/04/79	10:43	+10	12.24		11.91	
SWP5029L	25/04/79	11:18	+10	12.21	13.14		saturated
LWR4374L	27/04/79	03:24	+12	12.33		12.22	
SWP5048L	27/04/79	04:41	+12	12.34	13.50		
LWR4381L	27/04/79	09:17	+12	12.34		12.17	
SWP5079L	29/04/79	12:12	+14	12.36	13.98		
LWR4424L	01/05/79	01:44	+16	12.38		12.69	
SWP5092L	01/05/79	03:10	+16	12.38	14.30		
LWR4474L	07/05/79	01:17	+22	12.55		13.26	
SWP5157L	07/05/79	03:09	+22	12.64	15.03		
LWR4499L	11/05/79	09:28	+26	12.78		13.51	
SWP5196L	11/05/79	10:47	+26	12.72	15.02		
LWR4533L	18/05/79	00:39	+33	12.91		13.93	
SWP5285L	18/05/79	04:14	+33		15.52		
LWR4585L	24/05/79	09:57	+39	13.05		14.17	
SWP5344L	24/05/79	13:02	+39		15.41		saturated
LWR4697L	04/06/79	23:49	+51	13.67		14.58	
LWR4787L	15/06/79	03:23	+61	14.02		14.66	
LWR4847L	23/06/79	06:51	+69	14.19		14.88	
LWR4905L	28/06/79	02:06	+74			14.89	
LWR5258L	04/08/79	21:05	+112			15.18	

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UBVR - Balinskaya,I.S., Bychov,K.V., Neizvestny,S.I., 1980 A&A 85,L19
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MOD - Blinnikov, S.I., Bartunov, O.S., 1993, A&A 273, 106
OPTS,MOD - Branch,D., Falk,S.W., McCall,M.L., Rybski,P., Uomoto,A.K., Wills, B.J.,1981 AJ 244, 780
OPTS - Carney,B.W., 1980 PASP 92, 56
MOD - Chevalier, R.A., Fransson, C., 1994, ApJ 420,268
MOD - Chugaij, N.N., 1985, Pis'ma Astron. Zu. 11, 357
MOD - Chugaij, N.N., 1991, MNRAS 250, 513
IR,MOD - Dwek, E., 1983, ApJ 274, 174

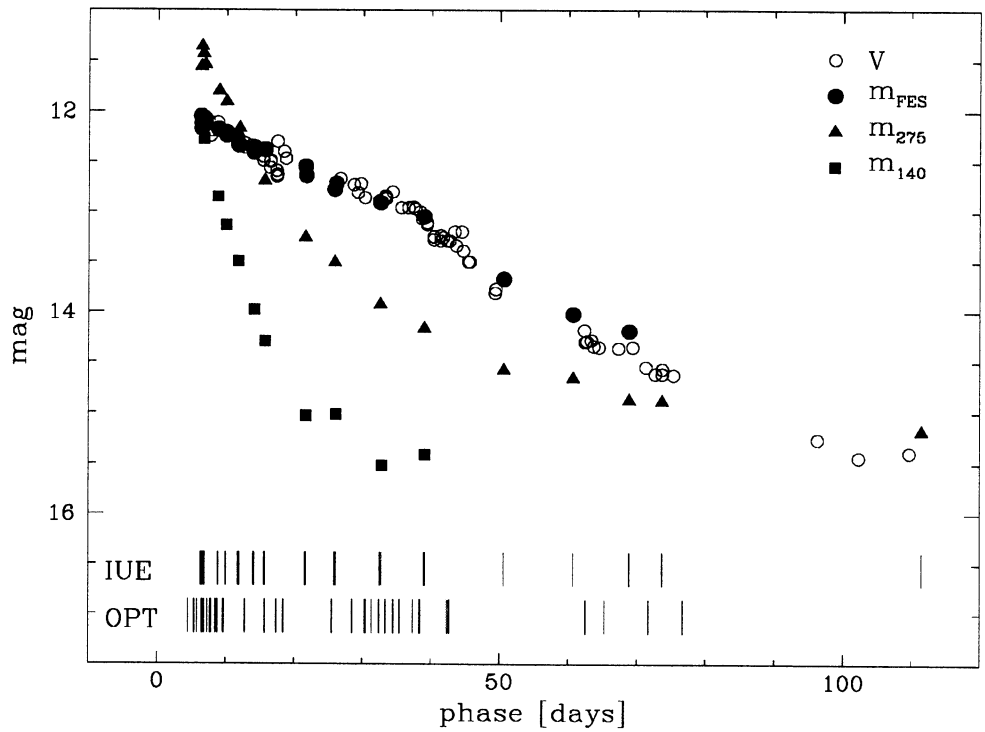

Figure 2: V+m_{FES}, m_{140}, m_{275} light curves. The epochs of IUE and published optical spectra are marked

OPTS - Fesen, R., Matonick, D.M., 1993 ApJ 407, 110
IUE,MOD - Fransson,C., 1984, A&A 132, 115
IUE,MOD - Fransson,C., 1984, A&A 133, 264
IUE,MOD - Fransson,C., Benvenuti,P., Gordon,C., Hempe,K., Palumbo, G.G.C., Panagia,N., Reimers,D., Wamsteker,W., 1984 A&A 132,1
MOD - Hauschildt, P.H., Shaviv, G., Wehrse, R., 1989, A&A 210, 262
MOD - Lundqvist, P., Fransson, C., 1988, A&A 192, 221
MOD - Pacini, F., Salvati, M., 1981, ApJ 245, L107
X-ray - Palumbo, G.G.C., Maccacaro, T., Panagia, N., Vettolani, G., Zamorani, G., 1981, ApJ 247, 484
UBV,OPTS,IUE,RADIO,X-RAY - Panagia,N., et al., 1980, MNRAS 192,861
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OPTS,HR-OPTS - Penston, M.V., Blades, J.C., 1980, MNRAS 190, 51P
OPTS,MOD - Schmidt, B.P., Kirshner, R.P., Eastman, R.G., 1992, ApJ 395, 366
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RADIO - Weiler,K.W., Sramek,R.A., Panagia,N., van der Hulst, J.M., Salvati,M. 1986 ApJ301,790

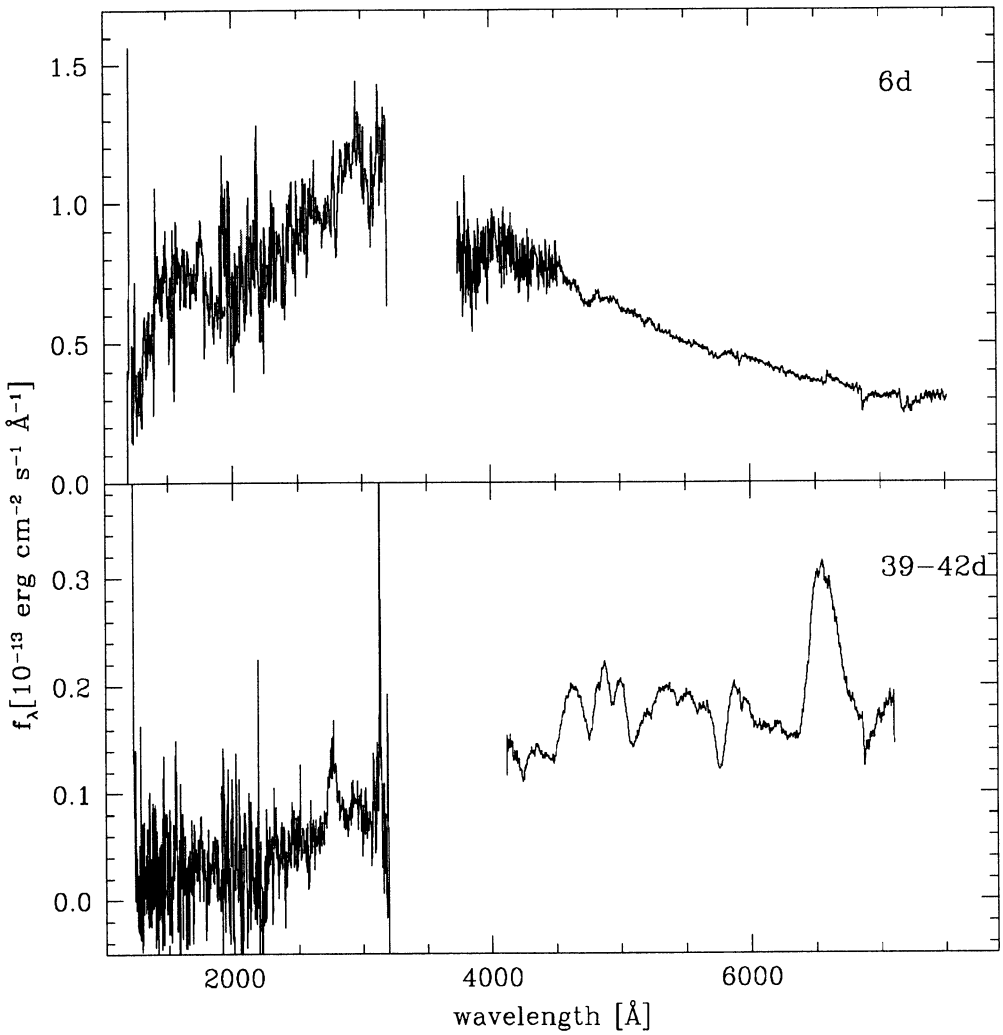

Figure 3: UV-optical spectra

RADIO - Weiler, K.W., van Dyk, S.D., Panagia, N., Sramek R.A., Discenna, J.L., 1991, ApJ 380, 161

RADIO - Weiler, K.W., van Dyk, S.D., Pringle, J.E., Panagia, N., 1992, ApJ 399, 672

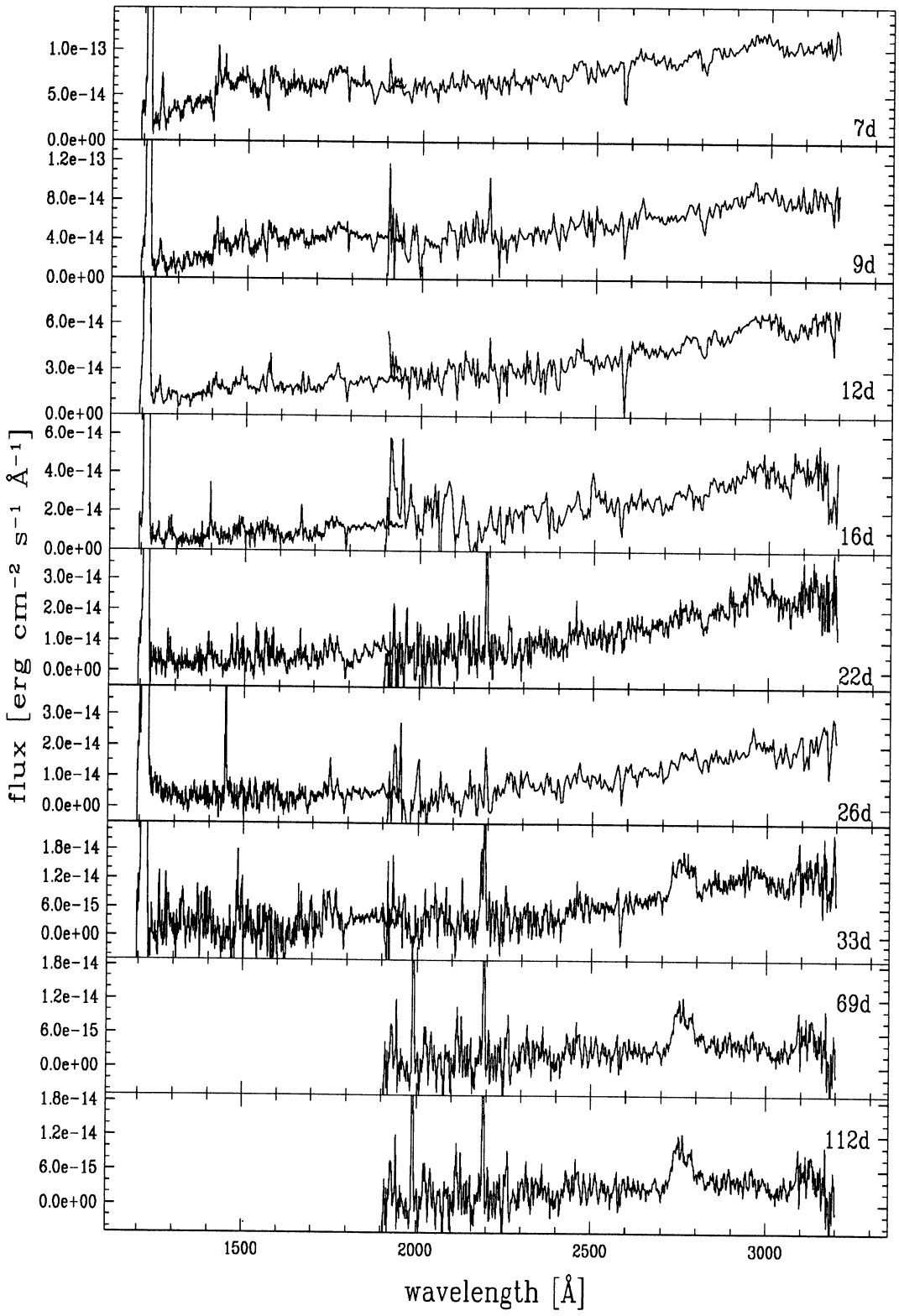

Figure 4: Selected IUE spectra

SN 1980K NGC 6946

GALAXY DATA

coordinates [2000.0]	$20^h\,34\,52\overset{s}{.}0$ $+60°\,09'\,15''$
morphological type	SXT6
heliocentric velocity [km s^{-1}]	7 ± 21
galactic absorption [A_B]	1.73
distance modulus	28.70
group affiliation	14–0

SN DATA

classification	**II Linear**
offset [arcsec]	280 East 165 South
coordinates [2000.0]	$20^h35^m30\overset{s}{.}07$ $+60°06'23\overset{''}{.}8$
epoch of discovery [JD]	2444542
Light curve	
epoch of maximum [JD]	2444542
B magnitude at maximum	11.6
B-V color at maximum	0.2
β^B_{100} [$mag\,100d^{-1}$]	5.7
γ^B [$mag\,100d^{-1}$]	1.0

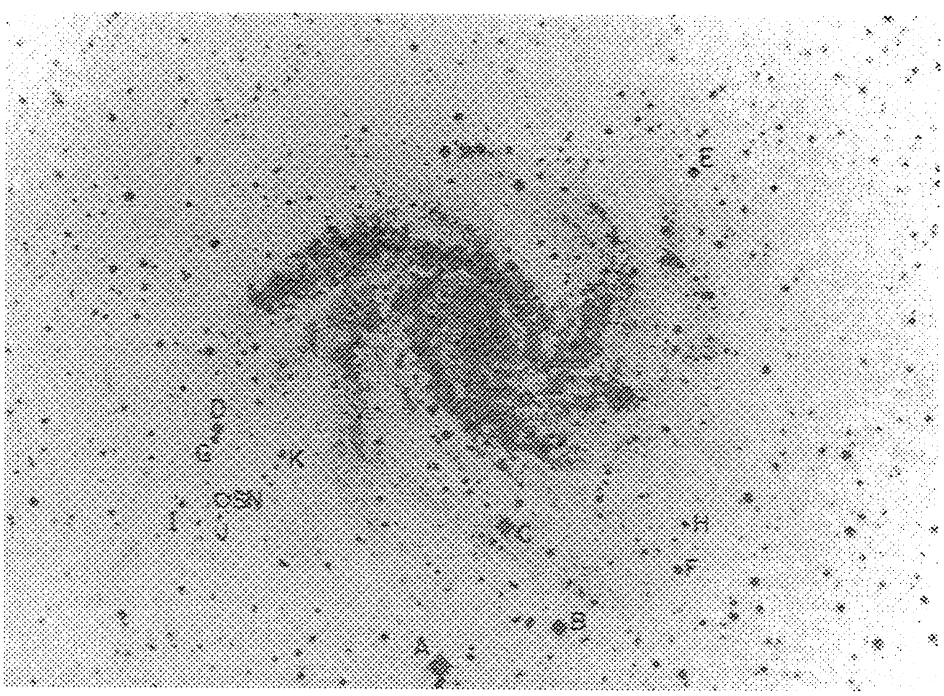

Fig. 1. Map of SN 1980K (Buta, 1982). North is top, east is left.

IUE spectra: ULDA tape **SN1980K**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWR9198L	30/10/80	19:30	+1	11.49		11.10	
LWR9198S	30/10/80	19:55	+1	11.49		11.74	
SWP10509L	30/10/80	20:08	+1	11.49	11.92		
LWR9204L	31/10/80	15:07	+2				high res.
SWP10519L	01/11/80	02:33	+2	11.50	12.02		
SWP10521L	01/11/80	13:23	+2				high res.
LWR9206L	01/11/80	04:26	+2	11.54		11.16	
LWR9208L	01/11/80	12:52	+3	11.53		11.63	
LWR9209L	01/11/80	23:28	+3	11.48		11.19	
LWR9213L	02/11/80	12:40	+4	11.45		11.21	
SWP10526L	02/11/80	13:24	+4	11.54	12.19		
LWR9222L	03/11/80	20:39	+5	11.49		11.38	
SWP10535L	03/11/80	21:57	+5	11.48	12.38		
LWR9223L	04/11/80	00:11	+5	11.50		11.24	saturated
LWR9236L	05/11/80	12:49	+7	11.55		11.43	
SWP10552L	05/11/80	13:31	+7	11.51	12.65		
LWR9237L	05/11/80	16:44	+7	11.41		11.46	
LWR9248L	06/11/80	20:59	+8				high res.
LWR9249L	07/11/80	03:10	+8	11.58		11.61	
SWP10572L	09/11/80	12:41	+11	11.72	13.49		
LWR9265L	09/11/80	15:12	+11	11.70		11.94	
LWR9267L	10/11/80	02:05	+11	11.69		12.01	
SWP10576L	09/11/80	23:16	+11	11.68	13.58		
LWR9288L	12/11/80	21:08	+14	11.79		12.41	
SWP10598L	12/11/80	23:13	+14	11.85	14.32		
LWR9302L	14/11/80	12:56	+16	11.95		12.74	
SWP10601	14/11/80	14:30	+16	12.05	14.82		
LWR9334L	18/11/80	21:16	+20	12.14		13.40	
SWP10630L	18/11/80	23:51	+20	12.15	15.52		
LWR9375L	23/11/80	20:43	+25	12.43		14.25	
SWP10666L	24/11/80	00:55	+25	12.44	16.37		
LWR9385L	25/11/80	16:09	+27	12.62		14.71	
LWR9406L	30/11/80	00:34	+31	12.69		15.09	
LWR9410L	30/11/80	15:59	+32	12.75		15.04	
LWR9461L	08/12/80	20:59	+40	13.02		15.24	
LWR9466L	09/12/80	12:56	+41			15.72	
LWR9648L	05/01/80	19:14	+68	14.26		16.14	

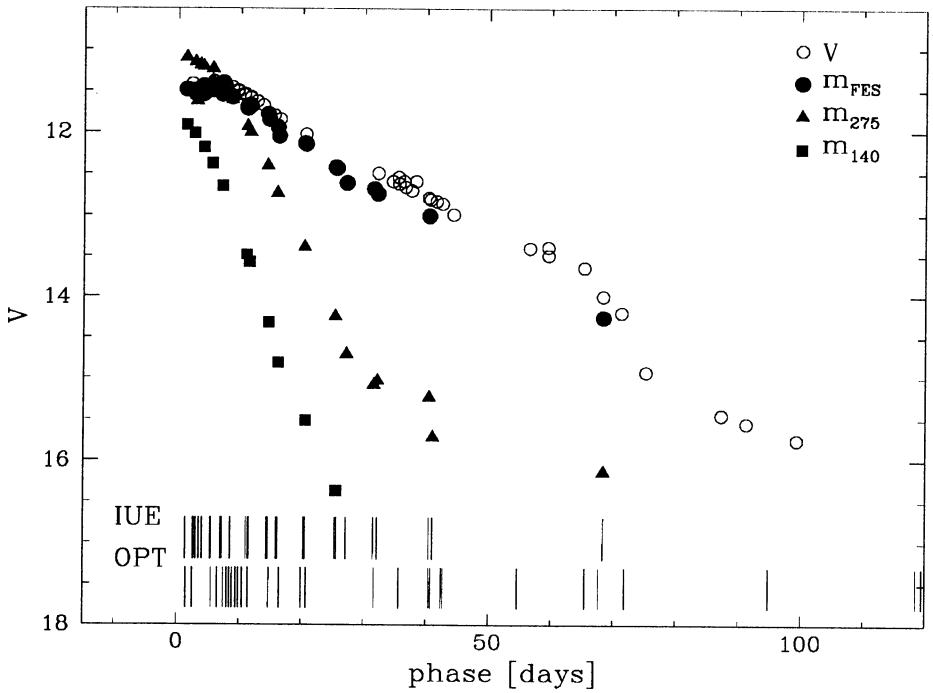

Figure 2: V+m_{FES}, m_{140}, m_{F275} light curves. The epochs of IUE and published optical spectra are marked

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UBV,OPTS - Barbon, R., Ciatti, F., Rosino, L., 1982, A&A 116, 35
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X-ray - Canizares, C.R., Kriss, G.A., Feigelson, E.D., 1982, ApJ 253, L21
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V - Hurst,G.M., Taylor,M.D., J.B.astron.Assoc. 96, 102
OPTS - Leibundgut, B., Kirshner, R.P., Pinto, P.A., Rupen, P., Smith, R.C., 1991, ApJ 372, 531
IUE - Panagia,N., 1982 Third International Ultraviolet Explorer Conference ESA-SP p.31
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MOD - Schmidt, B.P., Kirshner, R.P., Eastman, R.G., 1992, ApJ 395, 366
MOD - Swartz, D.A., Wheeler, J.C., Harkness, R.P., 1991, ApJ 374, 266
OTHER - Thompson, L.A., 1982, ApJ 257, L63

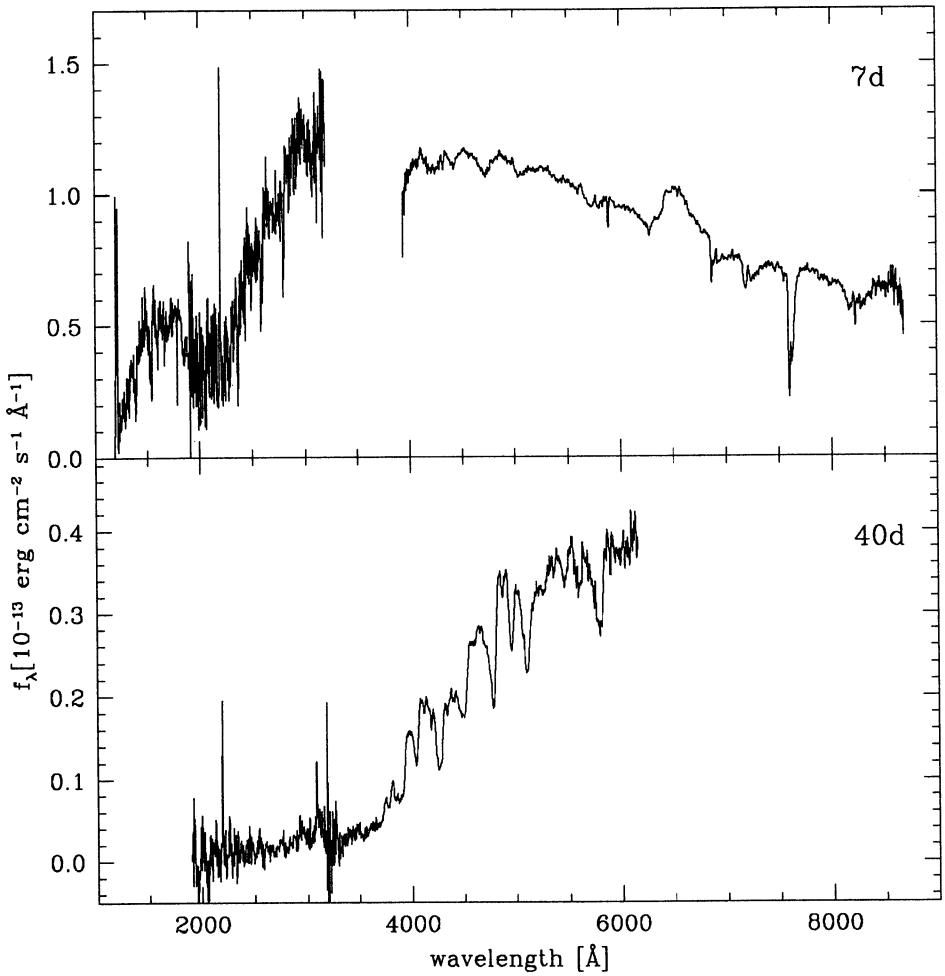

Figure 3: UV-optical spectra

BV - Tsvetkov,D.Yu. 1983 Perem. Zv. 22,39
OPTS - Uomoto, A., Kirshner, R.P., 1986, ApJ 308,685
OPTS - Uomoto, A., 1991, ApJ 101,1275
BV - Zacs,L. 1986 Naucnye Informacy 61, 148
RADIO - Weiler,K.W., Sramek,R.A., Panagia,N., van der Hulst, J.M., Salvati,M. 1986 ApJ301,790
RADIO - Weiler, K.W., van Dyk, S.D., Panagia, N., Sramek R.A., 1992, ApJ 398, 248

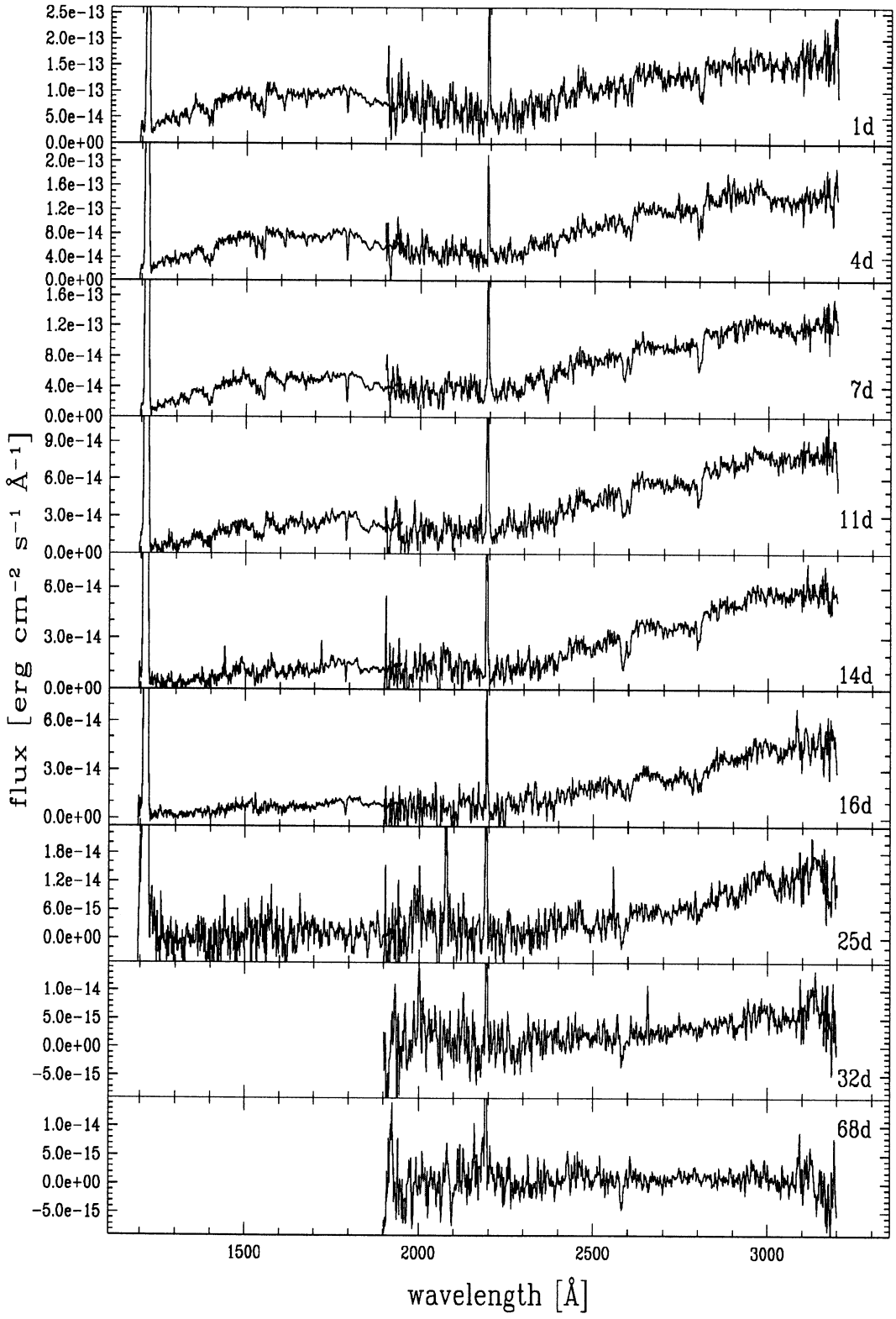

Figure 4: Selected IUE spectra

SN 1980N NGC 1316

GALAXY DATA

coordinates [2000.0]	$03^h\,22\,41\overset{s}{.}6 \quad -37°\,12'\,28''$
morphological type	PLXS0P
heliocentric velocity [km s^{-1}]	1793 ± 12
galactic absorption [A_B]	0.00
distance modulus	31.14
group affiliation	51–1 (Fornax)

SN DATA

classification	Ia
offset [arcsec]	220 East 20 South
coordinates* [2000.0]	$03^h23^m00\overset{s}{.}0 \quad -37°12'48''$
epoch of discovery [JD]	2444574
Light curve	
epoch of maximum [JD]	2444586
B magnitude at maximum	12.5
B-V color at maximum	0.04
β^B [$mag\,100d^{-1}$]	10.1
γ^B [$mag\,100d^{-1}$]	1.8

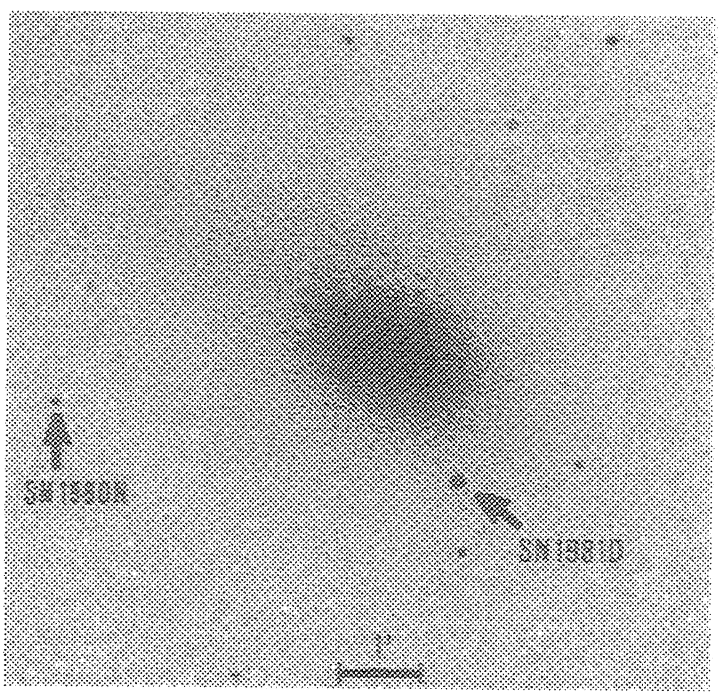

Figure 1: Map of SN 1980N (Hamuy et al. 1991). SN 1981D, exploded in the same galaxy, is also indicated. North is top, east is left.

IUE spectra: ULDA tape **SN1980N**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWR9477L	11/12/80	16:58	0	12.56		13.71	
SWP10803L	12/12/80	08:15	+1	12.51	15.85		
LWR9489L	13/12/80	10:18	+2	12.47		13.85	
LWR9503L	16/12/80	03:10	+5	12.56		14.07	
LWR9518L	17/12/80	16:22	+6	12.58		14.30	
LWR9563L	23/12/80	08:06	+12	13.02		14.95	
LWR9569L	24/12/80	18:56	+13	13.18		15.21	
LWR9726L	16/01/81	16:51	+36	14.29		16.84	

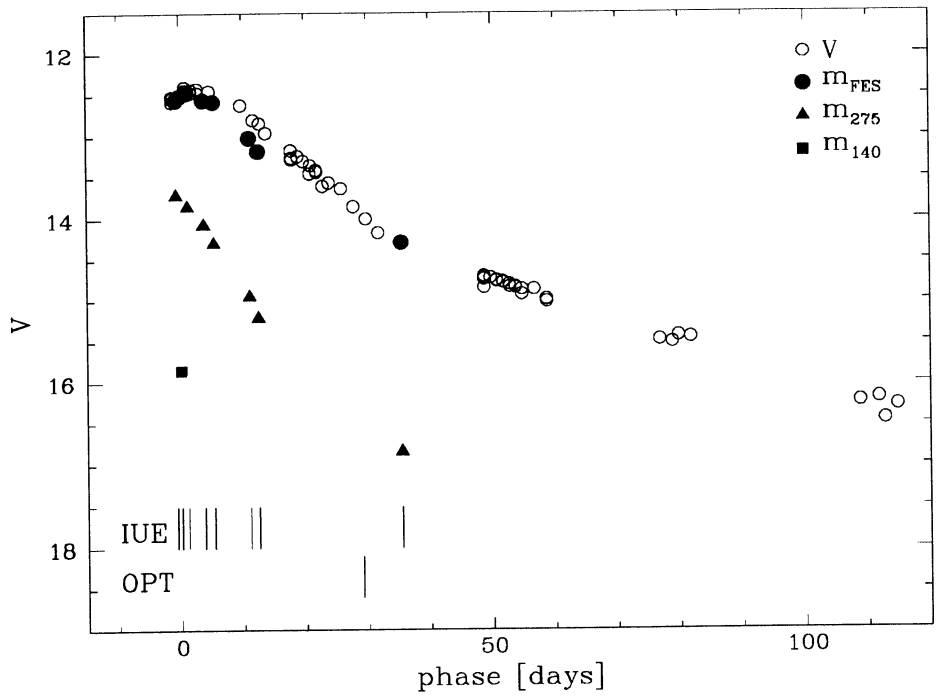

Figure 2: V+m_{FES}, m_{140}, m_{275} light curves. The epochs of IUE and published optical spectra are marked

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HR-OPTS - Blades, J.C., 1981, MNRAS 196, 67P

JHK - Elias, J.H., Frogel, J.A., 1983, ApJ 26, 718

JHK - Elias, J.H., Frogel, J.A., Hackwell, J.A., Persson, S.E., 1981, ApJ 251, L13

UBVRI,OPTS - Hamuy, M., Phillips, M., Maza, J., Wischnjewsky, M., Uomoto, S., Landolt, A.U., Khatwani, R., 1991, AJ 102, 208

RADIO - Weiler, W.K., Panagia, N., Sramek, R.A., van der Hulst, J.M., Roberts, M.S., Nguyen, L., 1989, ApJ 336, 421

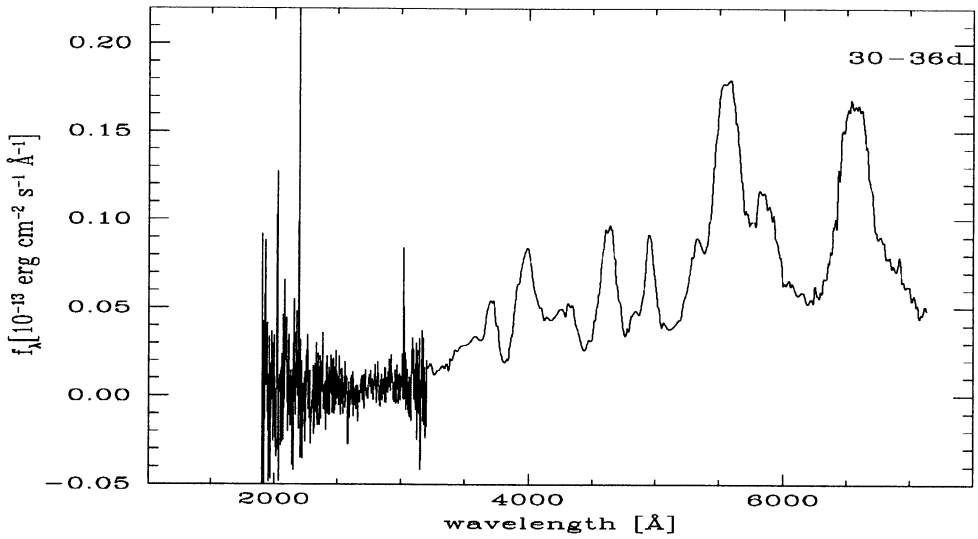

Figure 3: UV-optical spectra

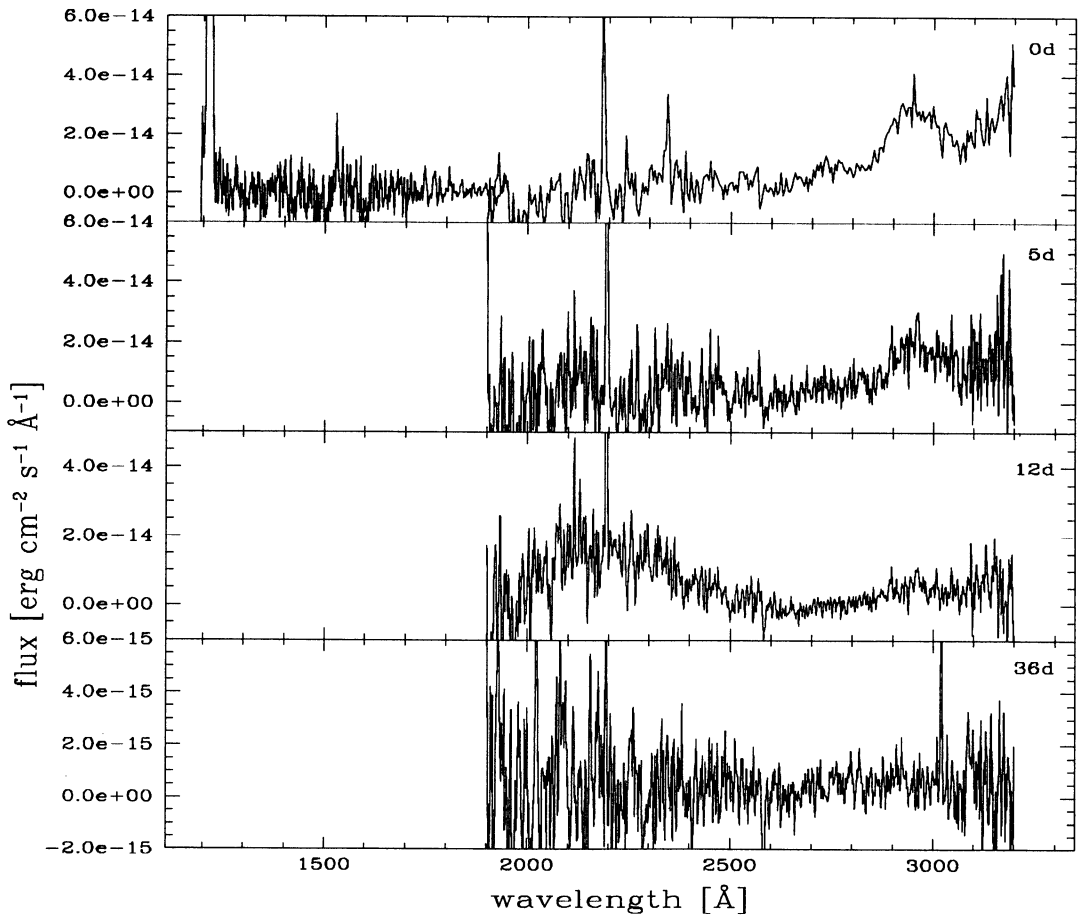

Figure 4: Selected IUE spectra

SN 1981B NGC 4536

GALAXY DATA

coordinates [2000.0]	$12^h\,34\,26\overset{s}{.}9 \quad +02°\,11'\,19''$
morphological type	SXT4
heliocentric velocity $[km\,s^{-1}]$	1894 ± 58
galactic absorption $[A_B]$	0.00
distance modulus	30.62
cluster membership	$11 - 4 + 1$ (Virgo)

SN DATA

classification	**Ia**
offset $[arcsec]$	41 East 41 North
coordinates [2000.0]	$12^h34^m29\overset{s}{.}58 \quad +02°11'59\overset{''}{.}4$
epoch of discovery [JD]	2444664
Light curve	
epoch of maximum [JD]	2444673
B magnitude at maximum	12.0
B-V color at maximum	0.03
β_B $[mag\,100d^{-1}]$	9.6
γ_B $[mag\,100d^{-1}]$	1.15

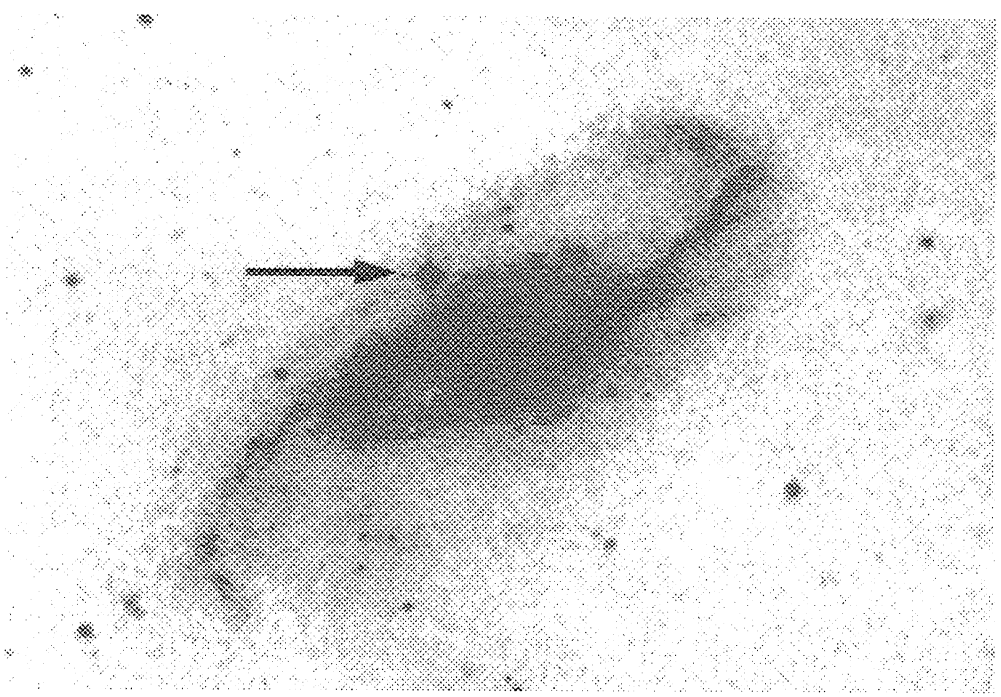

Fig.1. Map of SN 1981B (Veron 1981). Nord is top east is left.

IUE spectra: ULDA tape **NGC4536**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
SWP13438L	09/03/81	11.95	-1	12.02	15.77		
LWR10100L	09/03/81	11.93	-1	12.11		13.21	
LWR10101L	09/03/81	11.97	-1	12.00		13.32	
SWP13452L	10/03/81	12.04	0	12.04	15.98		
LWR10115L	10/03/81	11.97	0	12.04		13.34	
LWR10120L	11/03/81	12.08	+1	12.15		13.50	
LWR10289L	05/04/81	13.47	+26	13.54		16.11	

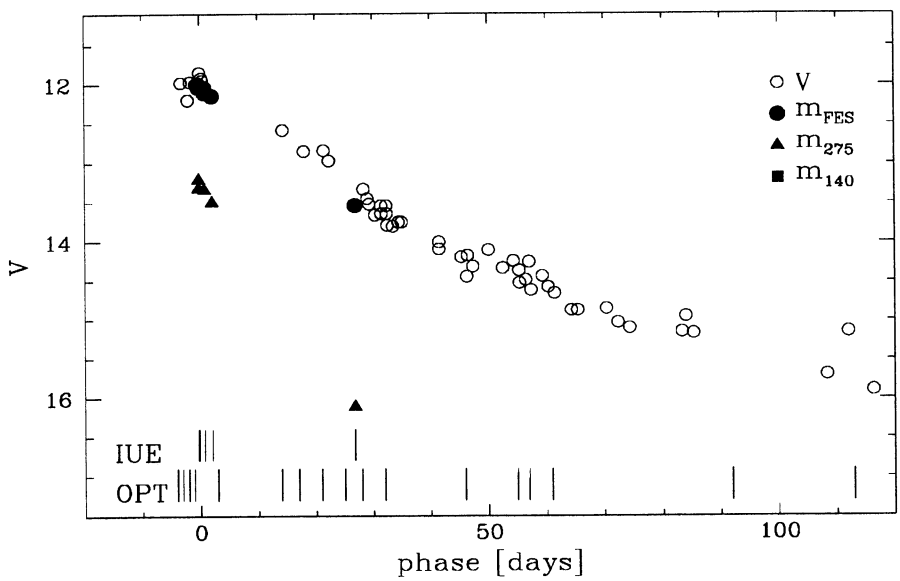

Figure 2: V+m_{FES}, m_{140}, m_{275} light curves. The epochs of IUE and published optical spectra are marked

REFERENCES

BV,OPTS - Barbon,R., Ciatti,F., Rosino,L. 1982 A&A 116,35
MOD - Branch,D. 1982, 252, L61
IUE-MOD - Branch,D., Venkatakrishna,K.L., 1986 ApJ306,L21
OPTS,MOD - Branch, D., Lacy, C.H., McCall, M.L., Sutherland, P.G., Uomoto, A., Wheeler, J.C., Will, B.J., 1983, ApJ 270, 123
MOD - Branch,D., Buta,R., Falk,M.L., McCall,P.G., Sutherland,A., Uomoto,J.C., Wheeler,J.C., Wills, B.J. 1982 ApJ 252, L61
MOD - Branch, D., Doggett, J.B., Nomoto, K., Thielemann, F.K., 1985, ApJ 294, 619
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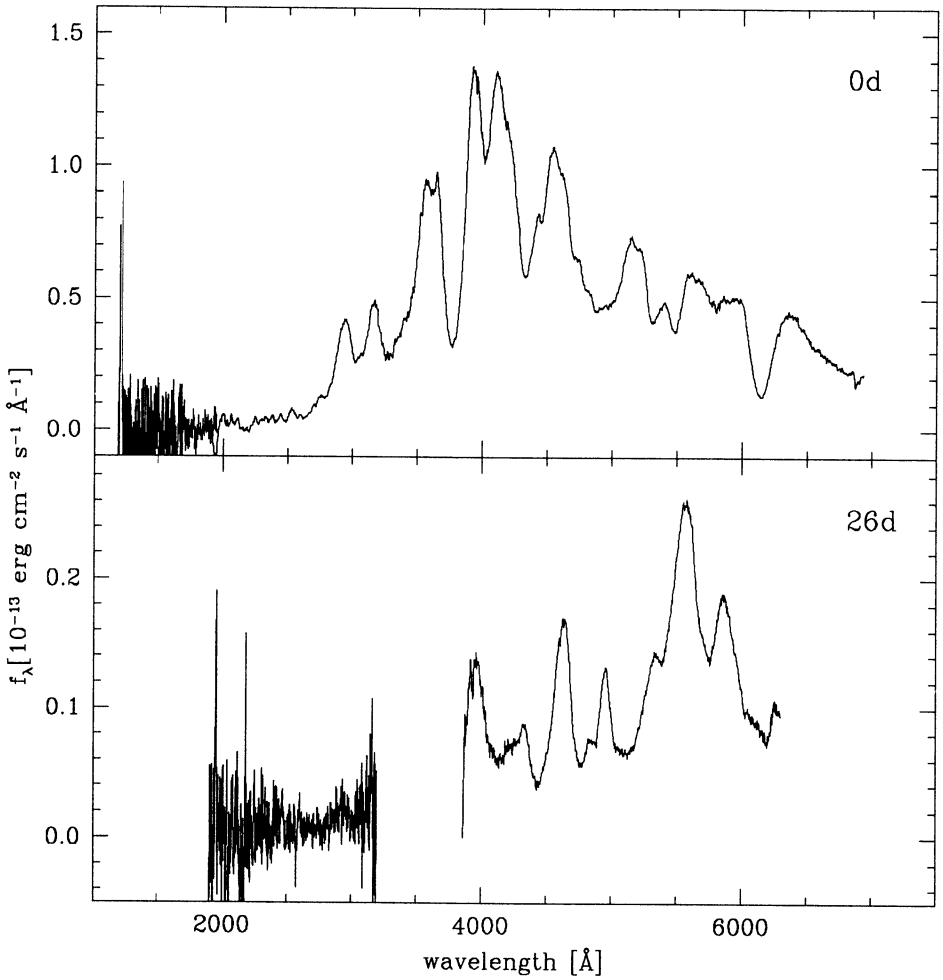

Figure 3: UV-optical spectra

JHK - Elias, J.H., Frogel, J.A., 1983 ApJ 268, 718
JHK - Elias, J.H., Frogel, J.A., Hackwell, J.A., Persson, S.E. 1981 ApJ 251, L13
IRS - Graham, J.R., 1986, MNRAS 220, 27P
MOD - Hoflich, P., Khokhlov, A., Muller, E., 1991, A&A 248, L7
IUE - Panagia, N., 1982, Third European IUE Conference, eds Rolfe, E., Heck, A., ESA SP-176 p. 31
IUE - Panagia, N., 1983, Mem. S.A.It. 54, 443
OPTS - Richtler, T. Sadler, E.M., 1983, 128, L3
RADIO - Sramek, R.A., Panagia, N., Weiler, K.W., 1984, ApJ 285, L59
UBV - Tsvetkov,D.Yu., 1982 SA Lett 8, 115
V - Veron, P., 1981, ESO Messenger 24, 27

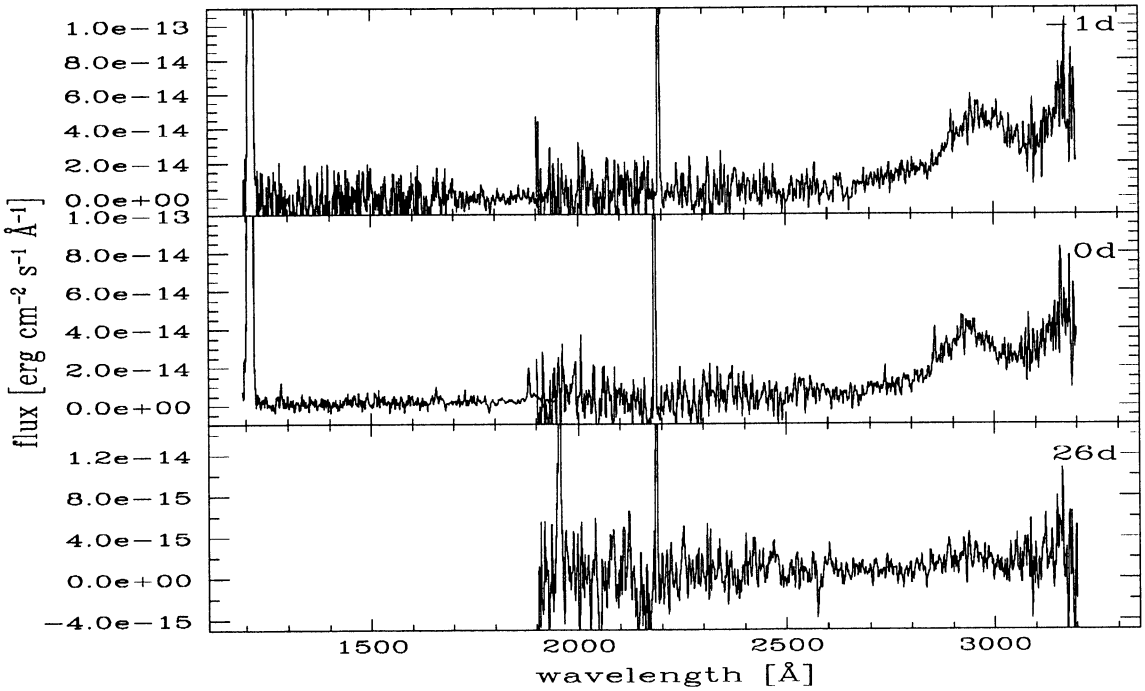

Figure 4: Selected IUE spectra

SN 1982B NGC 2268

GALAXY DATA

coordinates [2000.0]	$07^h\,14\,15\overset{s}{.}7 \quad +84°\,22'\,50''$
morphological type	SXR4
heliocentric velocity [km s^{-1}]	2304 ± 58
galactic absorption [A_B]	0.22
distance modulus	32.68
group affiliation	42 −16

SN DATA

classification	Ia
offset [arcsec]	23 East 16 North
coordinates* [2000.0]	$07^h14^m31\overset{s}{.}4 \quad +84°23'16''$
epoch of discovery [JD]	2445012
Light curve	
epoch of maximum [JD]	2445016
B magnitude at maximum	13.65
B-V color at maximum	0.25
β^B [$mag\,100d^{-1}$]	9.1
γ^B [$mag\,100d^{-1}$]	1.4

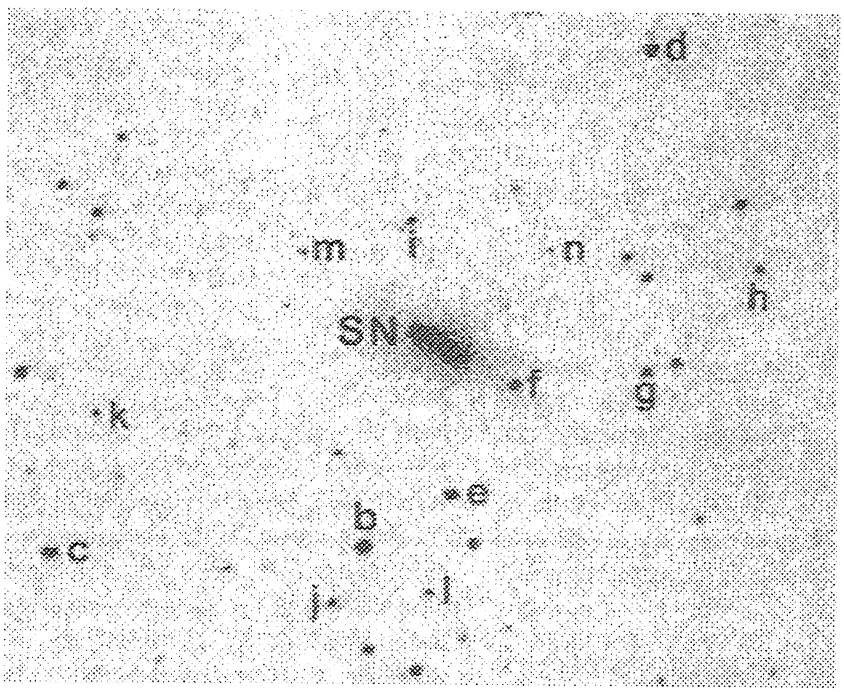

Figure 1: Map of SN 1982B (Ciatti et al. 1988) North is top, east is left.

IUE spectra: ULDA tape **SN1982B**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWR12619	18/02/82	07:29	+2	13.30		15.22	
SWP16363	18/02/82	09:34	+2	13.32	15.58		
LWR12620	18/02/82	10:21	+2	13.32		14.76	

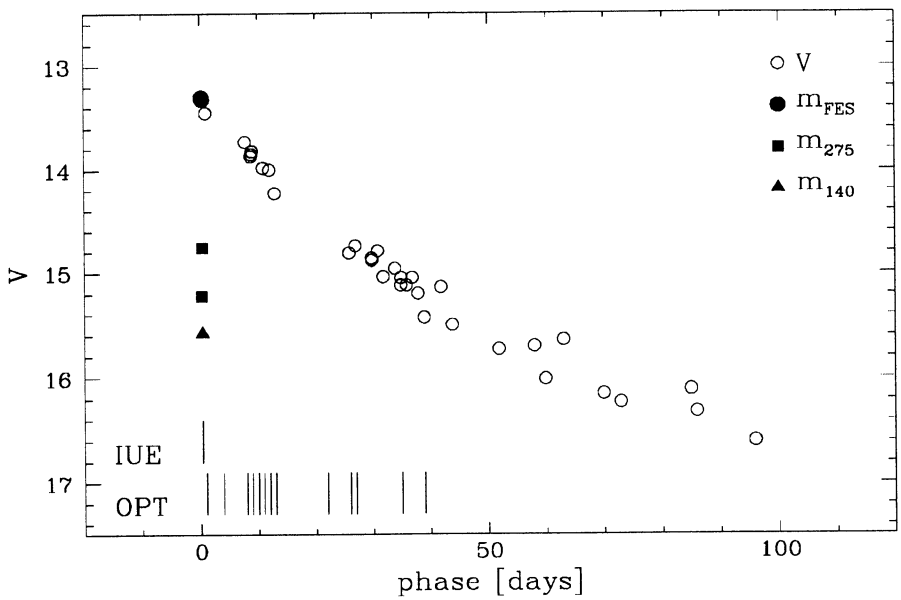

Figure 2: V+m$_{FES}$, m$_{140}$, m$_{275}$ light curves. The epochs of IUE and published optical spectra are marked

REFERENCES

BV - Cadonau, R., Trefzger, C., 1983, IBVS 2382
BV,OPTS - Ciatti,F., Barbon, R., Cappellaro, E., Rosino, L., 1988 A&A 202, 15
BV - Tsvetkov, D.Yu. 1983 Astron. Tzirc No. 1274

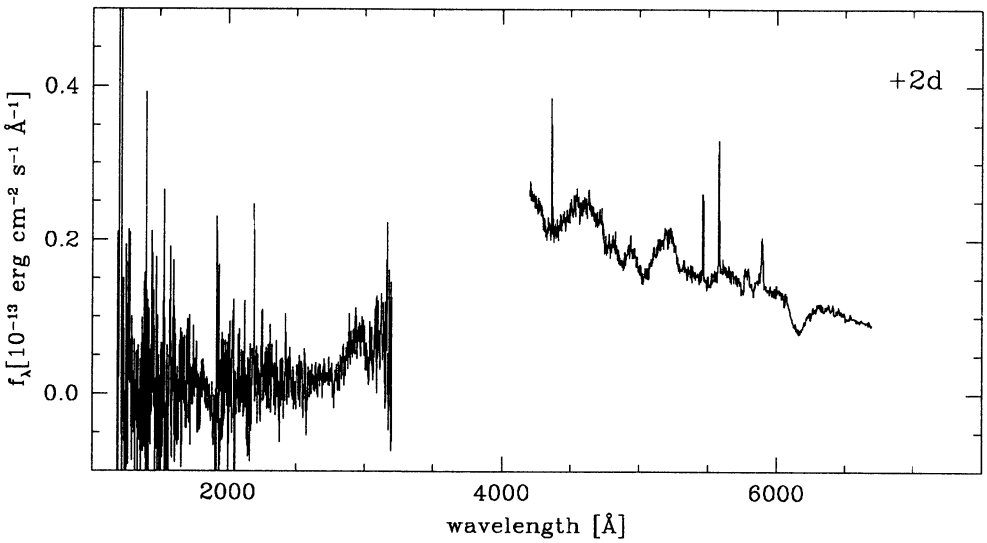

Figure 3: UV-optical spectra

SN 1983G NGC 4753

GALAXY DATA

coordinates [2000.0]	$12^h\,52\,22\overset{s}{.}8 \quad -01°\,11'\,57''$
morphological type	I0
heliocentric velocity [km s^{-1}]	1237 ± 38
galactic absorption [A_B]	0.03
distance modulus	30.89
group affiliation	11 + 9 + 1 (Virgo)

SN DATA

classification	**Ia**
offset [arcsec]	17 West 14 South
coordinates* [2000.0]	$12^h52^m21\overset{s}{.}7 \quad -01°12'11''$
epoch of discovery [JD]	2445429
Light curve	
epoch of maximum [JD]	2445432
B magnitude at maximum	13.1
B-V color at maximum	0.27
β^B [$mag\,100d^{-1}$]	9.0
γ^B [$mag\,100d^{-1}$]	/

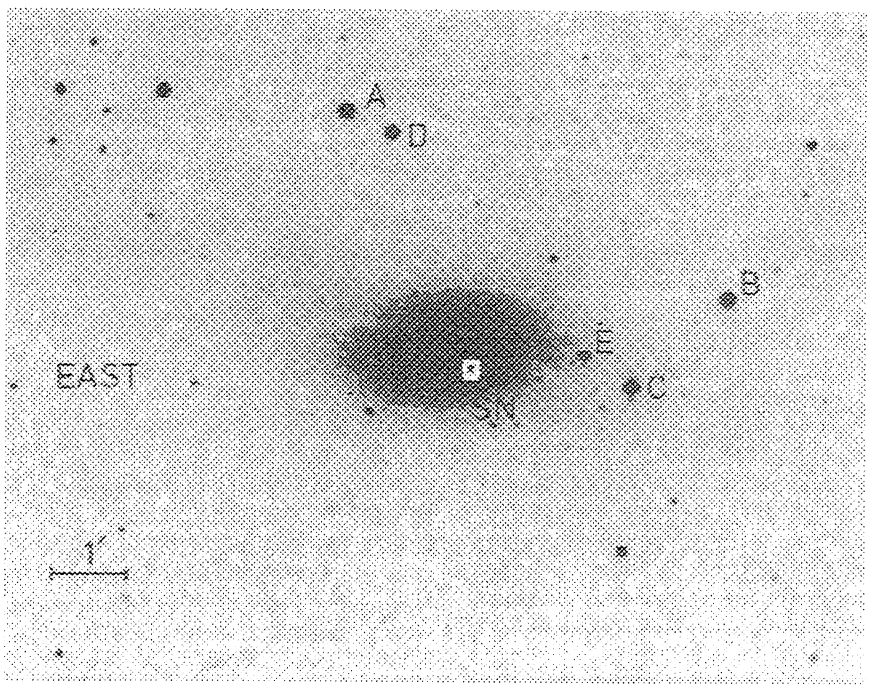

Figure 1: Map of SN 1983G (Buta et al. 1985). North is top, east is left.

IUE spectra: ULDA tape **SN1983G**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWR15677	08/04/83	04:25	+1	12.57		14.31	
SWP19674	08/04/82	05:51	+1	12.54	14.00		
LWR15679	08/04/83	15:06	+1	12.57		14.42	
LWR15687	09/04/83	08:05	+2	12.61		15.12	
LWR15709	11/04/83	11:23	+4	12.69		14.90	
LWR15732	14/04/83	04:15	+7	12.85		15.21	
LWR15776	19/04/83	11:16	+12	13.01		15.73	
LWR15810	25/04/83	04:09	+18			15.79	

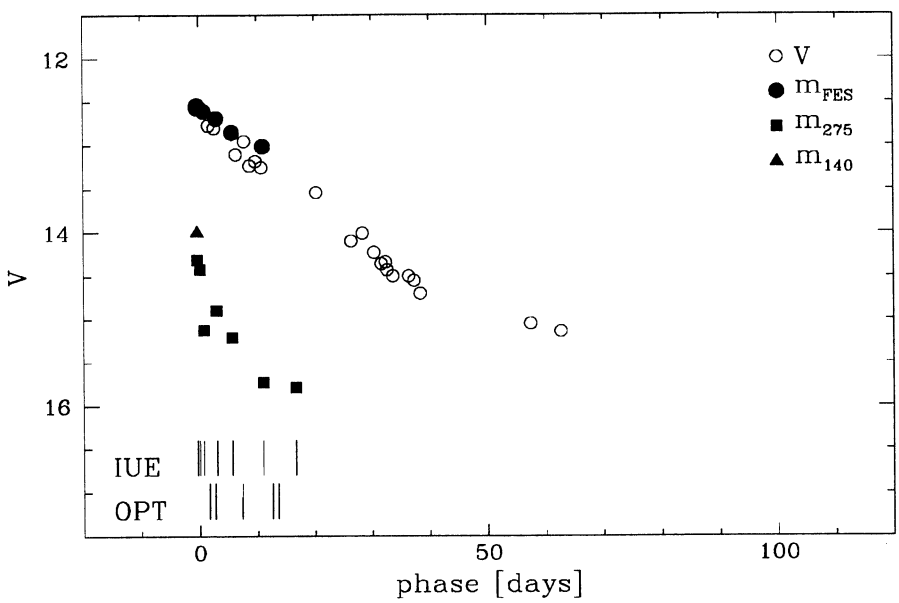

Figure 2: V+m$_{FES}$, m$_{140}$, m$_{275}$ light curves. The epochs of IUE and published optical spectra are marked

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UBVRI - Buta,R.J., Corwin,H.G., Opal,C.B., 1985 PASP 97,229
SPECPOL - McCall,L.M., Reid,N., Bessel,M.S., Wickramasinghe,D. 1984 MNRAS 210, 839
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UBV,OPTS - Harris,G.L.H., Hesser,J.E., Massey,P., Peterson,C.J., Yamanaka, J.M. 1983 PASP 95, 607
RADIO - Sramek, R.A., Panagia,N., Weiler,K.W., 1984 ApJ 285,L59

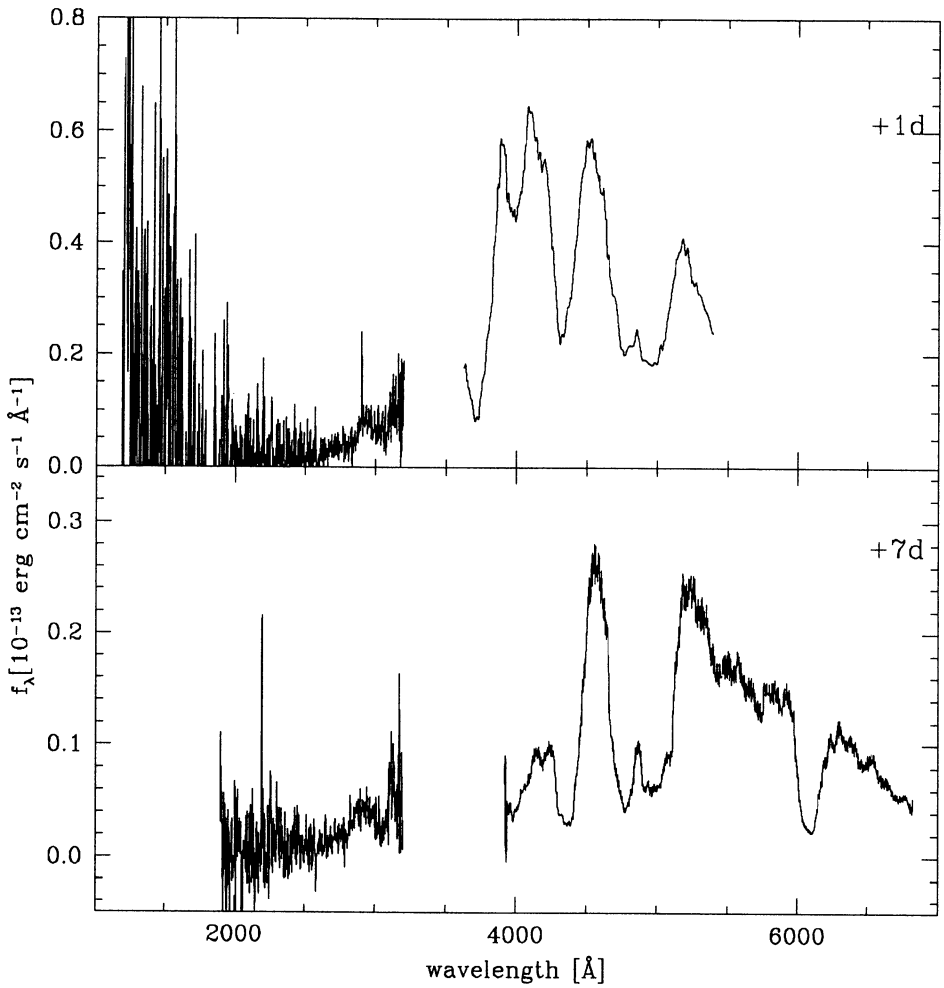

Figure 3: UV-optical spectra

BV - Tsvetkov, D.Yu., 1985 SA 29,211

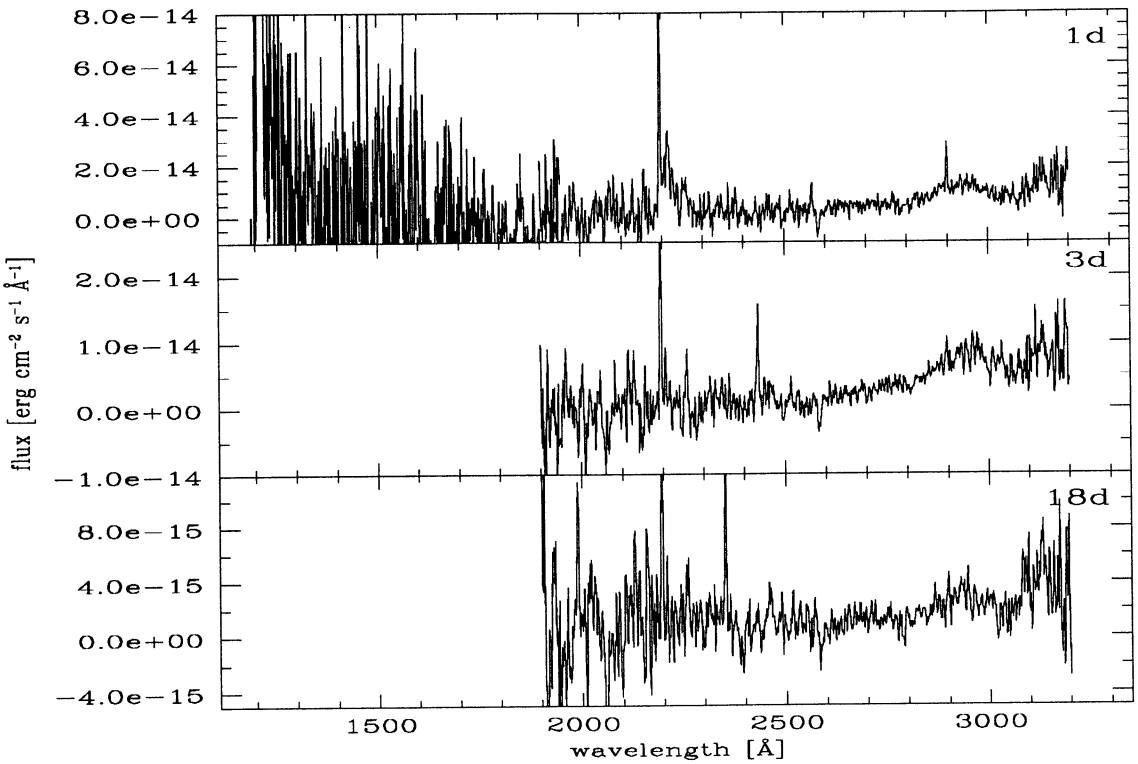

Figure 4: Selected IUE spectra

SN 1983N NGC 5236 (M83)

GALAXY DATA

coordinates [2000.0]	$13^h\,37\,00^s.3 \quad -29°\,52'\,04''$
morphological type	SXS5
heliocentric velocity [km s^{-1}]	503 ± 11
galactic absorption [A_B]	0.15
distance modulus	28.35
group affiliation	14–15

SN DATA

classification	**Ib**
offset [arcsec]	111 West 120 South
coordinates [2000.0]	$13^h26^m49^s.3 \quad -29°54'21''$
epoch of discovery [JD]	2445519
Light curve	
epoch of maximum [JD]	2445531
B magnitude at maximum	11.7
B-V color at maximum	0.57
β^B [$mag\,100d^{-1}$]	/
γ^B [$mag\,100d^{-1}$]	/

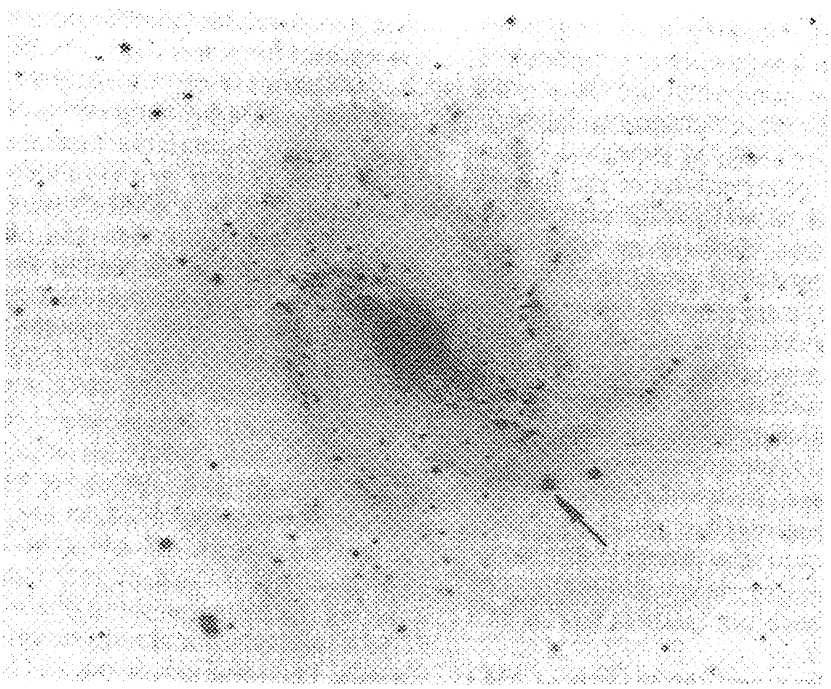

Figure 1: Map of SN 1983N (D'Odorico et al. 1985) North is top, east is left.

IUE spectra: ULDA tape **SN1983N**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWR16293L	04/07/83	20:57	-12	12.68		13.62	
SWP20380L	04/07/83	21:33	-12	12.64	14.91		
LWR16294L	04/07/83	22:32	-12	12.68		13.68	
LWR16306L	05/07/83	20:36	-11	12.38		13.33	
SWP20390L	05/07/83	22:11	-11	12.32	14.53		
LWR16307L	06/07/83	02:26	-11	12.33		13.24	
LWR16309L	07/07/83	04:51	-10	12.07			No ULDA
LWR16310L	07/07/83	10:03	-10	12.05		12.78	
SWP20412L	07/07/83	05:57	-10	12.07			
LWR16319L	08/07/83	21:16	-8	11.87		12.52	
SWP20419L	08/07/83	22:18	-8	11.81	14.29		
LWR16332L	11/07/83	00:42	-6	11.54		12.50	
LWR16334L	12/07/83	10:54	-5	11.52		12.54	
SWP20448L	12/07/83	01:29	-5	11.87	14.30		
SWP20449L	12/07/83	05:33	-5	11.54	14.44		
LWP01950L	14/07/83	21:28	-2	11.40		12.65	
LWP01951L	14/07/83	22:25	-2				high res.
SWP20470L	15/07/83	09:51	-2	11.34	14.34		
LWR16378L	19/07/83	20:36	+3	11.35		13.40	
SWP20484L	19/07/83	21:59	+3	11.37	14.46		
LWR16419L	24/07/83	09:47	+7	11.50			
SWP20507L	24/07/83	04:44	+7	11.42	14.49		
LWR16485L	30/07/83	20:46	+12	11.86		14.48	
SWP20546L	30/07/83	23:53	+12	11.89	14.56		
LWR16534L	05/08/83	18:38	+14	12.23		14.58	
SWP20620L	05/08/83	22:16	+20	12.28	14.59		
LWR16623L	18/08/83	19:40	+20	12.74		14.65	
LWR17196L	31/12/83	11:14	+168	14.02		14.80	
SWP23560L	30/07/84	23:56	+380		14.59		

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RADIO,MOD - Chevalier, R.A., 1984, ApJ 285, L63
HR-OPTS - D'Odorico, S., Pettini, M., Ponz, D., 1985, ApJ 299, 852
JHK - Elias, J.H., Matthews,K., Neugebauer,G., Persson,S.E., 1985 ApJ 296,379
MOD - Easman, L.M., Woosley, S.E., 1988, ApJ 333, 754
g - Filippenko,A.V., Porter,A.C., Sargent,W.L.W., Schneider,D.P. 1986 AJ 92,1341
OPTS - Gaskell,C.M., Cappellaro,H.L., Dinerstein,D.R., Garnett,D.R., Harkness,R.P., Wheeler,J.C., 1986 ApJ 306,L77
IRS - Graham,J.R., Meikle,W.P.S., Allen,D.A., Longmore, A.J., Williams, P.M. 1986 MNRAS 218,93
OPTS - Harkness, R.P., et al. 1987, ApJ 317, 355
HR-OPTS - Jenskins, E.B., Rodgers, A.W., Harding, P., Morton, D.C., York, D.G. 1984, 281, 585

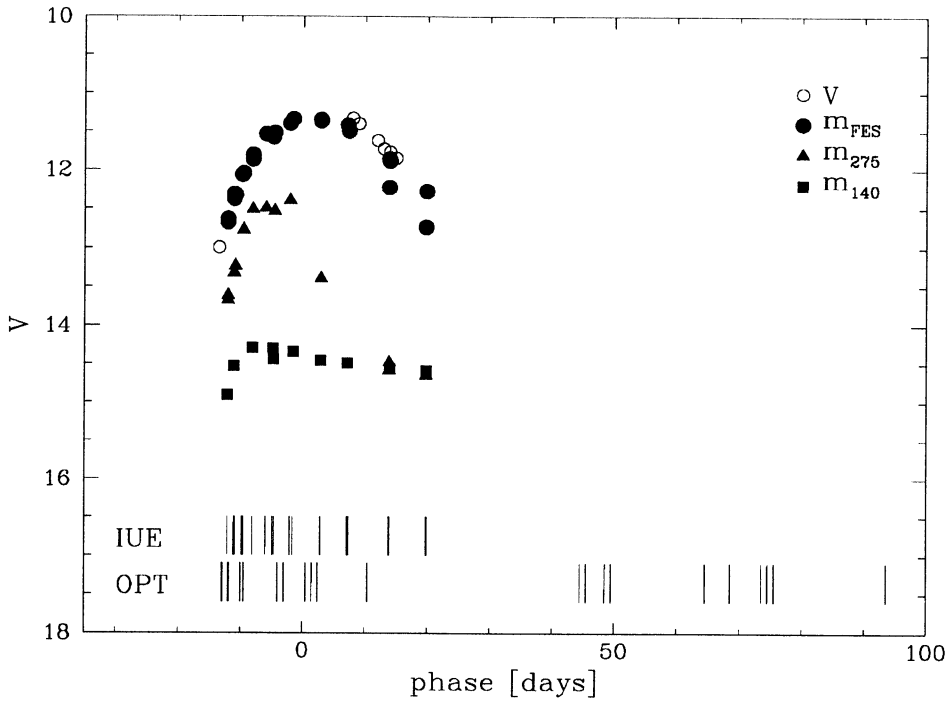

Figure 2: V+m_{FES}, m_{140}, m_{275} light curves. The epochs of IUE and published optical spectra are marked

MOD - Oliva, E., 1987, ApJ 321, L45
UBVRIJHKL,IUE,OPTS,X-RAY - Panagia,N., et al. 1984 Draft
RADIO - Panagia, N., Sramek, R.A., Weiler, K.W., 1986, ApJ 300, L55
OPTS - Richler, O.G., Sadler, E.M., 1983, A&A 128, L3
JHK - Selby, M.J., Mampaso, A., 1991, Ap Lett. 28, 171
MOD - Shigeyama, T., Nomoto, K., Tsujimoto, T., Hashimoto, M.A., 1990, ApJ 361, L23
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RADIO - Sramek,R.A., Panagia,N., Weiler,K.W., 1984, 285, L59
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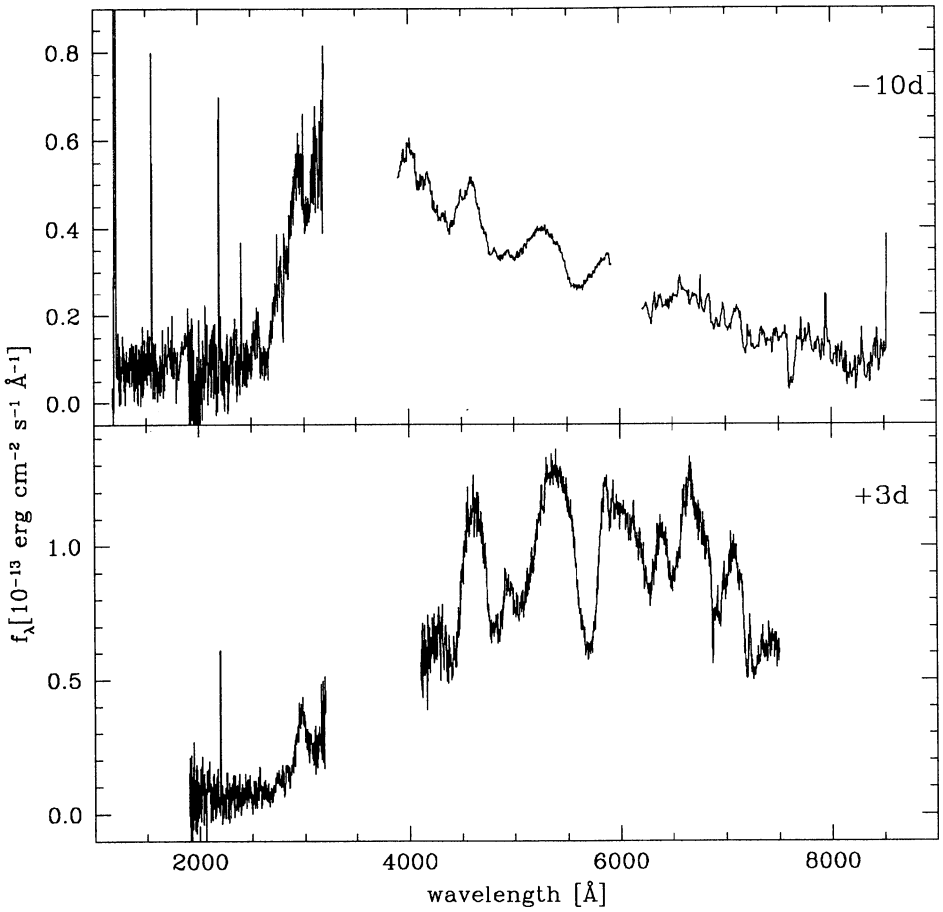

Figure 3: UV-optical spectra

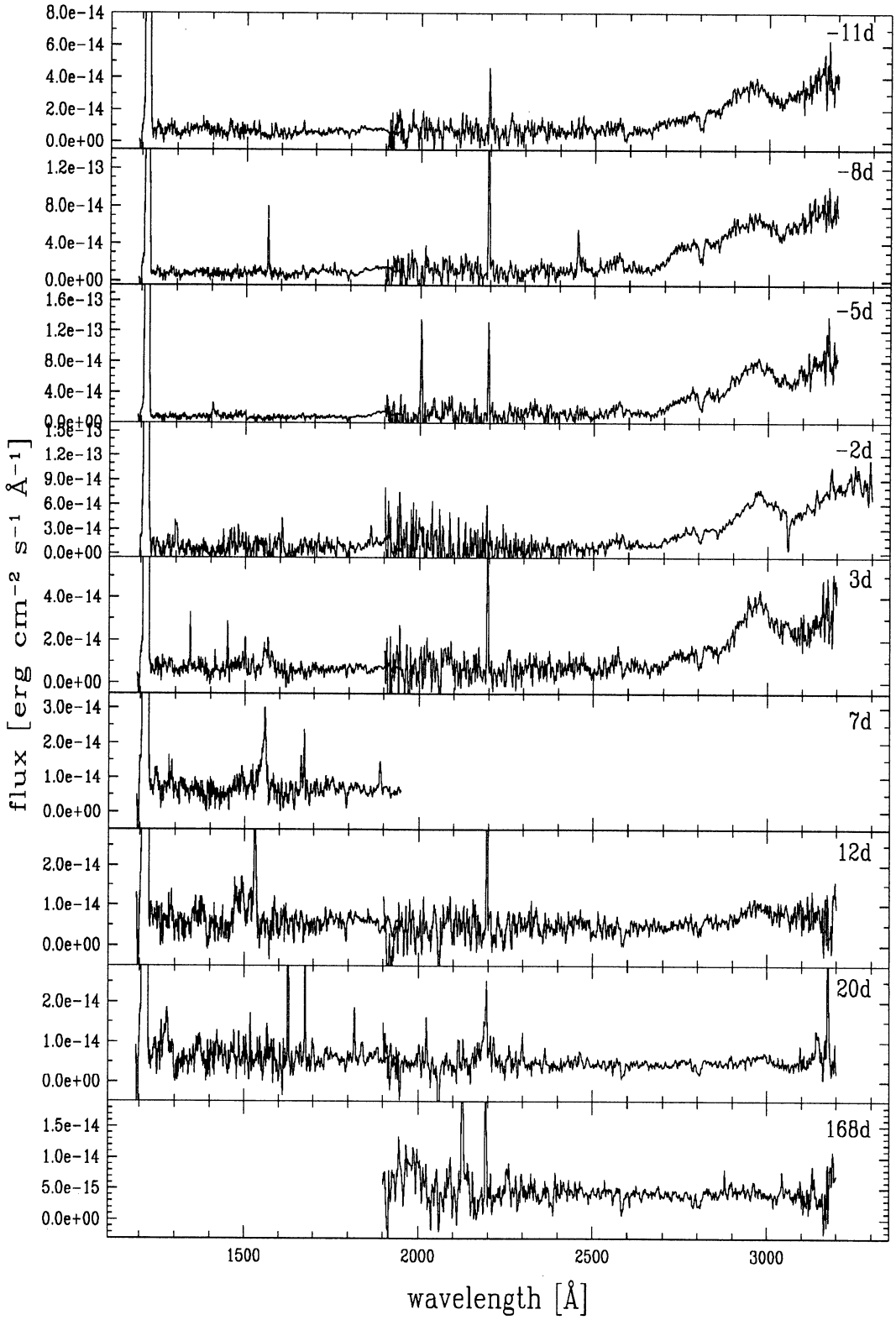

Figure 4: Selected IUE spectra

SN 1984J NGC 1559

GALAXY DATA

coordinates [2000.0]	$04^h\,17\,37\overset{s}{.}4 \quad -62°\,47'\,04''$
morphological type	SBS6
heliocentric velocity [km s^{-1}]	1333 ± 38
galactic absorption [A_B]	0.00
distance modulus	30.78
group affiliation	53-2+1 (Dorado)

SN DATA

classification	**II**
offset [arcsec]	25 West 10 South
coordinates* [2000.0]	$04^h17^m33\overset{s}{.}8 \quad -62°47'14''$
epoch of discovery [JD]	2445908
Light curve	
epoch of maximum [JD]	2445910
V magnitude at maximum	13.2
B-V color at **3d**	0.5
β^V_{100} [$mag\,100d^{-1}$]	2.5
γ^B [$mag\,100d^{-1}$]	/

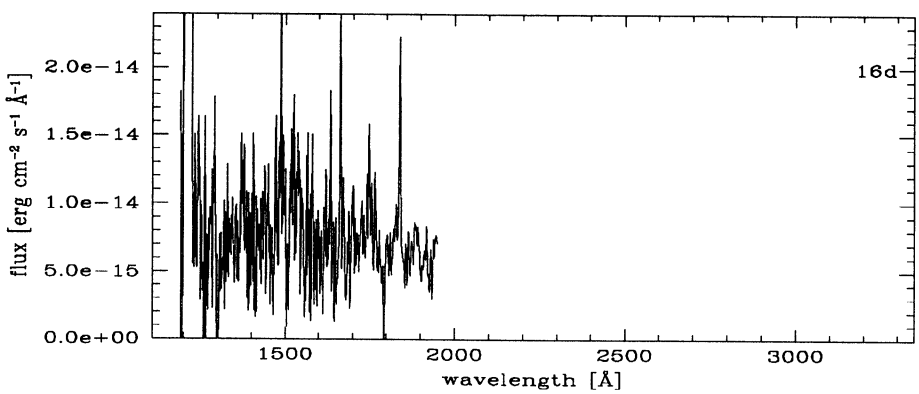

Figure 1: Selected IUE spectra

IUE spectra: ULDA tape **SN1984J**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
SWP23682L	13/08/84	18:11	+16		14.37		

REFERENCES

GENERAL - IAU Circular No. 3963, 3967, 3980, 3989, 3997
UBV - Patat, F., Barbon, R., Cappellaro, E., Turatto, M., 1993, A&AS 98, 443

SN 1985F NGC 4618

GALAXY DATA

coordinates [2000.0]	$12^h\,41\,33\overset{s}{.}0$ $+41°\,09'\,03''$
morphological type	SBT9
heliocentric velocity [km s^{-1}]	543 ± 25
galactic absorption [A_B]	0.00
distance modulus	29.31
group affiliation	14–4

SN DATA

classification	Ib
offset [arcsec]	13 East 6 North
coordinates [2000.0]	$12^h41^m33\overset{s}{.}01$ $+41°09'05\overset{''}{.}9$
epoch of discovery [JD]	2446124
Light curve	
epoch of maximum [JD]	2445864
B magnitude at maximum	12.1
B-V color at maximum	/
β^B_{100} [$mag\,100d^{-1}$]	5.5
γ^B [$mag\,100d^{-1}$]	1.2

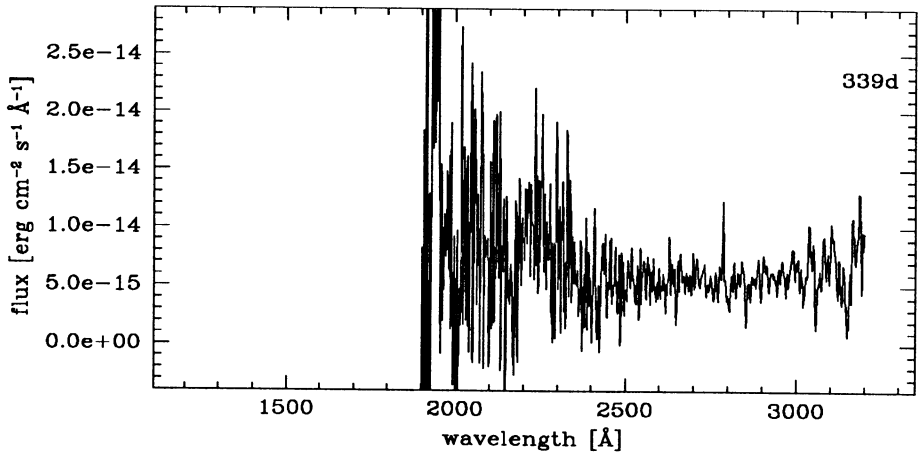

Figure 1: Selected IUE spectra

IUE spectra: ULDA tape **SN1985F**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP6005L	18/05/85	00:12	339			14.43	

REFERENCES

MOD - Begelman, M.C., Sarazin, C. L., 1986, ApJ 302, L59
MOD - Chugaj, N., 1986, ATsir 1429, 1
OPTS - Filippenko, A.V., Sargent, W.L.W., 1985, Nature 316, 407
OPTS - Filippenko, A.V., Sargent, W.L.W., 1986, AJ 91, 691
OPTS - Filippenko, A.V., Sargent, W.L.W., 1989, ApJ 345, L43
g - Filippenko, A.V., Porter, A.C., Sargent, W.L.W., Schneider, D.P., 1986, AJ 92, 1341
MOD - Fransson, C., Chevalier, R. A., 1989, ApJ 343, 323
OPTS - Gaskell, C.M., Cappellaro, E. Dinerstein, H. L., Garnett, D. R., Harkness, R. P., Wheeler, J.C., 1986, ApJ 306, L77
OPTS - Pearce, G., Purvis, A., 1986, A&SS 125, 175
BV - Tsvetkov, D.I., 1986, SvAL 12, 328
MOD - Ensman, L.M., Woosley, S.E., 1988, ApJ 333, 754

SN 1985L NGC 5033

GALAXY DATA

coordinates [2000.0]	$13^h\,13\,28\overset{s}{.}0 \quad +36°\,35'\,38''$
morphological type	SAS5
heliocentric velocity [km s^{-1}]	861 ± 20
galactic absorption [A_B]	0.00
distance modulus	31.36
group affiliation	43 – 1 (Canes Venatici)

SN DATA

classification	**II Linear**
offset [arcsec]	70 West 55 North
coordinates [2000.0]	$13^h13^m21\overset{s}{.}75 \quad +36°36'32\overset{''}{.}7$
epoch of discovery [JD]	2446230
Light curve	
epoch of maximum [JD]	2446230
B magnitude at maximum	13.00
B-V color at maximum	/
β^B_{100} [$mag\,100d^{-1}$]	3.9
γ^B [$mag\,100d^{-1}$]	/

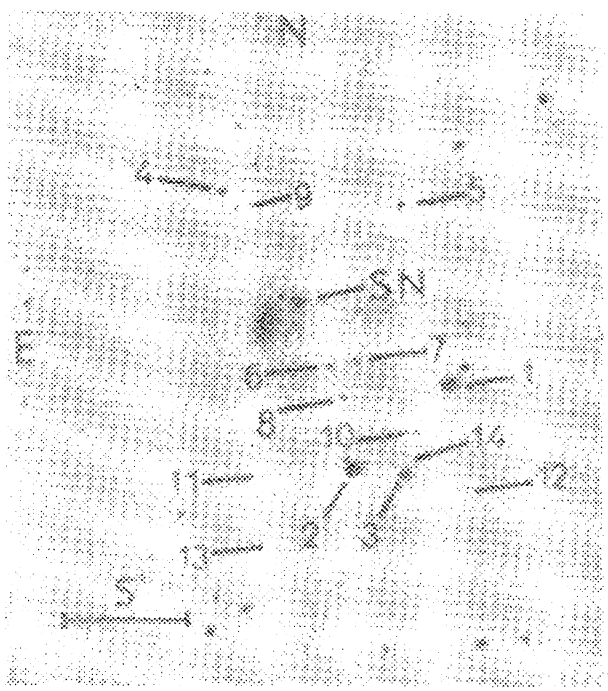

Figure 1: Map of SN 1985L (Kimeridze & Tsvetkov 1989). North is top, east is left.

IUE spectra: ULDA tape **SN1985L**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
SWP26278L	28/06/85	02:13	+14	12.51	14.69		
LWP6291L	28/06/85	03:30	+14	12.47		12.94	
LWP6418L	17/07/85	20:22	+24	12.56		14.79	

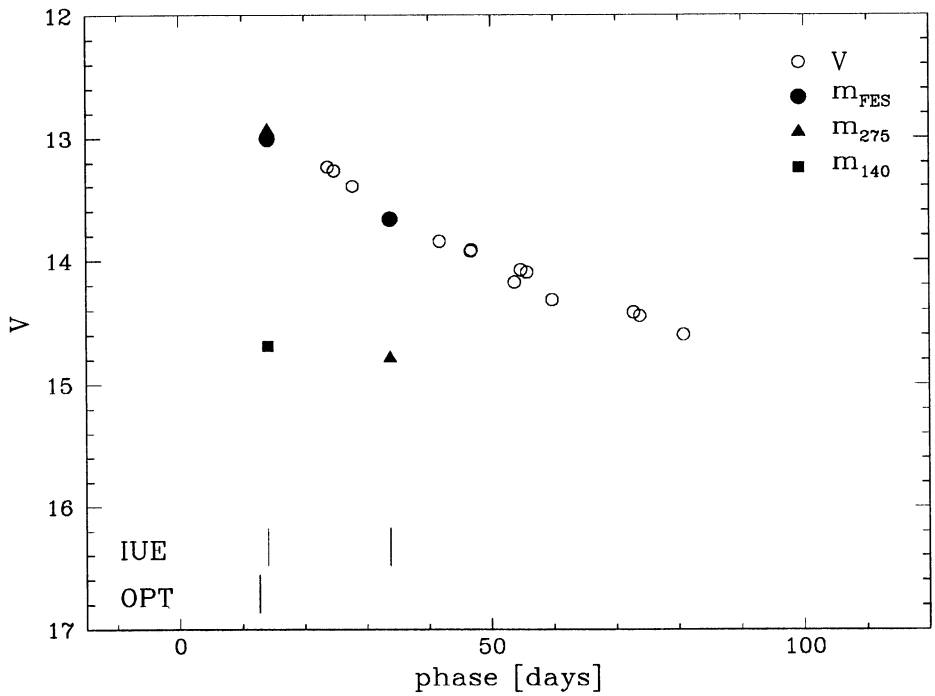

Figure 2: V+m_{FES}, m_{140}, m_{275} light curves. The epochs of IUE and published optical spectra are marked

REFERENCES

UBV - Kimeridze, G.N, Tsvetkov, D.Yu, 1989, Astrofizika 31, 17
OPTS - Filippenko,A.V., Sargent, W.L.W., 1986, AJ 91, 691

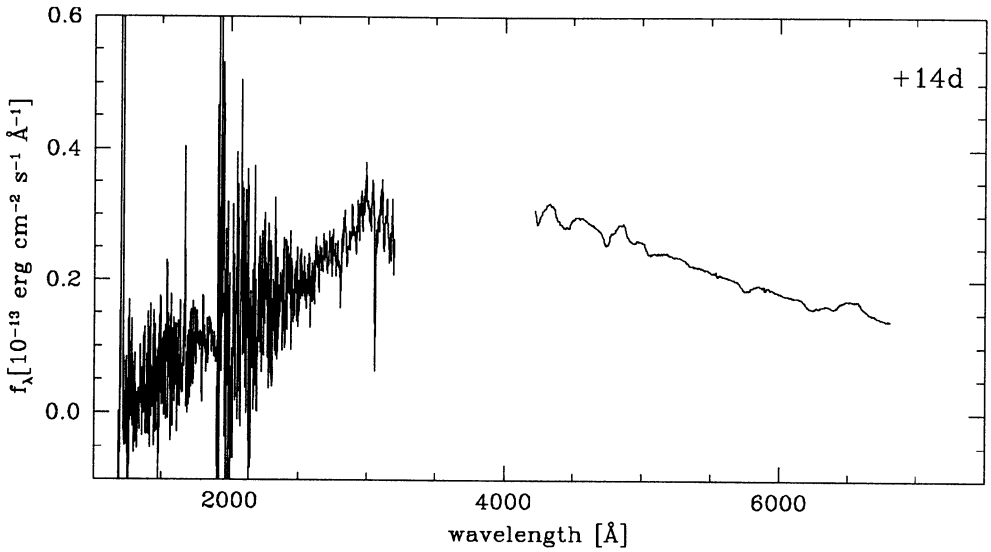

Figure 3: UV-optical spectra

SN 1986G NGC 5128 (Cen A)

GALAXY DATA

coordinates [2000.0]	$13^h\,25\,29\overset{s}{.}0 \quad -43°\,01'\,00''$
morphological type	LP
heliocentric velocity [km s^{-1}]	538 ± 17
galactic absorption [A_B]	0.52
distance modulus	28.45
group affiliation	14 – 15

SN DATA

classification	**Ia**
offset [arcsec]	120 East 60 South
coordinates [2000.0]	$13^h25^m36\overset{s}{.}46 \quad -43°01'54\overset{''}{.}2$
epoch of discovery [JD]	2446554
Light curve	
epoch of maximum [JD]	2446561
B magnitude at maximum	12.45
B-V color at maximum	1.0
β^B [$mag\,100d^{-1}$]	12.0
γ^B [$mag\,100d^{-1}$]	1.9

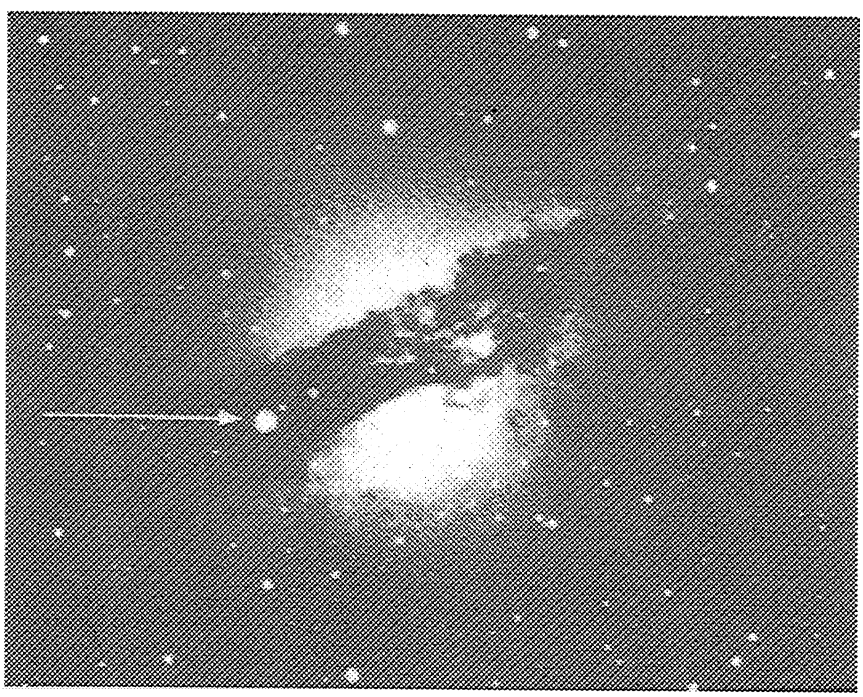

Figure 1: Map of SN 1986G (Galletta 1986) North is top, east is left.

IUE spectra: ULDA tape **SN1986G**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP8150	06/05/86	16:12	-4	11.88		14.97	
LWP8158	08/05/86	00:44	-3	11.77		15.44	
LWP8182	12/05/86	08:55	+2	11.56		15.82	
LWP8202	15/05/86	00:49	+4	11.72		15.83	
LWP8224	19/05/86	00:27	+8	12.02		16.26	
LWP8299	29/05/86	00:40	+18	12.54		16.49	

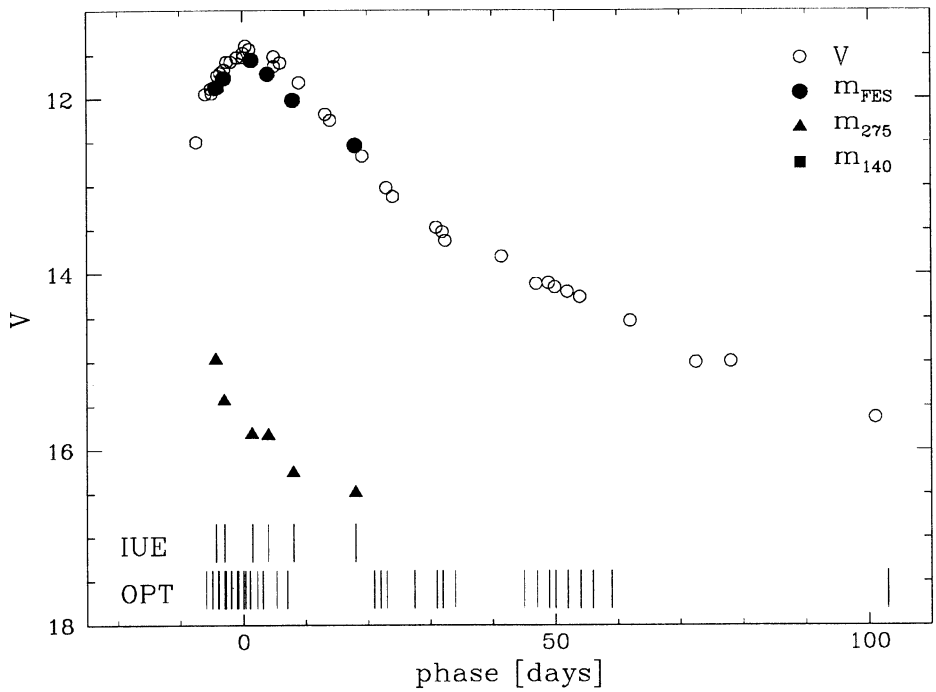

Figure 2: V+m_{FES}, m_{140}, m_{275} light curves. The epochs of IUE and published optical spectra are marked

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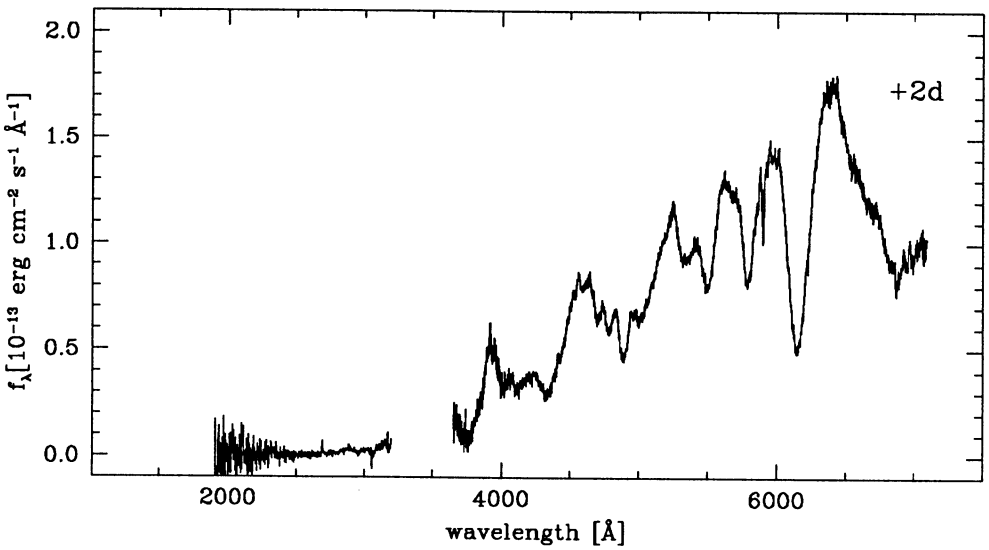

Figure 3: UV-optical spectra

HR-OPTS - Rich, R.M., 1987, AJ 94, 651
MOD - Ruiz-Lapuente, P., Lucy, L.B., Danziger, I.J., 1992, Mem. S.A.It. 63, 233
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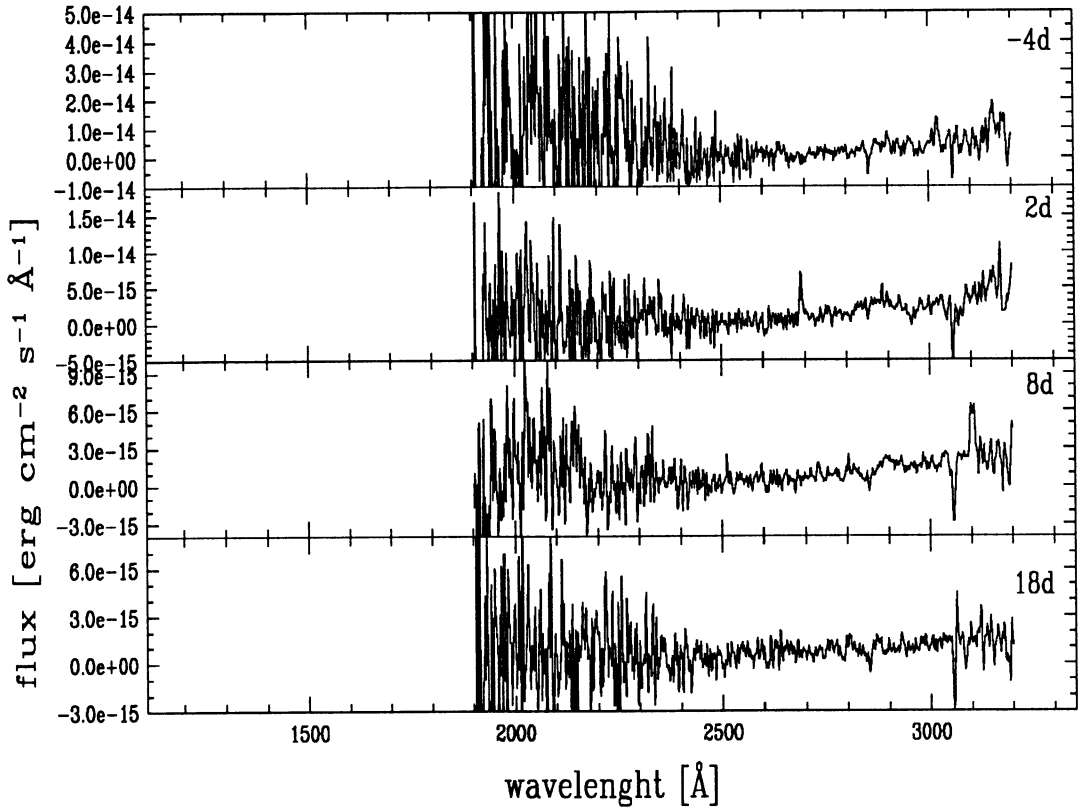

Figure 4: Selected IUE spectra

SN 1987A LMC

GALAXY DATA

coordinates [2000.0]	$5^h\,24\,00\overset{s}{.}0 \quad -69°\,48'\,00''$
morphological type	SBS9
heliocentric velocity [km s^{-1}]	324 ± 10
galactic absorption [A_B]	0.27
distance modulus	18.49
cluster membership	14–12

SN DATA

classification	**II Pec**
offset [arcsec]	/
coordinates [2000.0]	$5^h35^m28\overset{s}{.}01 \quad -69°16'11\overset{''}{.}6$
epoch of neutrino burst [JD]	2446849.816
Light curve	
epoch of maximum [JD]	2446851
B magnitude at maximum	4.75
B-V color at maximum	0.1
β^B_{100} [$mag\,100d^{-1}$]	-1.1
γ^B [$mag\,100d^{-1}$]	0.7

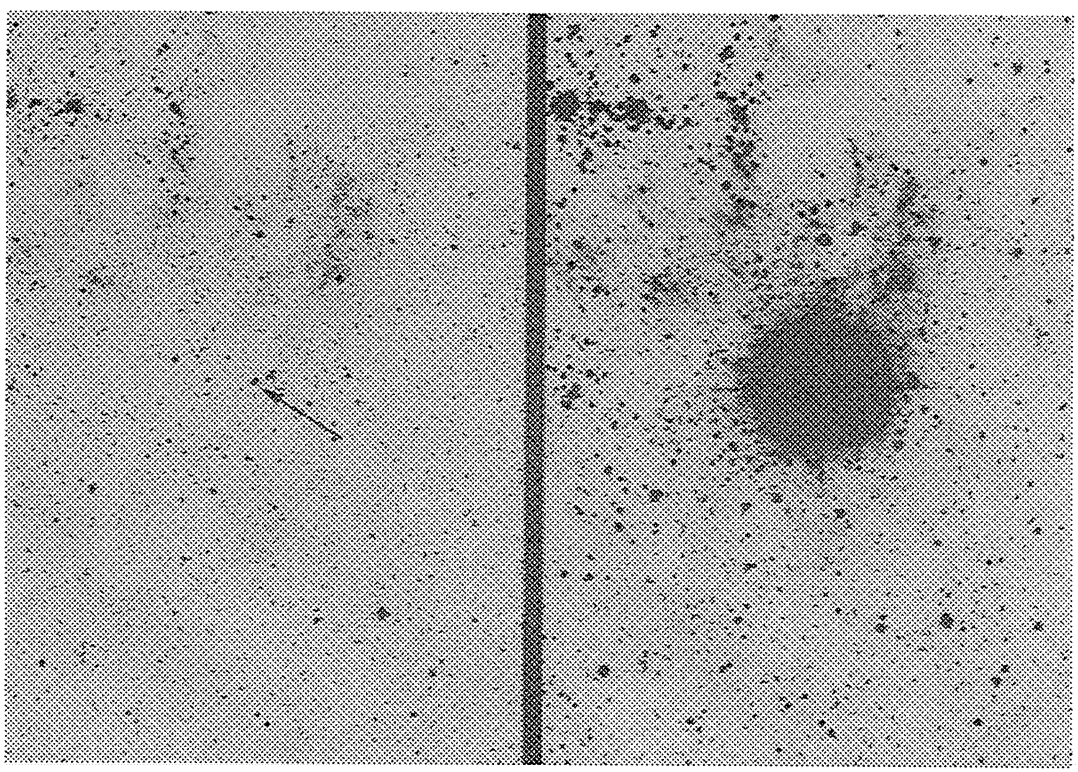

Figure 1. The field of SN 1987A before and after the burst (White & Malin 1987).

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
SWP30375L	24/02/87	20:04	+1.5	4.64	4.48		saturated
SWP30376L	24/02/87	20:53	+1.5	4.63	4.52		
SWP30376S	24/02/87	20:57	+1.5	4.62	5.54		
LWP10189L	24/02/87	21:04	+1.6	4.72		3.39	saturated
LWP10191L	24/02/87	23:22	+1.6	4.67		3.18	
LWP10191S	24/02/87	23:26	+1.6	4.66		4.39	saturated
SWP30378L	24/02/87	23:33	+1.6	4.67	4.75		
SWP30378S	24/02/87	23:38	+1.6	4.66	5.22		
SWP30380L	25/02/87	03:41	+1.8	4.58	5.09		
LWP10193L	25/02/87	04:58	+1.8	4.55		3.32	
LWP10195L	25/02/87	06:42	+1.9	4.50		4.09	
SWP30382L	25/02/87	06:39	+1.9	4.50	5.29		
LWP10198L	25/02/87	10:08	+2.1	4.52		3.51	
SWP30385L	25/02/87	10:33	+2.1	4.56	5.65		
LWP10199L	25/02/87	19:53	+2.5	4.56		3.82	
LWP10199S	25/02/87	19:57	+2.5	4.56		5.01	saturated
SWP30388L	25/02/87	20:33	+2.5	4.56	6.57		
SWP30388S	25/02/87	20:37	+2.5	4.56	7.23		
SWP30390L	25/02/87	22:44	+2.6	4.54	6.72		
SWP30390S	25/02/87	22:48	+2.6	4.53	8.32		saturated
LWP10202L	26/02/87	05:36	+2.9	4.52		4.24	
LWP10202S	26/02/87	05:40	+2.9	4.52		5.77	
SWP30395L	26/02/87	05:25	+2.9	4.46	7.44		
SWP30395S	26/02/87	05:31	+2.9	4.46	8.61		
LWP10203L	26/02/87	06:15	+2.9	4.51		5.12	saturated
LWP10205L	26/02/87	09:01	+3.1	4.53		4.88	
SWP30397L	26/02/87	10:17	+3.1	4.54	8.01		
SWP30397S	26/02/87	10:23	+3.1	4.54	9.53		saturated
LWP10207L	26/02/87	11:57	+3.1	4.53		4.56	
LWP10207S	26/02/87	12:03	+3.2	4.54		5.80	
SWP30398L	26/02/87	12:08	+3.2	4.54	8.22		
SWP30398S	26/02/87	12:13	+3.2	4.55	8.98		
LWP10210L	26/02/87	19:25	+3.5	4.53		5.49	
LWP10210S	26/02/87	19:31	+3.5	4.53		6.29	saturated
SWP30401L	26/02/87	19:35	+3.5	4.54	9.12		
LWP10211L	26/02/87	20:32	+3.5	4.53		6.62	saturated
SWP30402L	26/02/87	20:39	+3.5	4.53	9.73		saturated
LWP10215L	27/02/87	08:34	+4.0	4.50		6.27	
LWP10216L	27/02/87	09:17	+4.1	4.48		6.27	
SWP30406L	27/02/87	09:47	+4.1	4.52	10.52		
LWP10218L	27/02/87	11:53	+4.1	4.53		6.41	
LWP10218S	27/02/87	11:58	+4.1	4.53		7.19	
SWP30407L	27/02/87	12:06	+4.2	4.53	10.79		saturated
SWP30408L	27/02/87	12:48	+4.2	4.52	11.25		saturated
LWP10220L	27/02/87	14:50	+4.3	4.51		7.47	

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP10221L	27/02/87	21:31	+4.6	4.55		6.95	
LWP10221S	27/02/87	21:38	+4.6	4.56		7.75	
SWP30410L	27/02/87	21:52	+4.6	4.54	11.45		
SWP30411L	27/02/87	22:44	+4.6	4.57	11.60		saturated
LWP10222L	28/02/87	00:22	+4.7	4.54		7.88	saturated
SWP30413L	28/02/87	20:55	+5.5	4.61	11.98		
LWP10227L	28/02/87	21:47	+5.6	4.63		7.92	
LWP10227S	28/02/87	22:00	+5.6	4.63		9.05	saturated
SWP30414L	28/02/87	22:38	+5.6	4.62	11.95		
LWP10228L	1/03/87	00:15	+5.7	4.63		9.01	saturated
SWP30415L	1/03/87	00:45	+5.7	4.63	11.91		
SWP30416L	1/03/87	03:57	+5.8	4.63	11.98		
LWP10229L	1/03/87	04:50	+5.8	4.52		8.16	
LWP10230L	1/03/87	05:59	+5.9	4.62		8.17	
SWP30417L	1/03/87	05:23	+5.9	4.55	12.03		
LWP10231L	1/03/87	06:48	+5.9	4.61		8.26	saturated
LWP10232L	1/03/87	07:35	+6.0	4.62		8.19	
LWP10233L	1/03/87	08:29	+6.0	4.68		8.74	saturated
LWP10234L	1/03/87	09:32	+6.1	4.53		8.27	
LWP10235L	1/03/87	10:17	+6.1	4.53		8.27	
SWP30421L	1/03/87	23:44	+6.6	4.66	12.09		
LWP10240L	2/03/87	00:20	+6.7	4.66		8.63	
SWP30422L	2/03/87	03:59	+6.8	4.64	12.06		
LWP10241L	2/03/87	04:26	+6.8	4.63		8.73	
LWP10242L	2/03/87	05:12	+6.9	4.66		8.73	
LWP10243L	2/03/87	06:11	+6.9	4.66		8.75	
LWP10244L	2/03/87	06:47	+6.9	4.64		8.87	
LWP10248L	2/03/87	19:39	+7.5	4.68		9.02	
SWP30426L	2/03/87	19:55	+7.5	4.69	12.17		
LWP10249L	2/03/87	20:33	+7.5	4.71		9.38	saturated
LWP10251L	3/03/87	03:29	+7.8	4.64		9.14	
SWP30427L	3/03/87	03:46	+7.8	4.69	12.14		
LWP10252L	3/03/87	04:18	+7.8	4.64		9.15	
LWP10253L	3/03/87	05:01	+7.9	4.67		10.83	saturated
LWP10254L	3/03/87	07:32	+8.0	4.64		9.24	
LWP10255L	3/03/87	08:16	+8.0	4.67		9.21	
SWP30428L	3/03/87	19:35	+8.5	4.66	12.16		
LWP10258L	3/03/87	20:16	+8.5	4.66		9.36	
LWP10259L	3/03/87	23:10	+8.6	4.65		10.39	saturated
LWP10260L	4/03/87	00:44	+8.7	4.65		8.66	
LWP10261L	4/03/87	03:16	+8.8	4.68		9.46	
SWP30429L	4/03/87	03:27	+8.8	4.69	12.17		
LWP10262L	4/03/87	04:09	+8.8	4.70		9.46	
LWP10263L	4/03/87	04:50	+8.8	4.70		9.46	
LWP10265L	4/03/87	06:15	+8.9	4.72		9.46	

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP10267L	4/03/87	11:33	+9.1	4.50		8.79	
LWP10270L	4/03/87	21:00	+9.6	4.69		9.64	
LWP10271L	4/03/87	21:43	+9.6	4.63		9.93	saturated
LWP10272L	4/03/87	22:33	+9.6	4.65		10.76	saturated
SWP30433L	5/03/87	07:14	+10.0	4.66	12.20		
LWP10277L	5/03/87	08:18	+10.0	4.66		9.75	
SWP30440L	6/03/87	11:53	+11.1	4.71	12.21		
LWP10287L	6/03/87	13:04	+11.2	4.68		9.97	
LWP10288L	6/03/87	17:28	+11.4	4.71		11.48	saturated
LWP10289L	6/03/87	20:20	+11.5	4.67		10.22	saturated
LWP10300L	8/03/87	17:13	+13.4	4.62		10.21	
LWP10301L	8/03/87	17:57	+13.4	4.55		10.94	
LWP10302L	9/03/87	05:51	+13.9	4.56		10.27	
SWP30472L	9/03/87	05:16	+13.9	4.55	12.25		
LWP10303L	9/03/87	08:09	+14.0	4.56		10.25	
LWP10304L	9/03/87	08:58	+14.0	4.54		11.23	saturated
LWP10305L	9/03/87	18:17	+14.4	4.53		10.30	
LWP10312L	10/03/87	22:25	+15.6	4.49		10.30	
LWP10315L	11/03/87	18:11	+16.4	4.50		10.37	saturated
LWP10317L	12/03/87	19:49	+17.5	4.49		10.42	
LWP10318L	13/03/87	11:48	+18.1	4.49		10.44	
SWP30512L	13/03/87	12:03	+18.2	4.49	12.28		
LWP10319L	13/03/87	13:10	+18.2	4.48		10.63	saturated
LWP10320L	13/03/87	16:49	+18.3	4.45		11.44	saturated
LWP10321L	14/03/87	03:59	+18.8	4.41		10.50	
LWP10322L	14/03/87	04:52	+18.8	4.44		10.52	
SWP30522L	14/03/87	04:17	+18.8	4.43	12.29		
LWP10323L	14/03/87	05:48	+18.9	4.47		10.47	
LWP10324L	14/03/87	06:56	+18.9	4.44		11.29	
LWP10325L	14/03/87	09:41	+19.1	4.43		10.50	
LWP10326L	14/03/87	10:29	+19.1	4.44		10.48	
LWP10328L	14/03/87	19:45	+19.5	4.44		10.49	
LWP10332L	15/03/87	09:27	+20.1	4.41		10.50	
LWP10334L	15/03/87	19:39	+20.5	4.43		10.51	
LWP10340L	16/03/87	04:21	+20.8	4.42		10.56	
LWP10344L	16/03/87	11:25	+21.1	4.40		10.50	
LWP10345L	16/03/87	12:08	+21.2	4.40		10.61	saturated
SWP30547L	16/03/87	12:38	+21.2	4.39	12.26		
LWP10346L	16/03/87	16:46	+21.3	4.40		11.41	saturated
LWP10349L	17/03/87	03:41	+21.8	4.39		10.56	
LWP10350L	17/03/87	04:24	+21.8	4.40		10.94	
SWP30551L	17/03/87	05:21	+21.9	4.39	12.24		
LWP10351L	17/03/87	06:21	+21.9	4.36		10.61	
LWP10352L	17/03/87	07:18	+22.0	4.39		11.31	
LWP10358L	18/03/87	02:39	+22.8	4.36		10.56	

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP10363L	18/03/87	19:32	+23.5	4.35		10.54	
LWP10369L	19/03/87	11:03	+24.1	4.34		10.54	
LWP10371L	19/03/87	19:32	+24.5	4.31		10.53	
LWP10372L	19/03/87	20:20	+24.5	4.31		10.61	saturated
LWP10373L	20/03/87	05:40	+24.9	4.33		10.59	
LWP10376L	20/03/87	19:53	+25.5	4.31		10.51	
LWP10379L	21/03/87	03:45	+25.8	4.30		10.53	
SWP30584L	21/03/87	03:18	+25.8	4.29	12.44		
LWP10386L	22/03/87	03:10	+26.8	4.27		10.54	
SWP30591L	22/03/87	03:33	+26.8	4.28	12.38		
LWP10388L	22/03/87	11:30	+27.1	4.28		10.53	
SWP30592L	22/03/87	11:00	+27.1	4.27	12.27		
LWP10389L	22/03/87	12:24	+27.2	4.27		10.67	saturated
LWP10390L	22/03/87	17:11	+27.4	4.27		11.34	saturated
LWP10398L	23/03/87	03:48	+27.8	4.25		10.55	
LWP10401L	23/03/87	19:43	+28.5	4.25		10.55	
LWP10402L	23/03/87	20:36	+28.5	4.24		10.64	saturated
LWP10408L	24/03/87	19:27	+29.5	4.23		10.55	
LWP10414L	25/03/87	03:45	+29.8	4.21		10.53	
LWP10424L	26/03/87	02:16	+30.8	4.17		10.57	
LWP10431L	26/03/87	23:03	+31.6	4.17		10.54	
LWP10436L	27/03/87	18:29	+32.4	4.00		10.55	
LWP10441L	28/03/87	03:19	+32.8	4.14		11.89	saturated
SWP30637L	28/03/87	07:17	+33.0	4.13	12.27		
LWP10442L	28/03/87	10:27	+33.1	4.12		10.59	
LWP10445L	28/03/87	22:49	+33.6	4.11		10.55	
LWP10446L	28/03/87	23:32	+33.6	4.11		10.65	saturated
SWP30652L	29/03/87	09:31	+34.1	4.05	12.45		
LWP10449L	29/03/87	19:40	+34.5	4.08		10.54	
LWP10454L	30/03/87	19:37	+35.5	4.04		10.56	
SWP30666S	31/03/87	03:24	+35.8	4.06	13.74		
LWP10463L	31/03/87	22:22	+36.6	4.02		10.53	
LWP10470L	1/04/87	21:30	+37.6	3.99		10.54	
LWP10472L	2/04/87	05:11	+37.9	3.98		10.56	
LWP10477L	3/04/87	00:35	+38.7	3.94		10.61	
LWP10483L	3/04/87	21:47	+39.6	3.93		10.52	
LWP10486L	4/04/87	18:15	+40.4	3.89		10.58	
LWP10491L	5/04/87	08:34	+41.0	3.88		10.57	
LWP10496L	5/04/87	18:04	+41.4	3.86		10.55	
LWP10502L	6/04/87	15:55	+42.3	3.83		10.48	
LWP10502S	6/04/87	16:18	+42.3	3.83		13.89	
LWP10509L	7/04/87	17:35	+43.4	3.81		10.56	
LWP10518L	8/04/87	09:58	+44.1	3.80		10.61	
SWP30743L	8/04/87	10:16	+44.1	3.79	12.31		
LWP10519L	8/04/87	12:24	+44.2	3.78		10.65	saturated

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP10520L	8/04/87	14:57	+44.3	3.77		11.48	saturated
LWP10531L	9/04/87	17:53	+45.4	3.74		10.61	
SWP30750L	9/04/87	18:17	+45.4	3.76	14.81		
SWP30750S	9/04/87	18:17	+45.4	3.76	13.69		
LWP10532L	10/04/87	01:31	+45.7	3.72		10.61	
SWP30751L	10/04/87	01:43	+45.7	3.73	12.43		
SWP30752S	10/04/87	09:37	+46.1	3.72	14.39		
LWP10534L	10/04/87	12:47	+46.2	3.73		10.58	
SWP30753S	10/04/87	13:41	+46.2	3.70	14.53		
SWP30760S	12/04/87	17:54	+48.4	3.65	13.90		
LWP10546L	12/04/87	20:56	+48.5	3.66		10.51	
LWP10550L	13/04/87	19:11	+49.5	3.59		10.49	
LWP10562L	14/04/87	17:43	+50.4	3.62		10.49	
LWP10571L	15/04/87	10:23	+51.1	3.60		10.47	
SWP30795S	16/04/87	02:43	+51.8	3.59	14.91		
LWP10587L	16/04/87	15:04	+52.3	3.57		10.42	
LWP10588L	16/04/87	15:46	+52.3	3.57		11.44	saturated
LWP10598L	18/04/87	00:46	+53.7	3.52		10.42	
LWP10611L	19/04/87	15:46	+55.3	3.48		10.34	
LWP10616L	20/04/87	08:44	+56.0	3.41		10.31	
LWP10617L	20/04/87	09:43	+56.1	3.47		10.31	
LWP10618L	20/04/87	16:49	+56.3	3.45		10.31	
LWP10622L	21/04/87	18:04	+57.4	3.43		10.28	
LWP10626L	22/04/87	17:08	+58.4	3.41		10.23	
SWP30841L	22/04/87	17:24	+58.4	3.41	12.23		
LWP10632L	23/04/87	08:51	+59.0	3.40		10.23	
LWP10633L	23/04/87	17:51	+59.4	3.38		10.24	
LWP10643L	24/04/87	17:38	+60.4	3.39		10.18	
LWP10644L	25/04/87	18:33	+61.4	3.33		10.15	
LWP10646L	26/04/87	14:20	+62.3	3.34		10.12	
SWP30871L	26/04/87	14:31	+62.3	3.34	12.32		
LWP10647L	26/04/87	15:21	+62.3	3.34		10.12	
LWP10648L	26/04/87	16:02	+62.3	3.33		10.74	saturated
LWP10651L	27/04/87	17:26	+63.4	3.30		10.11	
LWP10654L	28/04/87	02:08	+63.8	3.30		10.07	
LWP10660L	29/04/87	00:30	+64.7	3.29		10.07	
LWP10661L	29/04/87	01:23	+64.7	3.28		10.06	
LWP10664L	29/04/87	17:44	+65.4	3.28		10.03	
SWP30882L	29/04/87	18:03	+65.4	3.28	12.28		
LWP10665L	29/04/87	20:03	+65.5	3.29		10.70	saturated
LWP10669L	30/04/87	17:06	+66.4	3.27		10.06	
LWP10670L	30/04/87	17:48	+66.4	3.27		10.33	saturated
LWP10674L	1/05/87	15:30	+67.3	3.26		9.98	
LWP10683L	2/05/87	19:44	+68.5	3.27		9.96	
LWP10684L	2/05/87	20:29	+68.5	3.25		10.30	saturated

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP10688L	3/05/87	19:19	+69.5	3.24		9.95	
SWP30907L	4/05/87	10:41	+70.1	3.23	12.26		
LWP10692L	4/05/87	14:07	+70.3	3.23		9.91	
LWP10693L	4/05/87	14:58	+70.3	3.24		10.22	saturated
LWP10695L	4/05/87	23:32	+70.6	3.22		10.04	
LWP10706L	7/05/87	16:12	+73.3	3.21		9.87	
SWP30929L	7/05/87	16:24	+73.3	3.21	12.24		
LWP10707L	7/05/87	17:31	+73.4	3.21		10.12	saturated
LWP10711L	7/05/87	23:51	+73.6	3.21		10.04	
LWP10712L	8/05/87	00:45	+73.7	3.21		11.29	
SWP30932L	8/05/87	00:03	+73.7	3.21	12.23		
LWP10717L	8/05/87	19:46	+74.5	3.18		9.85	
LWP10723L	9/05/87	15:30	+75.3	3.18		9.82	
LWP10724L	9/05/87	16:14	+75.3	3.19		10.11	saturated
LWP10734L	10/05/87	15:23	+76.3	3.18		9.79	
LWP10743L	11/05/87	15:47	+77.3	3.18		9.78	
LWP10754L	12/05/87	23:01	+78.6	3.17		9.78	
LWP10755L	13/05/87	14:41	+79.3	3.17		9.78	
LWP10756L	13/05/87	15:34	+79.3	3.16		9.99	saturated
LWP10765L	14/05/87	19:56	+80.5	3.17		9.75	
SWP30974L	14/05/87	20:06	+80.5	3.14	12.27		
LWP10766L	14/05/87	21:14	+80.6	3.16		10.08	saturated
LWP10767L	14/05/87	23:11	+80.6	3.16		9.89	
LWP10771L	15/05/87	15:22	+81.3	3.15		9.74	
LWP10780L	16/05/87	22:26	+82.6	3.16		9.76	
LWP10783L	17/05/87	22:45	+83.6	3.15		9.72	
LWP10784L	18/05/87	07:23	+84.0	3.15		9.73	
SWP31000L	19/05/87	10:36	+85.1	3.13	12.22		
LWP10788L	19/05/87	11:43	+85.1	3.16		9.73	
LWP10789L	19/05/87	13:03	+85.2	3.15		10.09	saturated
LWP10796L	20/05/87	06:40	+85.9	3.16		9.86	
LWP10803L	21/05/87	07:41	+87.0	3.15		9.73	
LWP10811L	22/05/87	15:49	+88.3	3.17		9.73	
LWP10812L	22/05/87	16:30	+88.3	3.18		10.09	saturated
LWP10817L	23/05/87	17:32	+89.4	3.16		9.72	
LWP10826L	24/05/87	23:46	+90.6	3.18		9.83	
SWP31040L	24/05/87	23:56	+90.6	3.17	12.24		
LWP10828L	25/05/87	05:52	+90.9	3.18		10.87	saturated
LWP10833L	25/05/87	19:21	+91.5	3.17		9.72	
LWP10834L	25/05/87	19:59	+91.5	3.18		9.88	saturated
LWP10854L	28/05/87	16:03	+94.3	3.22		9.74	
LWP10873L	30/05/87	07:45	+96.0	3.23		9.75	
LWP10874L	30/05/87	08:36	+96.0	3.23		9.94	
LWP10875L	30/05/87	10:05	+96.1	3.23		11.20	
SWP31064L	30/05/87	12:13	+96.2	3.24	12.21		

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP10876L	30/05/87	23:24	+96.6	3.25		9.89	
LWP10883L	31/05/87	15:56	+97.3	3.27		9.78	
LWP10888L	1/06/87	16:59	+98.3	3.29		9.79	
LWP10889L	1/06/87	17:48	+98.4	3.28		9.98	saturated
LWP10909L	4/06/87	17:19	+101.4	3.37		9.85	
LWP10910L	4/06/87	18:02	+101.4	3.37		10.04	saturated
LWP10921L	5/06/87	13:24	+102.2	3.37		9.87	
LWP10939L	7/06/87	13:55	+104.2	3.48		9.91	
LWP10940L	7/06/87	14:46	+104.3	3.47		10.02	saturated
LWP10960L	9/06/87	00:41	+105.7	3.52		10.01	
SWP31125L	9/06/87	00:05	+105.7	3.54	12.17		
LWP10961L	9/06/87	03:45	+105.8	3.53		10.97	
LWP10965L	9/06/87	18:15	+106.4	3.55		9.97	
LWP10970L	10/06/87	22:14	+107.6	3.62		10.00	
LWP10971L	10/06/87	22:55	+107.6	3.62		10.21	saturated
SWP31132L	11/06/87	01:10	+107.7	3.64	12.16		
LWP10972L	11/06/87	03:50	+107.8	3.63		10.10	
LWP10991L	12/06/87	13:51	+109.2	3.73		10.05	
SWP31154L	14/06/87	01:23	+110.7	3.81	12.16		
LWP11006L	14/06/87	02:10	+110.8	3.82		10.14	
LWP11007L	14/06/87	05:10	+110.9	3.79		10.09	
SWP31166L	16/06/87	05:48	+112.9	3.90	12.16		
LWP11025L	16/06/87	13:10	+113.2	3.94		10.16	
LWP11028L	17/06/87	02:13	+113.8	3.96		10.25	
SWP31177L	17/06/87	02:38	+113.8	3.96	12.14		
LWP11029L	17/06/87	05:08	+113.9	3.96		10.18	
LWP11041L	19/06/87	13:39	+116.2	4.11		10.21	
LWP11049L	20/06/87	21:19	+117.6	4.16		10.27	
LWP11060L	21/06/87	20:28	+118.5	4.20		10.26	
LWP11073L	23/06/87	20:04	+120.5	4.25		10.32	
LWP11080L	24/06/87	21:56	+121.6	4.30		10.38	
SWP31245L	24/06/87	22:25	+121.6	4.32	12.11		
LWP11081L	25/06/87	02:56	+121.8	4.30		11.45	saturated
LWP11086L	25/06/87	18:04	+122.4	4.32		10.33	
LWP11087L	25/06/87	18:56	+122.4	4.31		10.55	saturated
SWP31249L	25/06/87	18:14	+122.4	4.30	13.01		
LWP11095L	26/06/87	21:34	+123.6	4.34		10.34	
LWP11116L	29/06/87	13:39	+126.2	4.37		10.33	
SWP31273L	1/07/87	04:49	+127.8	4.40	12.15		saturated
LWP11130L	1/07/87	06:57	+127.9	4.38		10.32	
LWP11131L	1/07/87	09:18	+128.1	4.40		10.54	saturated
SWP31274L	1/07/87	09:50	+128.1	4.39	12.13		
LWP11144L	4/07/87	16:22	+131.3	4.42		10.31	
LWP11150L	5/07/87	19:29	+132.5	4.43		10.31	
LWP11153L	6/07/87	11:47	+133.1	4.46		10.30	saturated

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP11156L	7/07/87	18:45	+134.4	4.41		10.31	saturated
LWP11163L	9/07/87	11:33	+136.1	4.51		10.30	
SWP31319L	10/07/87	19:47	+137.5	4.48	12.12		
LWP11182L	10/07/87	20:37	+137.5	4.50		10.28	
LWP11183L	11/07/87	00:13	+137.7	4.50		10.59	
SWP31320L	11/07/87	00:50	+137.7	4.49	12.11		
LWP11201L	12/07/87	16:47	+139.3	4.51		10.25	
SWP31334L	12/07/87	17:00	+139.4	4.51	12.11		
LWP11202L	12/07/87	18:27	+139.4	4.52		10.50	saturated
LWP11208L	14/07/87	11:35	+141.1	4.53		10.29	
LWP11214L	16/07/87	11:39	+143.1	4.69		10.24	
LWP11225L	16/07/87	23:41	+143.6	4.56		10.53	
LWP11226L	17/07/87	00:38	+143.7	4.56		10.24	
LWP11242L	18/07/87	15:29	+145.3	4.67		10.22	
LWP11254L	20/07/87	04:05	+146.8	4.61		10.24	
SWP31371L	20/07/87	04:29	+146.8	4.58	12.16		saturated
LWP11255L	20/07/87	08:37	+147.0	4.50		10.43	saturated
SWP31372L	20/07/87	09:13	+147.1	4.59	12.13		
LWP11266L	22/07/87	16:33	+149.3	4.60		10.18	
LWP11274L	25/07/87	12:02	+152.2	4.65		10.20	
SWP31420L	26/07/87	19:41	+153.5	4.73	12.11		
LWP11281L	26/07/87	20:48	+153.5	4.68		10.21	
LWP11282L	27/07/87	00:07	+153.7	4.75		10.76	
SWP31421L	27/07/87	00:48	+153.7	4.72	12.11		
LWP11290L	28/07/87	18:43	+155.4	4.74		10.18	
LWP11298L	29/07/87	15:58	+156.3	4.78		10.35	saturated
LWP11311L	3/08/87	02:06	+160.8	4.74		10.15	
SWP31462L	3/08/87	02:21	+160.8	4.72	12.13		saturated
LWP11312L	3/08/87	04:29	+160.8	4.70		10.27	saturated
SWP31463L	3/08/87	07:26	+161.0	4.65	12.07		
LWP11341L	6/08/87	21:23	+164.6	4.79		10.11	
LWP11349L	7/08/87	14:08	+165.3	4.71		10.09	
LWP11356L	8/08/87	14:16	+166.3	4.73		10.10	
LWP11368L	10/08/87	16:23	+168.3	4.78		10.10	
LWP11369L	10/08/87	17:36	+168.4	4.79		10.10	
SWP31534L	10/08/87	18:09	+168.4	4.78	12.11		
LWP11370L	10/08/87	22:26	+168.6	4.74		10.73	
LWP11389L	13/08/87	16:41	+171.3	4.93		10.06	
LWP11411L	17/08/87	06:50	+174.9	4.88		10.06	
LWP11424L	18/08/87	15:31	+176.3	4.98		10.01	
LWP11436L	19/08/87	23:11	+177.6	4.92		10.16	
SWP31592L	19/08/87	23:22	+177.6	4.93	12.10		saturated
LWP11437L	20/08/87	03:30	+177.8	4.85		10.20	
SWP31651L	27/08/87	15:58	+185.3	4.86	12.09		
LWP11500L	27/08/87	16:34	+185.3	5.03		9.99	

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP11501L	27/08/87	17:23	+185.4	4.95		10.36	
LWP11502L	27/08/87	18:26	+185.4	4.86		11.15	
LWP11503L	27/08/87	22:35	+185.6	4.81		10.04	
LWP11504L	27/08/87	23:15	+185.6	4.88		10.16	saturated
SWP31676L	30/08/87	23:22	+188.6	4.97	12.08		saturated
LWP11534L	31/08/87	01:29	+188.7	5.00		9.97	
LWP11535L	31/08/87	06:35	+188.9	4.95		10.11	
LWP11573L	5/09/87	07:32	+194.0	4.99		9.96	
LWP11588L	10/09/87	00:14	+198.7	5.07		9.94	
SWP31818L	10/09/87	00:25	+198.7	5.02	12.05		
LWP11589L	10/09/87	02:04	+198.8	5.00		10.10	saturated
SWP31819L	10/09/87	02:35	+198.8	5.00	12.09		saturated
LWP11595L	11/09/87	21:05	+200.6	5.04		9.96	
LWP11613L	14/09/87	12:18	+203.2	5.06		9.95	
LWP11660L	19/09/87	10:46	+208.1	5.11		9.87	
SWP31892L	20/09/87	15:45	+209.3	5.16	12.06		
LWP11672L	20/09/87	16:19	+209.3	5.15		9.97	
LWP11673L	20/09/87	18:49	+209.4	5.18		10.36	
SWP31893L	20/09/87	19:24	+209.5	5.18	12.08		
LWP11705L	24/09/87	07:46	+213.0	5.09		9.93	
LWP11759L	30/09/87	10:16	+219.1	5.11		10.07	saturated
SWP31954L	1/10/87	13:56	+220.2	5.22	12.26		
LWP11824L	8/10/87	21:47	+227.6	5.29		9.87	
SWP32030L	8/10/87	21:57	+227.6	5.28	12.12		saturated
LWP11825L	9/10/87	02:06	+227.8	5.30		10.08	saturated
SWP32031L	9/10/87	02:36	+227.8	5.29	12.08		
LWP11826L	9/10/87	04:14	+227.8	5.29		10.52	saturated
LWP11871L	13/10/87	09:35	+232.1	5.22		9.84	
LWP11892L	17/10/87	06:37	+235.9	5.27		10.04	saturated
LWP11926L	21/10/87	06:10	+239.9	5.33		9.86	
LWP11953L	26/10/87	03:01	+244.8	5.37		9.84	
LWP11954L	26/10/87	03:49	+244.8	5.36		10.03	saturated
LWR18135L	26/10/87	14:22	+245.3	5.45			LWR
SWP32168L	26/10/87	14:43	+245.3	5.43	12.14		
LWP11981L	30/10/87	06:05	+248.9	5.43		9.84	
LWP11997L	2/11/87	20:13	+252.5	5.43		9.85	
SWP32219L	2/11/87	20:25	+252.5	5.43	12.10		saturated
LWP11998L	2/11/87	22:33	+252.6	5.49		10.05	saturated
SWP32220L	3/11/87	01:28	+252.7	5.44	12.09		
LWP12020L	5/11/87	17:17	+255.4	5.43		9.83	
LWP12045L	9/11/87	08:04	+259.0	5.53		9.82	
LWP12063L	11/11/87	10:35	+261.1	5.46		9.99	saturated
LWP12083L	13/11/87	14:07	+263.3	5.59		9.81	
SWP32314L	13/11/87	14:23	+263.3	5.57	12.04		
LWP12084L	13/11/87	18:26	+263.4	5.57		10.27	

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP12108L	16/11/87	10:29	+266.1	5.58		9.82	
LWP12146L	22/11/87	07:58	+272.0	5.62		9.80	
LWP12167L	25/11/87	22:11	+275.6	5.62		9.82	
LWP12168L	26/11/87	00:30	+275.7	5.60		9.94	saturated
SWP32395L	26/11/87	01:07	+275.7	5.62	12.09		
SWP32404L	26/11/87	20:11	+276.5	5.67	12.13		saturated
LWP12203L	30/11/87	13:45	+280.2	5.76		9.83	
LWP12235L	6/12/87	03:52	+285.8	5.73		9.81	
LWP12236L	6/12/87	04:39	+285.8	5.73		10.02	saturated
LWP12293L	16/12/87	08:26	+296.0	5.84		9.78	
SWP32532L	16/12/87	09:38	+296.1	5.83	12.06		
LWP12294L	16/12/87	10:16	+296.1	5.79		9.81	
LWP12295L	16/12/87	13:21	+296.2	5.81		9.93	
LWP12298L	17/12/87	05:59	+296.9	5.84		10.06	saturated
LWP12372L	25/12/87	18:18	+305.4	5.98		9.80	
SWP32619L	25/12/87	18:29	+305.4	5.97	12.03		saturated
LWP12373L	25/12/87	22:37	+305.6	5.98		10.04	saturated
SWP32620L	25/12/87	23:08	+305.6	5.98	12.01		
LWP12410L	2/01/88	00:15	+312.7	5.99		9.81	
LWP12411L	2/01/88	00:58	+312.7	5.98		10.00	saturated
LWP12434L	3/01/88	14:49	+314.3	6.02		9.79	
LWP12466L	9/01/88	22:09	+320.6	6.13		9.82	
LWP12475L	12/01/88	02:54	+322.8	6.00		9.94	saturated
LWP12486L	13/01/88	11:06	+324.1	6.02		9.77	
SWP32717L	13/01/88	11:17	+324.1	6.03	12.03		
LWP12487L	13/01/88	14:32	+324.3	6.06		10.02	
LWP12525L	19/01/88	02:43	+329.8	6.09		10.04	saturated
LWP12526L	19/01/88	03:29	+329.8	6.07		9.77	
LWP12558L	24/01/88	03:36	+334.8	6.19		9.79	
LWP12559L	24/01/88	04:15	+334.8	6.18		10.01	saturated
LWP12576L	27/01/88	16:23	+338.3	6.30		9.82	
SWP32797L	27/01/88	16:33	+338.3	6.30	12.09		
LWP12577L	27/01/88	20:17	+338.5	6.25		10.71	saturated
SWP32798L	27/01/88	20:49	+338.5	6.25	12.08		
LWP12623L	7/02/88	18:26	+349.4	6.37		9.82	
SWP32879L	7/02/88	18:35	+349.4	6.31	12.05		
LWP12624L	7/02/88	19:16	+349.5	6.30		9.99	saturated
LWP12655L	13/02/88	05:07	+354.9	6.40		9.90	
SWP32910L	13/02/88	05:20	+354.9	6.43	12.05		
LWP12656L	13/02/88	06:01	+354.9	6.47		9.84	
LWP12657L	13/02/88	06:54	+354.9	6.44		10.31	
SWP32911L	13/02/88	07:27	+355.0	6.44	12.11		
LWP12677L	16/02/88	23:41	+358.6	6.48		9.87	
LWP12678L	17/02/88	01:35	+358.7	6.40		10.07	saturated
SWP32938L	18/02/88	04:46	+359.8	6.50	12.12		

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP12686L	18/02/88	07:28	+360.0	6.51		9.84	
LWP12724L	23/02/88	01:43	+364.7	6.50			
LWP12733L	24/02/88	05:23	+365.9	6.59		9.85	
SWP32984L	25/02/88	15:17	+367.3	6.57	12.06		
LWP12734L	25/02/88	16:25	+367.3	6.60		10.07	
SWP32985L	25/02/88	16:56	+367.3	6.61			
LWP12735L	25/02/88	18:02	+367.4	6.61			
LWP12784L	2/03/88	18:46	+373.4	6.68		9.87	
LWP12789L	3/03/88	04:35	+373.8	6.63		9.89	
LWP12790L	3/03/88	05:16	+373.9	6.64		10.04	saturated
SWP33035L	4/03/88	12:33	+375.2		12.11		saturated
LWP12839L	4/03/88	16:41	+375.4			12.72	saturated
LWP12839L	11/03/88	19:33	+382.5	6.72		9.90	
LWP12853L	14/03/88	21:50	+385.6	6.77		9.88	
LWP12869L	17/03/88	04:01	+387.8	6.80		9.90	
SWP33104L	17/03/88	04:09	+387.8	6.80	12.11		
LWP12870L	17/03/88	05:28	+387.9	6.81		10.43	
SWP33105L	17/03/88	06:21	+387.9	6.76	12.14		
LWP12871L	17/03/88	10:26	+388.1	6.79		10.36	
SWP33175L	29/03/88	11:59	+400.1	6.87	12.13		saturated
LWP12942L	29/03/88	14:39	+400.3	6.89		9.94	
LWP12943L	29/03/88	15:53	+400.3	6.82		10.04	saturated
SWP33176L	29/03/88	16:25	+400.3	6.84	12.12		saturated
LWP12944L	29/03/88	18:02	+400.4	6.86		10.44	saturated
LWP12991L	5/04/88	22:41	+407.6	6.95		9.92	
LWP12992L	5/04/88	23:20	+407.6	6.94		10.08	
LWP12993L	6/04/88	00:56	+407.7	6.98		15.54	
LWP13035L	13/04/88	14:11	+415.3	7.10		9.96	
SWP33331L	21/04/88	10:21	+423.1	7.10	12.13		saturated
LWP13087L	21/04/88	12:26	+423.2	7.15		9.96	
LWP13088L	21/04/88	14:41	+423.3	7.13		10.10	saturated
SWP33332L	21/04/88	15:15	+423.3	7.14	12.10		
LWP13148L	1/05/88	00:14	+432.7	7.22		10.00	
SWP33418L	1/05/88	00:29	+432.7		15.01		saturated,ECHO
LWP13149L	1/05/88	01:01	+432.7	7.23		15.05	saturated
SWP33423L	1/05/88	20:55	+433.5	7.29	12.14		
LWP13153L	1/05/88	21:29	+433.6	7.31		10.01	
LWP13154L	1/05/88	22:35	+433.6	7.31		10.15	saturated
LWP13188L	8/05/88	21:09	+440.6	7.31		10.02	
SWP33492L	8/05/88	21:21	+440.6	7.29	12.24		
LWP13189L	8/05/88	23:02	+440.6	7.29		10.03	
LWP13193L	9/05/88	23:54	+441.6	7.35		10.02	
SWP33496L	10/05/88	00:22	+441.7	7.35	12.19		
LWP13194L	10/05/88	01:41	+441.7	7.38		10.51	
SWP33497L	10/05/88	02:19	+441.8	7.21	12.14		

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP13195L	10/05/88	06:25	+441.9	7.38		10.35	
LWP13217L	13/05/88	07:53	+445.0	7.41		10.06	
SWP33519L	13/05/88	08:05	+445.0	7.41	12.11		saturated
LWP13218L	13/05/88	12:13	+445.2	7.43		10.14	saturated
SWP33520L	13/05/88	12:47	+445.2	7.43	12.29		
LWP13236L	15/05/88	20:47	+447.5	7.36		10.04	
LWP13237L	15/05/88	21:26	+447.6	7.38		10.15	saturated
LWP13238L	15/05/88	22:32	+447.6			14.11	saturated
LWP13239L	16/05/88	14:08	+448.3	7.44		10.66	saturated
LWP13310L	26/05/88	13:15	+458.2	7.54		10.20	saturated
SWP33644L	26/05/88	13:45	+458.2	7.45	12.24		
LWP13311L	26/05/88	14:30	+458.3	7.50		10.08	
LWP13387L	8/06/88	16:47	+471.3	7.76		10.15	
SWP33725L	8/06/88	16:59	+471.3	7.75	12.12		
LWP13388L	8/06/88	18:27	+471.4	7.75		10.25	saturated
SWP33741L	10/06/88	21:37	+473.6	7.65	12.12		
LWP13402L	10/06/88	22:13	+473.6	7.66		10.14	
LWP13403L	10/06/88	23:22	+473.6	7.66		10.83	
SWP33742L	11/06/88	00:29	+473.7	7.68	12.19		
LWP13404L	11/06/88	04:29	+473.8	7.67		10.38	
LWP13452L	18/06/88	16:38	+481.3	7.86		10.17	saturated
LWP13489L	22/06/88	05:51	+484.9	7.88		10.20	
SWP33799L	22/06/88	06:01	+484.9	7.83	12.16		saturated
LWP13490L	22/06/88	10:08	+485.1	7.85		10.24	saturated
SWP33800L	22/06/88	10:38	+485.1	7.83	12.14		
LWP13498L	24/06/88	21:57	+487.6	8.04		10.21	
LWP13528L	29/06/88	13:37	+492.2	8.00		10.92	saturated
SWP33832L	29/06/88	14:45	+492.3	7.96	12.15		
LWP13529L	29/06/88	15:40	+492.3	7.99		10.21	
LWP13573L	5/07/88	19:59	+498.5	8.12		10.26	
SWP33868L	5/07/88	20:13	+498.5	8.12	12.08		
LWP13574L	5/07/88	21:54	+498.6	8.14		10.98	
SWP33869L	5/07/88	23:01	+498.6	8.15	12.09		
LWP13575L	6/07/88	02:24	+498.8	8.13		10.56	
LWP13624L	12/07/88	12:22	+505.2	8.14		10.28	
SWP33899L	12/07/88	12:33	+505.2	8.15	12.13		
LWP13625L	12/07/88	14:01	+505.3	8.13		10.40	saturated
LWP13684L	18/07/88	03:42	+510.8	8.24		10.30	
SWP33937L	18/07/88	03:54	+510.8	8.24	12.13		saturated
LWP13685L	18/07/88	08:03	+511.0	8.21		10.37	saturated
SWP33938L	18/07/88	08:34	+511.0	8.18	12.13		
LWP13686L	18/07/88	10:03	+511.1	8.28		10.31	saturated
LWP13741L	25/07/88	19:57	+518.5	8.45		10.37	
SWP33966L	25/07/88	20:09	+518.5	8.45	12.11		
LWP13742L	25/07/88	21:45	+518.6	8.43		10.83	

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
SWP33967L	25/07/88	22:35	+518.6	8.43	12.12		
LWP13743L	26/07/88	11:43	+519.1	8.38		10.37	
SWP33969L	26/07/88	11:56	+519.1	8.35	12.16		
LWP13744L	26/07/88	13:00	+519.2	8.31		10.48	saturated
LWP13787L	4/08/88	15:19	+528.3	8.56		10.39	
LWP13788L	4/08/88	15:59	+528.3	8.51		10.49	saturated
LWP13813L	9/08/88	01:52	+532.7	8.62		10.49	
SWP34057L	9/08/88	02:04	+532.8	8.61	12.14		saturated
LWP13814L	9/08/88	06:11	+532.9	8.57		10.52	saturated
SWP34058L	9/08/88	06:52	+532.9	8.48	12.13		
LWP13815L	9/08/88	08:19	+533.0	8.61		10.44	saturated
LWP13846L	14/08/88	15:14	+538.3	8.83		10.46	
SWP34087L	14/08/88	15:39	+538.3	8.84	12.11		
LWP13847L	14/08/88	16:46	+538.3	8.82		10.80	
SWP34088L	14/08/88	17:22	+538.4	8.80	12.13		
LWP13848L	14/08/88	20:52	+538.5	8.75		11.01	
LWP13866L	17/08/88	07:01	+541.0	8.74		10.46	
SWP34095L	17/08/88	07:14	+541.0	8.74	12.15		
LWP13867L	17/08/88	09:13	+541.1	8.86		10.59	saturated
LWP13896L	22/08/88	11:56	+546.1	8.91		10.47	
LWP13897L	22/08/88	12:38	+546.2	8.92		10.62	saturated
LWP13898L	22/08/88	13:28	+546.2	8.91		11.10	saturated
SWP34193L	7/09/88	05:16	+561.9	9.18	12.19		
LWP14007L	7/09/88	07:24	+562.0	9.22		10.61	
LWP14008L	7/09/88	08:09	+562.0	9.23		10.71	saturated
LWP14099L	7/09/88	09:03	+562.1	9.21		11.35	saturated
SWP34192L	7/09/88	17:50	+562.4		15.39		saturated,ECHO
LWP14038L	12/09/88	16:04	+567.3	9.31		10.63	saturated
SWP34231L	12/09/88	16:21	+567.3	9.31	12.18		
LWP14039L	12/09/88	17:49	+567.4	9.30		10.82	
SWP34232L	12/09/88	18:29	+567.4	9.29	12.18		
LWP14040L	12/09/88	21:58	+567.6	9.33		11.06	
LWP14126L	26/09/88	01:56	+580.7	9.52		10.75	
SWP34316L	26/09/88	02:11	+580.8	9.51	12.19		
LWP14127L	26/09/88	04:18	+580.8	9.50		10.75	saturated
SWP34317L	26/09/88	04:49	+580.8	9.43	12.19		
LWP14154L	1/10/88	13:53	+586.2	9.64		10.76	
LWP14190L	8/10/88	16:01	+593.3	9.80		10.85	
SWP34440L	8/10/88	16:17	+593.3	9.79	12.22		
LWP14191L	8/10/88	17:45	+593.4	9.81		10.93	
SWP34441L	8/10/88	18:17	+593.4	9.83	12.20		
LWP14229L	15/10/88	10:06	+600.1	9.83		10.83	
LWP14230L	15/10/88	10:59	+600.1	9.73		10.94	saturated
SWP34477L	15/10/88	10:22	+600.1	9.84	12.24		
LWP14348L	30/10/88	23:15	+615.6	10.15		10.96	

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
SWP34640L	30/10/88	23:35	+615.6	10.16	12.24		saturated
LWP14349L	31/10/88	03:43	+615.8	10.00		11.61	saturated
SWP34670L	3/11/88	12:22	+619.2	10.28	12.21		
LWP14376L	3/11/88	13:29	+619.2	10.30		11.01	
LWP14392L	6/11/88	12:14	+622.2	10.34		15.55	saturated,ECHO
SWP34698L	6/11/88	12:10	+622.2	10.34	15.11		saturated,ECHO
LWP14395L	7/11/88	08:08	+623.0	10.32		11.03	
SWP34701L	7/11/88	08:39	+623.0	10.28	12.25		
LWP14475L	16/11/88	20:39	+632.5	10.56		11.12	saturated
SWP34751L	16/11/88	21:07	+632.6	10.59	12.23		saturated
LWP14476L	16/11/88	23:56	+632.6	10.49		11.10	
LWP14477L	17/11/88	01:38	+632.7	10.53		11.17	saturated
SWP34752L	17/11/88	02:08	+632.8	10.45	12.28		
LWP14521L	24/11/88	08:08	+640.0	10.63		11.15	
SWP34807L	24/11/88	08:33	+640.0	10.58	12.21		
LWP14605L	4/12/88	21:35	+650.6	10.86		11.21	
SWP34871L	4/12/88	22:07	+650.6	10.77	12.26		
LWP14645L	14/12/88	22:31	+660.6	10.97		11.31	
SWP35030L	14/12/88	22:58	+660.6	10.90	12.22		
LWP14692L	22/12/88	06:04	+667.9	11.00		11.35	
SWP35096L	22/12/88	06:38	+667.9	10.86	12.18		
SWP35126L	24/12/88	21:50	+670.6	11.17	12.33		
LWP14711L	25/12/88	09:58	+671.1	11.12		11.38	
SWP35130L	25/12/88	10:24	+671.1	11.19	12.18		
LWP14712L	25/12/88	13:50	+671.2	11.18		11.48	
SWP35131L	25/12/88	14:35	+671.3	11.12	12.12		
SWP35243L	4/01/89	00:06	+680.7	11.28	12.19		
LWP14766L	4/01/89	01:16	+680.7	11.15		11.45	
LWP14767L	4/01/89	02:12	+680.8	11.14		11.61	saturated
LWP14799L	10/01/89	16:21	+687.3	11.40		11.49	
SWP35308L	10/01/89	18:55	+687.4	11.33	12.22		
LWP14865L	18/01/89	23:55	+695.6	11.47		11.55	
SWP35379L	19/01/89	00:21	+695.7	11.53	12.24		
LWP14909L	24/01/89	10:58	+701.1	11.44		11.61	
SWP35401L	24/01/89	11:17	+701.1	11.50	12.18		
LWP14910L	24/01/89	14:03	+701.3	11.45		11.62	
SWP35505L	7/02/89	12:21	+715.2	11.64	12.19		
LWP14981L	7/02/89	16:12	+715.3	11.70		11.70	
LWP14982L	7/02/89	17:07	+715.4	11.68			
LWP15059L	18/02/89	23:28	+726.6	11.83		11.84	
LWP15060L	19/02/89	00:26	+726.7	11.83		11.86	saturated
SWP35603L	21/02/89	05:03	+728.9		13.05		saturated
LWP15132L	5/03/89	12:00	+741.2	11.97		11.87	
SWP35686L	5/03/89	12:31	+741.2	11.92	12.35		
LWP15133L	5/03/89	16:39	+741.3	11.91		11.93	

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP15134L	5/03/89	17:43	+741.4	11.88		11.97	saturated
LWP15191L	13/03/89	20:01	+749.5	12.08		11.95	
LWP15192L	13/03/89	21:08	+749.6	12.01		12.02	saturated
LWP15216L	18/03/89	20:21	+754.5	12.13		12.01	
LWP15217L	18/03/89	21:31	+754.6	12.09		12.09	saturated
LWP15225L	20/03/89	03:59	+755.8	12.13		12.00	
LWP15226L	20/03/89	07:13	+756.0	12.15		12.02	
SWP35822L	20/03/89	07:43	+756.0	12.16	12.29		
SWP35940L	5/04/89	09:49	+772.1	12.25	12.31		
LWP15307L	5/04/89	14:16	+772.3	12.23		12.11	
LWP15308L	5/04/89	15:37	+772.3	12.22		12.09	
LWP15375L	19/04/89	05:14	+785.9	12.43		12.22	
SWP36035L	19/04/89	06:01	+785.9	12.43	12.29		
LWP15391L	22/04/89	17:42	+789.4	12.42		12.22	
LWP15392L	22/04/89	18:57	+789.4	12.43		12.35	saturated
SWP36171L	30/04/89	09:34	+797.1	12.46	12.33		
LWP15414L	30/04/89	13:12	+797.2	12.50		12.24	
LWP15415L	30/04/89	14:28	+797.3	12.55		12.31	saturated
LWP15453L	4/05/89	19:19	+801.5	12.46		12.17	saturated
LWP15454L	4/05/89	20:21	+801.5	12.50		12.25	
LWP15455L	4/05/89	21:21	+801.6	12.59		12.30	saturated
LWP15512L	14/05/89	02:05	+810.8	12.61		12.30	
SWP36258L	14/05/89	03:05	+810.8	12.67	12.26		
LWP15530L	17/05/89	08:12	+814.0	12.68		12.34	
SWP36279L	17/05/89	09:06	+814.1	12.66	12.38		
LWP15531L	17/05/89	13:32	+814.2	12.64		12.34	saturated
LWP15592L	24/05/89	20:22	+821.5	12.69			
SWP36337L	25/05/89	12:08	+822.2	12.76			
LWP15641L	2/06/89	14:23	+830.3	12.78		12.41	saturated
LWP15642L	2/06/89	15:48	+830.3	12.89		12.44	
LWP15663L	5/06/89	18:07	+833.4	12.73		12.51	saturated
SWP36539L	17/06/89	06:05	+844.9	12.85	12.29		
LWP15741L	17/06/89	10:35	+845.1	12.87		12.43	
LWP15771L	22/06/89	17:44	+850.4	12.94		12.44	
LWP15772L	22/06/89	19:16	+850.5	12.97		12.47	saturated
LWP15796L	26/06/89	22:25	+854.6	12.94		12.45	
SWP36578L	26/06/89	23:35	+854.6	12.89	12.28		
LWP15855L	5/07/89	16:02	+863.3	12.93			
LWP15856L	5/07/89	17:34	+863.4	13.01			
SWP36676L	14/07/89	04:09	+871.8	13.09	12.23		
LWP15914L	14/07/89	08:37	+872.0	13.01		12.47	
LWP15915L	14/07/89	10:04	+872.1	13.06		12.45	
SWP36722L	22/07/89	19:50	+880.5		12.28		
LWP15981L	22/07/89	23:20	+880.6	12.98		12.62	
LWP16013L	29/07/89	12:41	+887.2	13.04			

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP16014L	29/07/89	14:12	+887.3	12.95			
SWP36801L	6/08/89	02:13	+894.8	13.10	12.25		
LWP16076L	6/08/89	06:41	+894.9	13.14		12.58	
LWP16148L	17/08/89	16:35	+906.3	12.97		12.65	
SWP36865L	17/08/89	18:45	+906.4	13.04	12.24		
LWP16185L	21/08/89	07:44	+910.0	13.09			
LWP16235L	28/08/89	11:50	+917.1	13.10		12.65	
LWP16236L	28/08/89	13:47	+917.2	13.14		12.66	
LWP16295L	7/09/89	11:34	+927.1	13.12		12.70	
LWP16296L	7/09/89	13:28	+927.2	13.13		12.67	
LWP16313L	9/09/89	16:33	+929.3	13.00		12.70	
SWP36968L	9/09/89	18:09	+929.4	13.08	12.29		
LWP16372L	17/09/89	15:57	+937.3			12.74	
SWP37062L	17/09/89	17:19	+937.4		12.34		
SWP37088L	20/09/89	00:18	+939.7	13.31	12.35		
LWP16380L	20/09/89	05:26	+939.9	13.31		12.75	
LWP16450L	29/09/89	11:57	+949.1	13.27		10.66	saturated
LWP16466L	2/10/89	14:46	+952.3	13.11		12.72	
SWP37236L	2/10/89	16:24	+952.3	13.11	12.38		
LWP16527L	10/10/89	09:46	+960.1	13.22		12.76	
SWP37424L	21/10/89	22:08	+971.6		12.30		
LWP16600L	22/10/89	02:09	+971.8			12.80	
LWP16751L	6/11/89	04:13	+986.8	13.37		12.81	
LWP16752L	6/11/89	12:14	+987.2			13.35	
SWP37526L	6/11/89	13:55	+987.2		12.57		
SWP37574L	12/11/89	20:15	+993.5				
LWP16780L	13/11/89	01:18	+993.7				
LWP16841L	26/11/89	08:24	+1007.0				
LWP16855L	28/11/89	12:03	+1009.2			13.51	
SWP37694L	28/11/89	13:52	+1009.2		12.83		saturated
SWP37798L	11/12/89	18:19	+1022.4		12.23		
LWP16911L	11/12/89	23:21	+1022.6			12.77	
LWP16917L	13/12/89	06:00	+1023.9	13.41		12.78	saturated
LWP17046L	31/12/89	01:48	+1041.7				
SWP37973L	8/01/90	16:11	+1050.3				
LWP17113L	8/01/90	21:01	+1050.6				
SWP38055L	20/01/90	08:23	+1062.0		12.30		
LWP17189L	20/01/90	13:13	+1062.2			12.80	
SWP38172L	9/02/90	12:24	+1082.2				
LWP17329L	9/02/90	17:15	+1082.4				
LWP17413L	23/02/90	14:33	+1096.3				
SWP38307L	5/03/90	12:17	+1106.2		12.31		
LWP17475L	5/03/90	17:05	+1106.4			12.83	
LWP17519L	12/03/90	04:32	+1112.8			12.84	
SWP38336L	12/03/90	06:08	+1112.9		12.33		

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP17543L	17/03/90	00:19	+1117.7				
SWP38536L	6/04/90	10:06	+1138.1		12.36		
LWP17702L	6/04/90	14:57	+1138.3			12.88	
LWP17714L	9/04/90	02:12	+1140.8			12.90	
SWP38555L	9/04/90	04:17	+1140.8		12.34		
LWP17783L	21/04/90	22:26	+1153.6			12.88	
SWP38866L	25/05/90	08:19	+1187.0		12.37		saturated
LWP17987L	25/05/90	13:10	+1187.2			12.85	
SWP39300L	25/07/90	04:29	+1247.8		12.28		
LWP18792L	15/09/90	12:42	+1300.2			12.94	
SWP39757L	3/10/90	22:17	+1318.6		12.38		
LWP18933L	4/10/90	02:51	+1318.8			12.97	
SWP40002L	30/10/90	22:28	+1345.6		12.43		
LWP19090L	31/10/90	03:01	+1345.8			12.98	
SWP40128L	17/11/90	14:17	+1363.3		12.35		
SWP40275L	5/12/90	18:07	+1381.4		12.32		
LWP19356L	5/12/90	22:50	+1381.6			12.99	
LWP19518L	7/01/91	08:59	+1414.0			12.98	
SWP40543L	7/01/91	11:11	+1414.1		12.35		
SWP40858L	12/02/91	12:41	+1450.2				
LWP19743L	12/02/91	17:31	+1450.4			12.95	
LWP19865L	3/03/91	03:57	+1468.8			12.99	
SWP40984L	3/03/91	06:12	+1468.9		12.38		
LWP19985L	25/03/91	11:12	+1491.1			13.01	
SWP41179L	25/03/91	13:40	+1491.2		12.43		
LWP20100L	7/04/91	22:09	+1504.6			13.00	
LWP20102L	8/04/91	10:53	+1505.1			13.01	
SWP41802L	9/06/91	05:47	+1566.9		12.33		
LWP20553L	9/06/91	10:42	+1567.1			12.93	
LWP20661L	21/06/91	22:20	+1579.6			12.98	
SWP41891L	22/06/91	00:46	+1579.7		12.41		
SWP42174L	05/08/91	06:06	+1623.9		12.33		
LWP20953L	5/08/91	10:45	+1624.1			12.94	
LWP21115L	30/08/91	02:10	+1648.8			13.03	
LWP21116L	30/08/91	04:58	+1648.8			13.01	saturated
LWP21657L	7/11/91	08:37	+1718.0			13.22	
SWP43049L	9/11/91	19:47	+1720.5		12.36		
LWP22000L	14/12/91	22:12	+1755.6			13.08	
SWP43393L	15/12/91	18:07	+1756.4		12.28		
SWP44017L	18/02/92	14:46	+1821.3				*
LWP22411L	18/02/92	20:35	+1821.5				*
SWP44142L	9/03/92	12:51	+1841.2				*
SWP44442L	20/04/92	10:07	+1883.1				*
LWP22858L	20/04/92	14:40	+1883.3				*
LWP23282L	10/06/92	16:55	+1934.3				*

Table 1: IUE spectra: ULDA tape **SN1987A**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
SWP45426L	25/08/92	02:53	+2009.8				*
LWP23799L	29/08/92	01:50	+2013.7				*
LWP23800L	29/08/92	05:17	+2013.9				*
SWP46307L	20/11/92	19:44	+2097.5				*
LWP24333L	21/11/92	01:06	+2097.7				*
SWP47083L	1/03/93	13:57	+2198.2				*
SWP48460L	26/08/93	02:27	+2375.8				*
SWP48471L	27/08/93	02:25	+2376.8				*
LWP26278L	03/09/93	08:15	+2384.0				*

* Not yet in ULDA (december 1994)

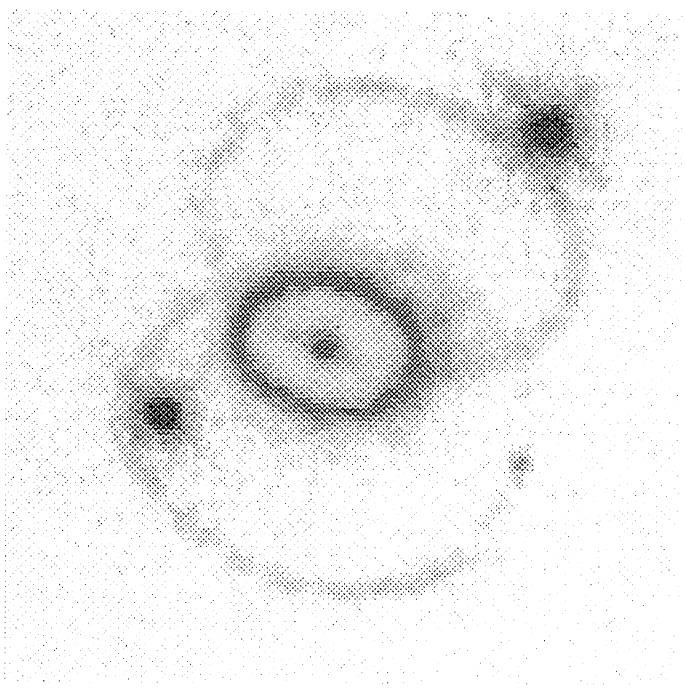

Figure 2: The ring around SN 1987A as seen from HST. The stars 2 (NW) and 3 (SE),entering the large aperture of IUE, are clearly visible (picture made available by the Education and Public Affair Office of the STScI (Credit C. Burrows - ESA-STScI and Nasa).

Table 2: High resolution IUE spectra of SN1987A

ident.	date	UT	phase	ident.	date	UT	phase
SWP30377L	24/02/87	21:37	+1.6	LWP10501L	06/04/87	10:14	+42.1
LWP10190L	24/02/87	22:14	+1.6	LWP10533L	10/04/87	02:20	+45.7
LWP10192L	25/02/87	00:45	+1.7	LWP10586L	16/04/87	09:20	+52.1
SWP30379L	25/02/87	00:53	+1.7	LWP10691L	04/05/87	07:30	+70.0
SWP30381L	25/02/87	04:24	+1.8	LWP10768L	14/05/87	23:50	+80.6
LWP10194L	25/02/87	05:30	+1.8	LWP10787L	19/05/87	07:25	+85.0
LWP10196L	25/02/87	07:52	+2.0	LWP10827L	25/05/87	00:34	+90.6
LWP10197L	25/02/87	09:01	+2.1	LWP10920L	05/06/87	05:36	+101.9
SWP30383L	25/02/87	09:09	+2.1	LWP10959L	08/06/87	21:40	+105.6
SWP30384L	25/02/87	09:30	+2.1	LWP11024L	16/06/87	08:54	+113.0
LWP10200L	25/02/87	21:06	+2.5	LWP11129L	30/06/87	22:08	+127.6
SWP30389L	25/02/87	21:16	+2.5	LWP11793L	02/10/87	13:47	+221.2
LWP10201L	25/02/87	22:26	+2.6	LWP11794L	02/10/87	16:02	+221.3
SWP30394L	26/02/87	04:14	+2.9	SWP32394L	25/11/87	22:23	+275.6
SWP30396L	26/02/87	06:55	+2.9	LWP12175L	27/11/87	00:18	+277.7
LWP10204L	26/02/87	07:38	+3.0	LWP12622L	07/02/88	12:32	+349.1
LWP10206L	26/02/87	09:47	+3.1	LWP12687L	18/02/88	08:26	+360.0
LWP10208L	26/02/87	13:34	+3.2	SWP32983L	25/02/88	05:35	+366.9
SWP30399L	26/02/87	13:44	+3.2	SWP33215L	06/04/88	00:24	+407.7
LWP10209L	26/02/87	15:08	+3.3	SWP33536L	16/05/88	22:02	+448.6
SWP30400L	26/02/87	15:46	+3.3	SWP33810L	24/06/88	22:07	+487.6
SWP30405L	27/02/87	07:51	+4.0	SWP34024L	05/08/88	16:52	+529.3
LWP10217L	27/02/87	10:24	+4.1	SWP34420L	05/10/88	13:46	+590.2
LWP10219L	27/02/87	13:59	+4.3	SWP34870L	04/12/88	10:24	+650.1
SWP30412L	28/02/87	03:50	+4.8	SWP35577L	18/02/89	05:07	+725.9
LWP10223L	28/02/87	08:49	+5.0	SWP35929L	04/04/89	01:28	+770.9
LWP10224L	28/02/87	11:35	+5.2	SWP36399L	05/06/89	20:27	+833.5
LWP10225L	28/02/87	14:18	+5.3	SWP36670L	12/07/89	07:53	+870.0
LWP10226L	28/02/87	15:28	+5.3	SWP36891L	28/08/89	14:52	+917.2
LWP10236L	01/03/87	11:32	+6.1	SWP37297L	10/10/89	11:58	+960.1
LWP10250L	02/03/87	23:30	+7.7	SWP37805L	12/12/89	08:15	+1023.0
LWP10256L	03/03/87	08:58	+8.0	LWP17011L	26/12/89	10:28	+1037.1
LWP10268L	04/03/87	12:29	+9.1	SWP38230L	22/02/90	04:02	+1094.8
LWP10269L	04/03/87	16:23	+9.3	SWP39093L	14/06/90	20:12	+1207.5
LWP10299L	08/03/87	12:20	+13.1	LWP18440L	25/07/90	09:23	+1248.0
LWP10314L	11/03/87	03:54	+16.8	SWP39644L	15/09/90	14:54	+1300.3
LWP10387L	22/03/87	04:19	+26.8	SWP40268L	04/12/90	07:27	+1379.9
LWP10435L	27/03/87	11:47	+32.1	SWP41316L	07/04/91	23:48	+1504.6
LWP10448L	29/03/87	03:42	+33.8	SWP42370L	01/09/91	14:41	+1651.3

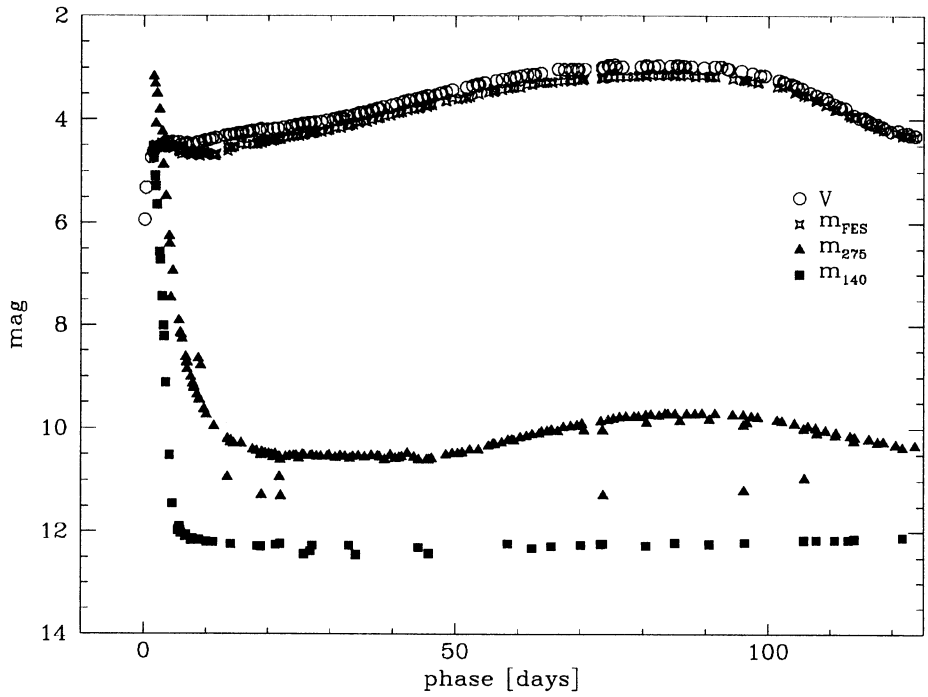

Figure 3: Early V+m_{FES}, m_{140}, m_{275} light curves.

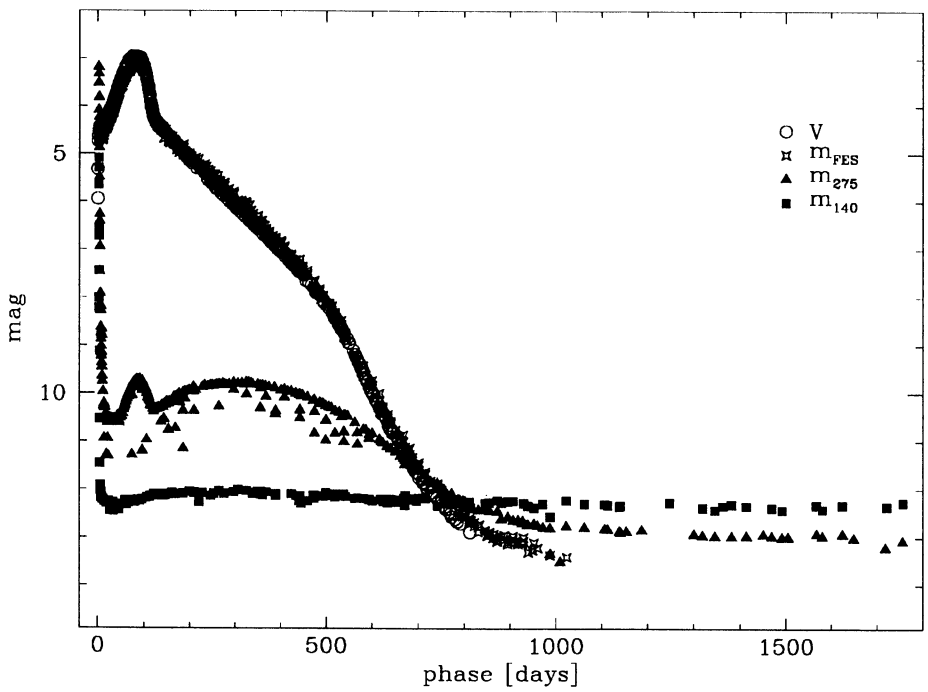

Figure 4: Whole V+m_{FES}, m_{140}, m_{275} light curves.

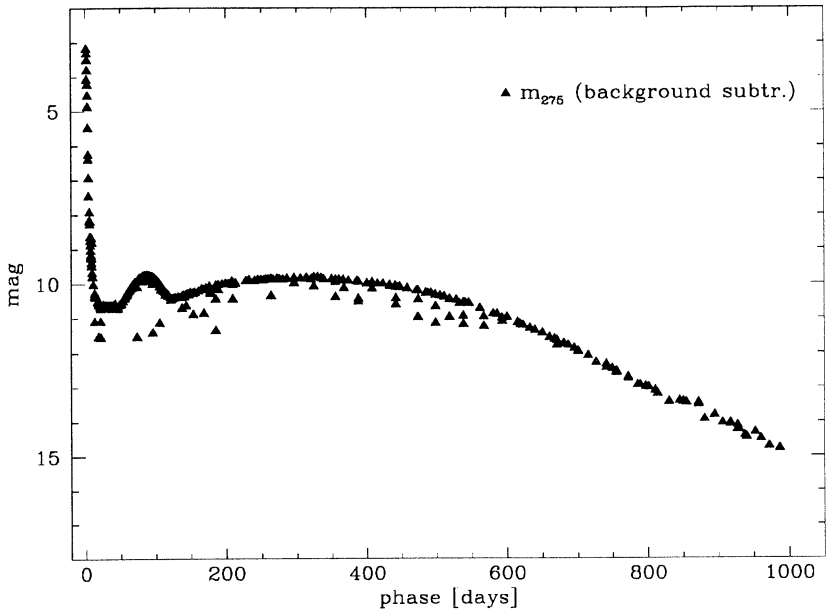

Figure 5: The m_{275} light curve of SN 1987A after removing the contamination by nearby stars 2 and 3 (cfr. Fig.2). The stellar background has been determined assuming that the flux at the latest epochs is due only to the field stars.

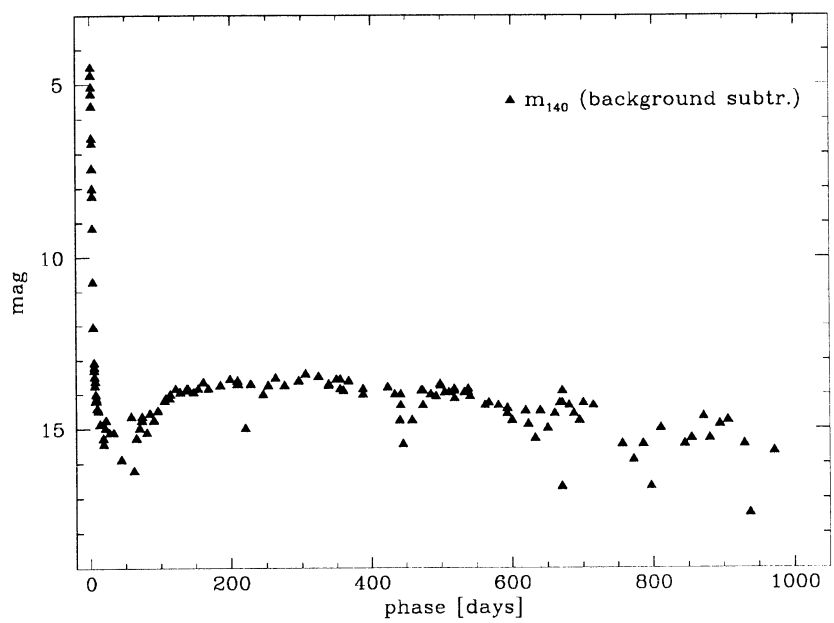

Figure 6: The m_{140} light curve of SN 1987A after removing the contamination by nearby stars 2 and 3, as in Fig.5.

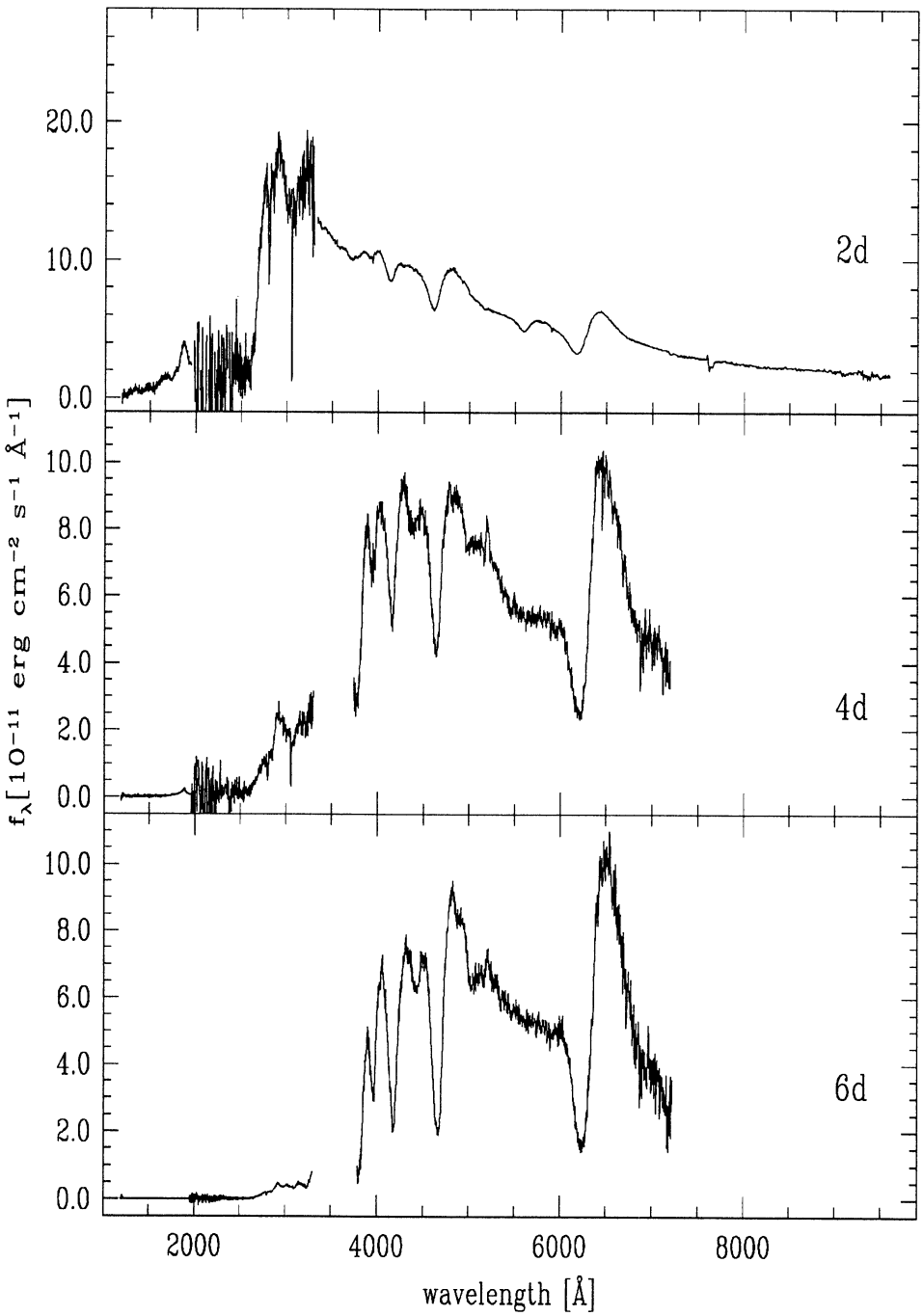

Figure 7: UV-optical spectra.

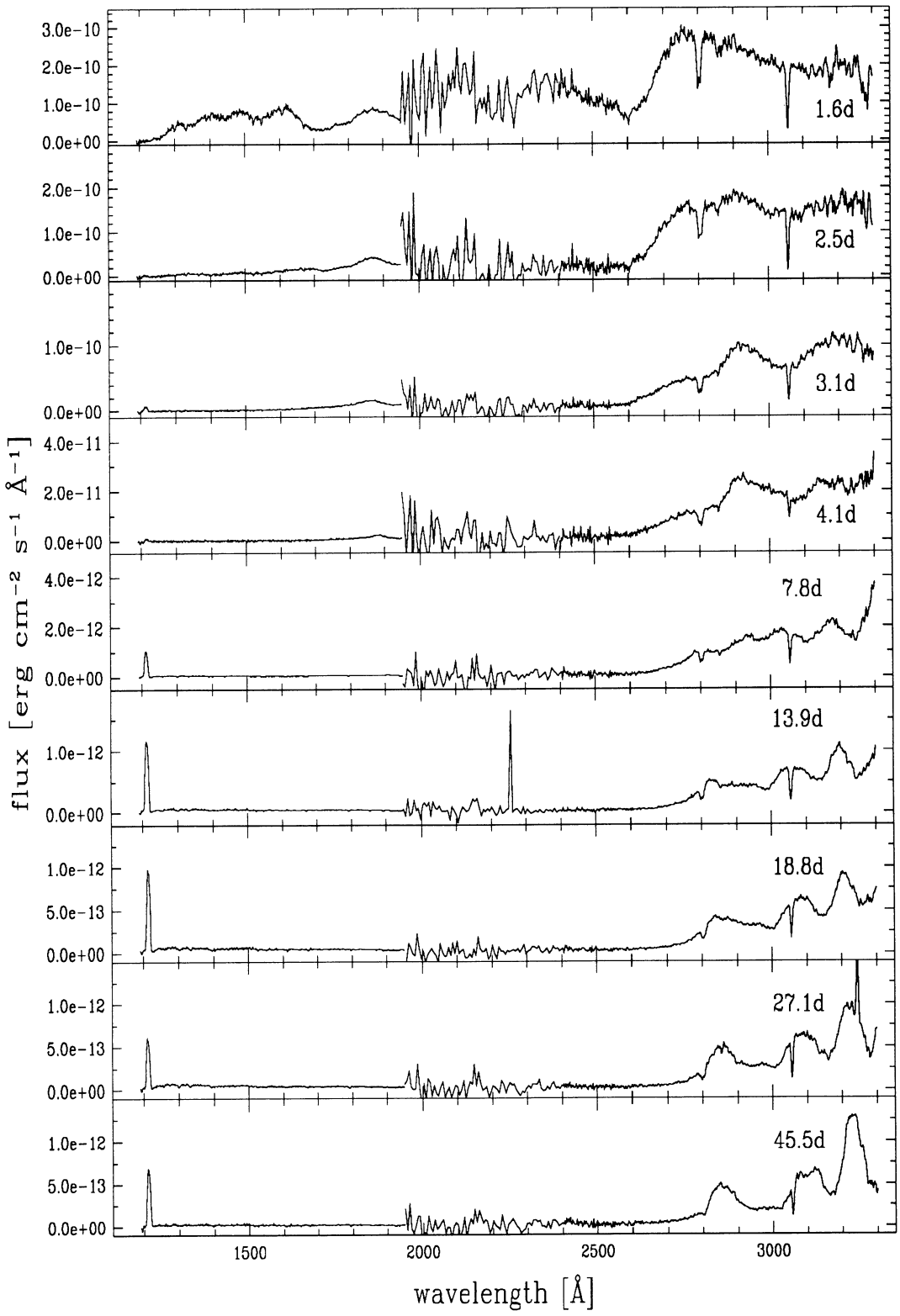

Figure 8: Selected IUE spectra.

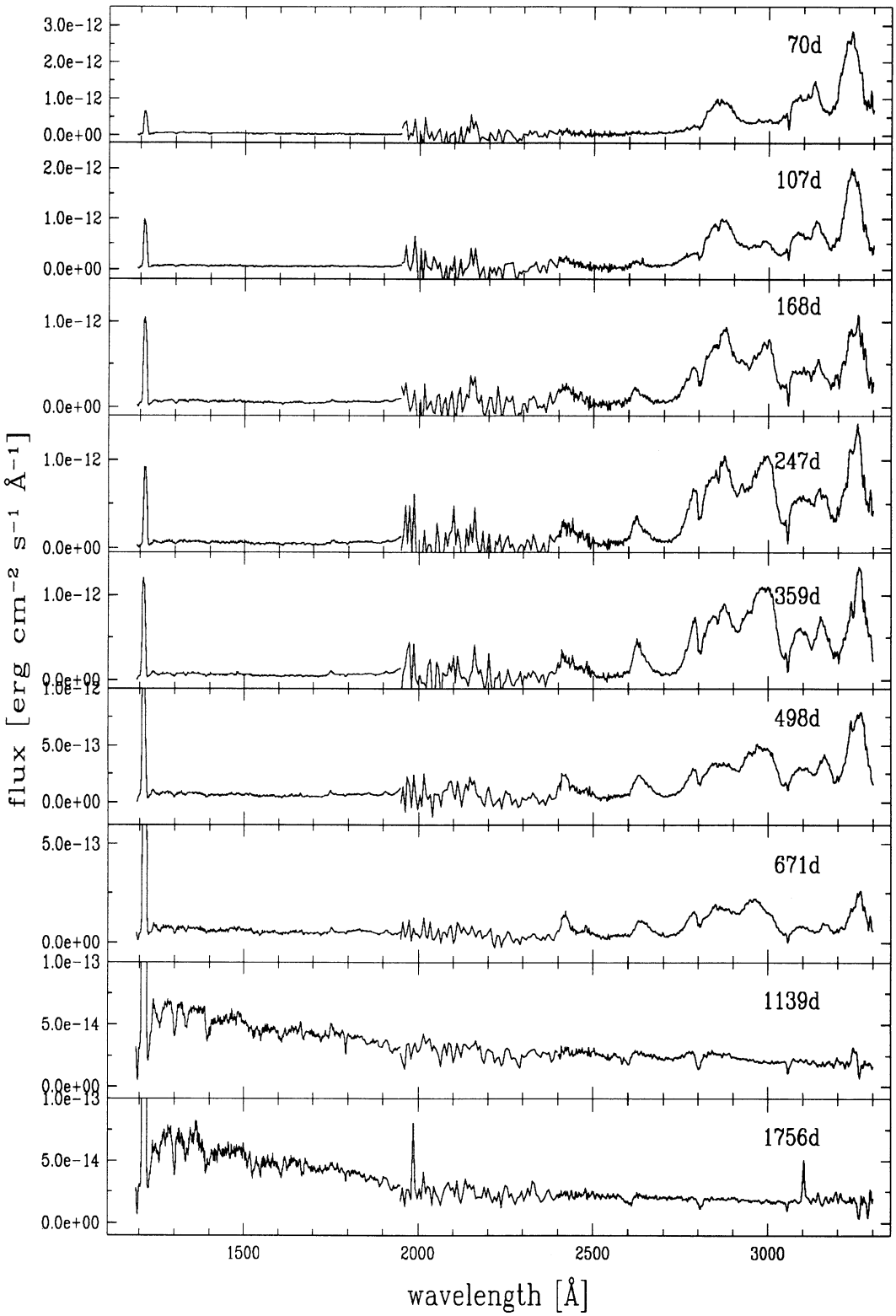

Figure 9: Selected IUE spectra.

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MOD - Yamada,S., Sato,K., 1990 ApJ 358, 9
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SN 1989B NGC 3627 (M66)

GALAXY DATA

coordinates [2000.0]	$11^h\,20\,14\overset{s}{.}5 \quad +12°\,59'\,42''$
morphological type	SXS3
heliocentric velocity [km s^{-1}]	703 ± 27
galactic absorption [A_B]	0.01
distance modulus	29.09
group affiliation	21 – 11 (Leo)

SN DATA

classification	**Ia**
offset [arcsec]	9 West 37 North
coordinates [2000.0]	$11^h20^m13\overset{s}{.}90 \quad +12°58'19\overset{''}{.}2$
epoch of discovery [JD]	2447557
Light curve	
epoch of maximum [JD]	2447563
B magnitude at maximum	12.5
B-V color at maximum	0.45
β^B [$mag\,100d^{-1}$]	10.0
γ^B [$mag\,100d^{-1}$]	1.5

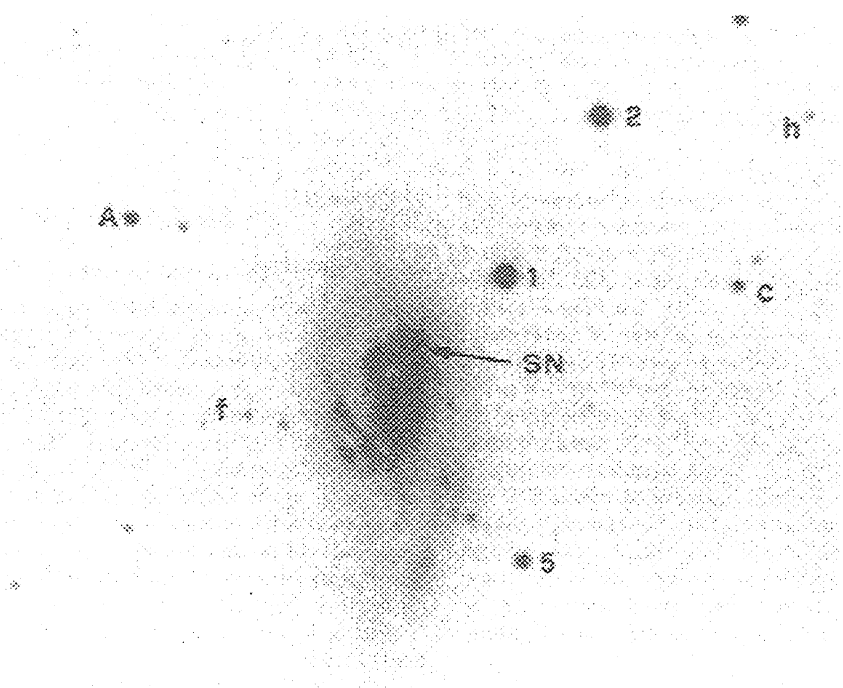

Figure 1: Map of SN 1989B (Barbon et al. 1990) North is top, east is left.

IUE spectra: ULDA tape **SN1989B**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP14951	31/01/89	21:37	-5	11.90		14.59	
LWP14952	01/02/89	00:02	-5	12.11		13.72	
LWP14953	01/02/89	02:14	-5	12.13		13.74	
LWP14954	01/02/89	22:17	-4	12.10		13.69	
SWP35468	02/02/89	01:23	-4	12.05	14.49		

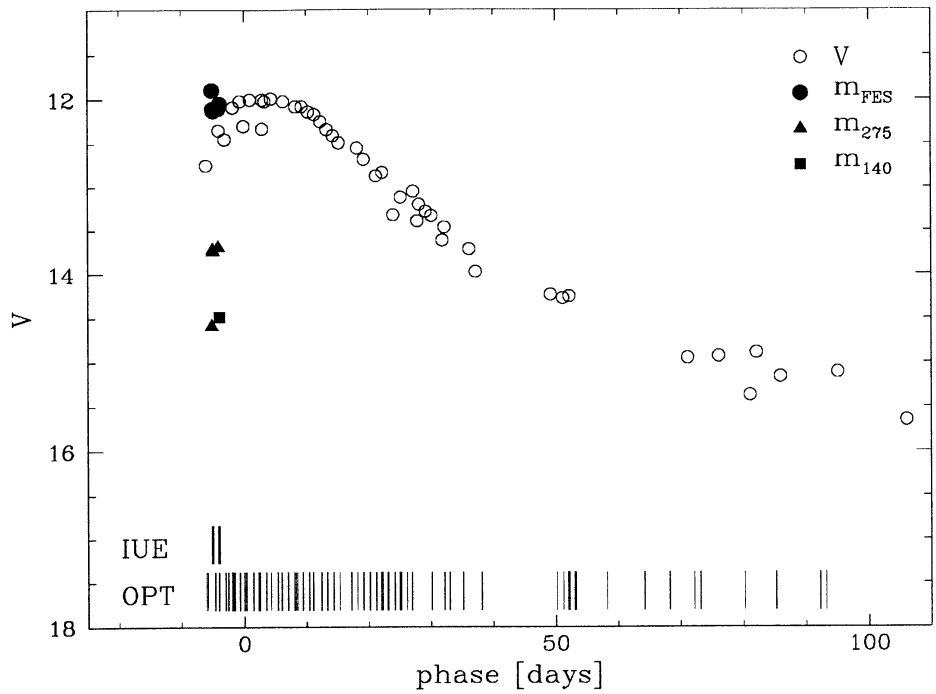

Figure 2: V+m_{FES}, m_{140}, m_{275} light curves. The epochs of IUE and published optical spectra are marked

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OPTS - Ruiz-Lapuente, P., et al., 1990, Ap&S.Sci. 169, 275

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UBVR,OPTS - Tsvetkov, D.Yu., Kimeridze, G.N., Volkov, I.M., Bartunov, O.S., Ikonnikova, N.P., 1990, A&A 236, 133

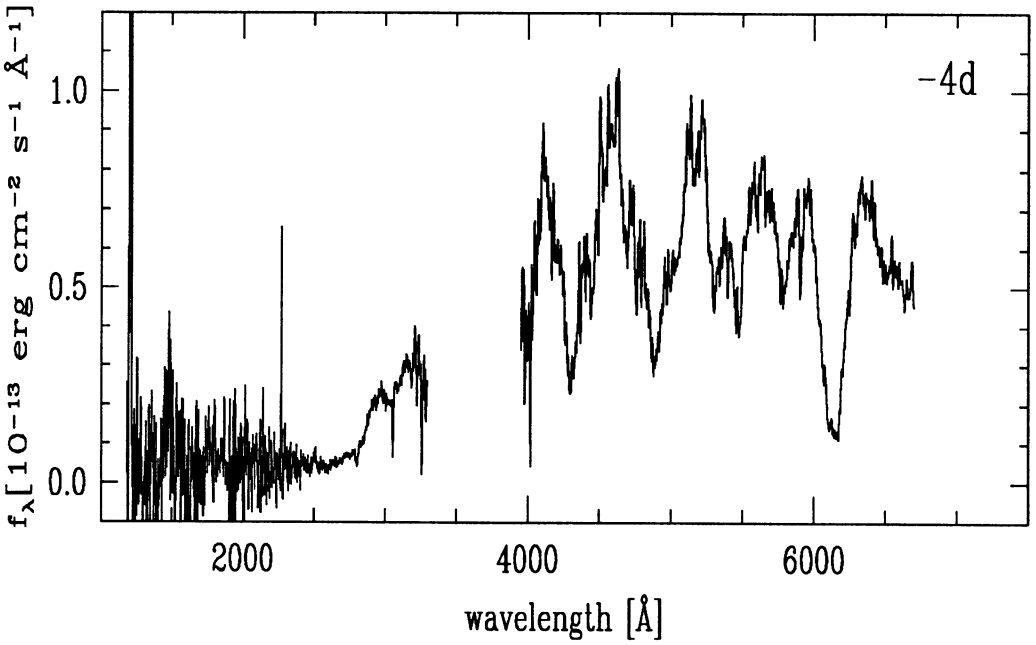

Figure 3: UV-optical spectra

UBVRIJHK,OPTS - Wells, L.A., et al., 1994, AJ 108, 2233

SN 1989M NGC 4579 (M58)

GALAXY DATA

coordinates [2000.0]	$12^h\,37\,44^s.2$ $+11°\,49'\,11''$
morphological type	SXT3
heliocentric velocity [km s^{-1}]	1627 ± 41
galactic absorption [A_B]	0.15
distance modulus	31.13
group affiliation	11 – 1 (Virgo)

SN DATA

classification	Ia
offset [arcsec]	40 West 21 North
coordinates [2000.0]	$12^h37^m40^s.72$ $+11°49'26''.0$
epoch of discovery [JD]	2447705
Light curve	
epoch of maximum [JD]	2447714
B magnitude at maximum	12.7
B-V color at maximum	0.3
β^B [$mag\,100d^{-1}$]	7.9
γ^B [$mag\,100d^{-1}$]	/

IUE spectra: ULDA tape **SN1989M**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP15863	06/07/89	22:58	0	12.46		14.16	
LWP15868	08/07/89	04:05	+1	12.47			no ULDA
LWP15878	08/07/89	20:11	+2	12.47		14.24	
LWP15907	12/07/89	16:31	+6	12.54		14.73	
LWP15913	13/07/89	23:59	+7	12.65		14.89	
LWP15947	17/07/89	16:28	+11	12.86			no ULDA
LWP15965	20/07/89	23:13	+14			15.54	

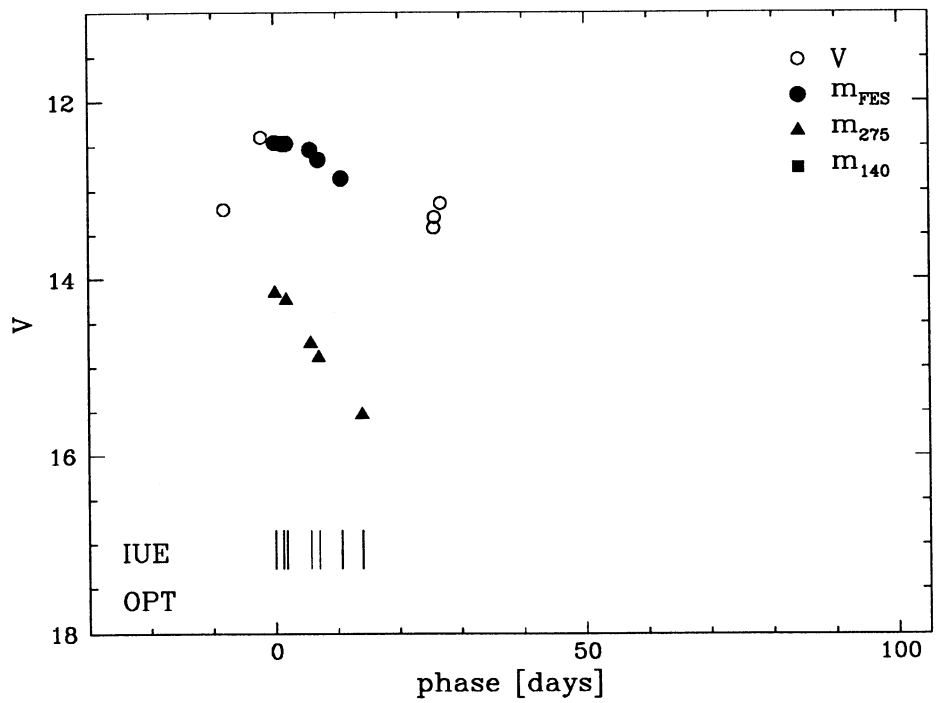

Figure 2: V+m$_{FES}$, m$_{140}$, m$_{275}$ light curves. The epochs of IUE and published optical spectra are marked

REFERENCES

BV - Kimeridze, G.N., Tsvetkov, D.Yu., 1991, Astron. Zh. 68, 341

IRS - Lynch, D.K., Erwin, P., Rudy, R.J., Rossano, G.S., Puetter, R.C., 1992, AJ 104, 1156

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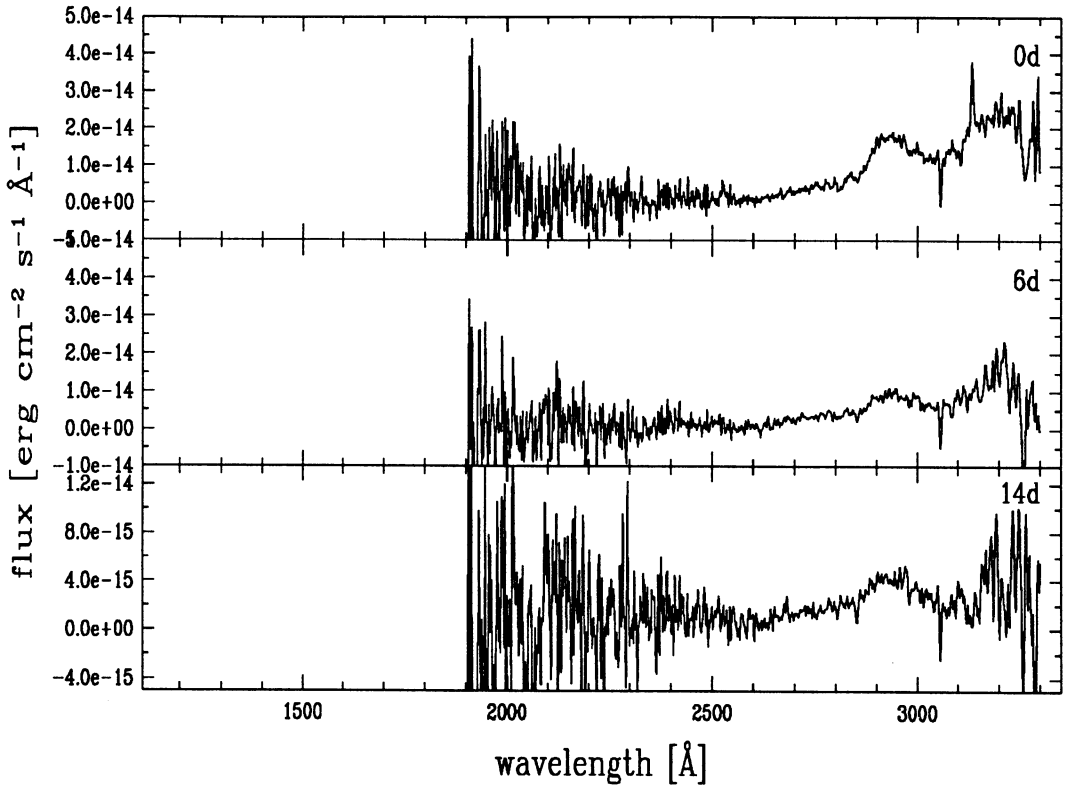

Figure 3: Selected IUE spectra

SN 1990B NGC 4568

GALAXY DATA

coordinates [2000.0]	$12^h\,36\,34\overset{s}{.}7 \quad +11°\,14'\,15''$
morphological type	SAT4
heliocentric velocity [km s^{-1}]	2260 ± 27
galactic absorption [A_B]	0.01
distance modulus	31.13
group affiliation	11–1 (Virgo)

SN DATA

classification	Ic
offset [arcsec]	6 West 10 North
accurate coordinate [2000.0]	$12^h36^m33\overset{s}{.}83 \quad +11°14'29\overset{''}{.}8$
epoch of discovery [JD]	2447911
Light curve	
epoch of maximum [JD]	2447909
V magnitude at maximum	16.0
B-V color at maximum	/
β^B_{100} [$mag\,100d^{-1}$]	/
γ^B [$mag\,100d^{-1}$]	/

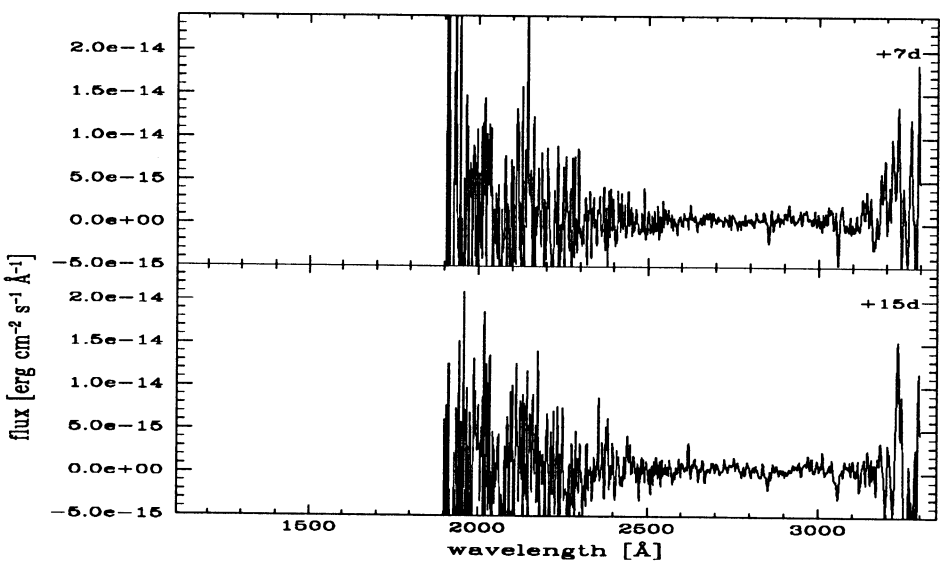

Figure 1: Selected IUE spectra

IUE spectra: ULDA tape **SN1990B**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP17244L	27/01/90	08:15	+7			16.47	
LWP17292L	04/02/90	07:48	+15			16.60	

REFERENCES

RADIO - van Dyk, S.D., Sramek, R.A., Weiler, K.W., Panagia, N., 1993, ApJ 409, 162

SN 1990M NGC 5493

GALAXY DATA

coordinates [2000.0]	$14^h\,11\,29\overset{s}{.}5 \quad -05°\,02'\,40''$
morphological type	LP
heliocentric velocity [km s^{-1}]	2627 ± 56
galactic absorption [A_B]	0.08
distance modulus	32.95
group affiliation	41-13+12

SN DATA

classification	Ia
offset [arcsec]	15 West 4 North
coordinates [2000.0]	$14^h11^m29\overset{s}{.}22 \quad -05°02'35\overset{''}{.}9$
epoch of discovery [JD]	2448058
Light curve	
epoch of maximum [JD]	2448063
V magnitude at maximum	12.6
B-V color at maximum	/
β^B_{100} [$mag\,100d^{-1}$]	/
γ^B [$mag\,100d^{-1}$]	/

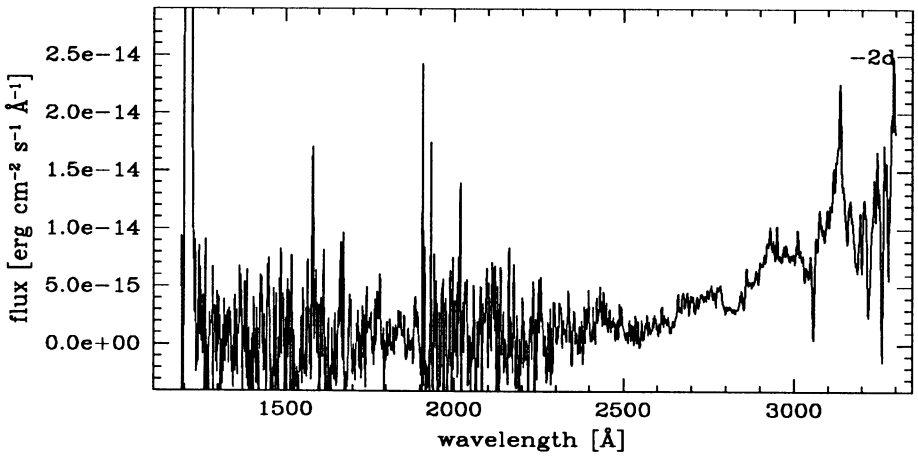

Figure 1: Selected IUE spectra

IUE spectra: ULDA tape **SN1990M**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP18126L	18/06/90	09:45	-2			14.66	
SWP39109L	18/06/90	14:11	-2		16.24		

REFERENCES

IRS - Lynch, D.K., Erwin, P., Rudy, R.J., Rossano, G.S., Puetter, R.C., 1992, AJ 104, 1156

OPTS - Polcaro, V.F., Viotti, R., 1991, A&A 242, L9

SN 1990N NGC 4639

GALAXY DATA

coordinates [2000.0]	$12^h\,42\,52\overset{s}{.}6 \quad +13°\,15'\,30''$
morphological type	SXT4
heliocentric velocity [km s^{-1}]	898 ± 33
galactic absorption [A_B]	0.06
distance modulus	31.13
group affiliation	11 – 1 (Virgo)

SN DATA

classification	**Ia**
offset [arcsec]	63 East 2 South
coordinates [2000.0]	$12^h42^m56\overset{s}{.}70 \quad +13°15'23\overset{''}{.}7$
epoch of discovery [JD]	2448065
Light curve	
epoch of maximum [JD]	2448083
B magnitude at maximum	12.7
B-V color at maximum	0.02
β^B [$mag\,100d^{-1}$]	8.3
γ^B [$mag\,100d^{-1}$]	/

IUE spectra: ULDA tape **SN1990N**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP18200	26/06/90	18:27	-14	13.81		15.93	
LWP18227	28/06/90	06:06	-13			15.37	saturated
LWP18253	30/06/90	14:06	-10	13.08		14.61	
LWP18266	02/07/90	16:07	-9			14.06	
LWP18285	04/07/90	00:20	-7	12.77		13.72	
LWP18286	04/07/90	08:51	-7				high res.
LWP18330	09/07/90	16:19	-1	12.66		13.72	saturated
LWP18368	14/07/90	03:35	+3			13.98	saturated
LWP18369	14/07/90	05:29	+3	12.68		14.07	

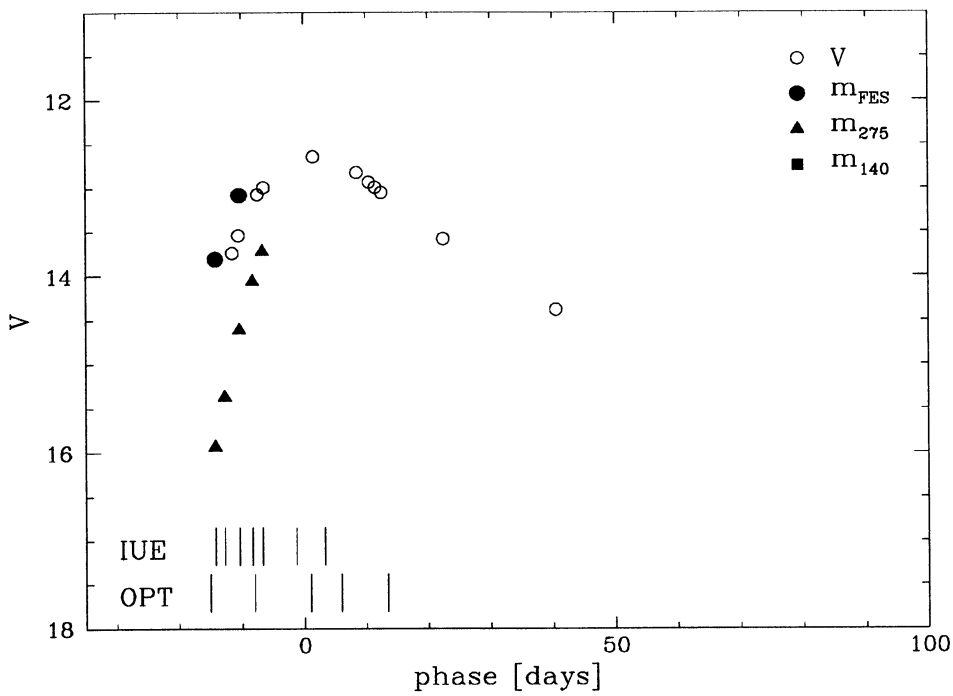

Figure 2: V+m_{FES}, m_{140}, m_{275} light curves. The epochs of IUE and published optical spectra are marked

REFERENCES

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IRS - Lynch, D.K., Erwin, P., Rudy, R.J., Rossano, G.S., Puetter, R.C., 1992, AJ 104, 1156

OPTS,MOD - Mazzali, P.A., Lucy, L.B., Danziger, I.J., Gouiffes, C., Cappellaro, E., Turatto, M., 1993, A&A 269, 423

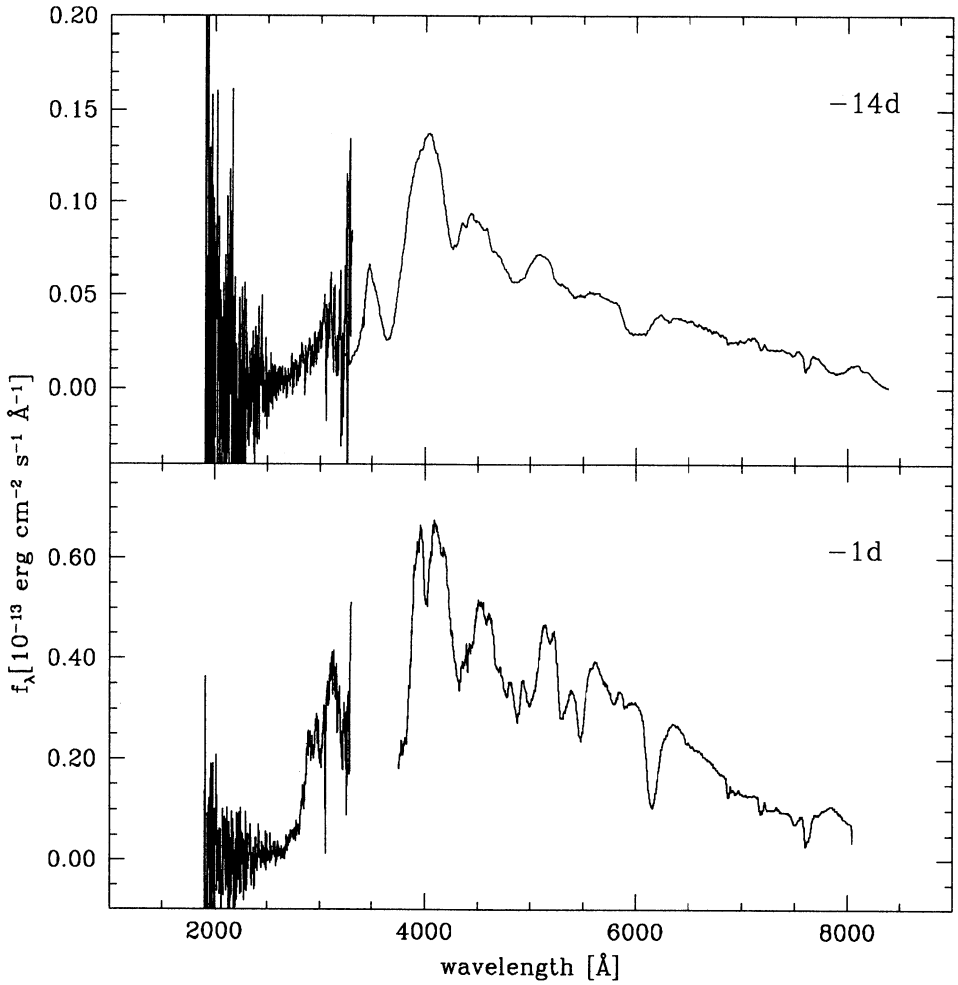

Figure 3: UV-optical spectra

MOD - Shigeyama, T., Nomoto, K., Yamaoka, H., Thielemann, F.K., 1992, ApJ 386, L13

MOD - Yamaoka, H., Nomoto, K., Shigeyama, T., Thielemann, F.K., 1992, ApJ 393, L55

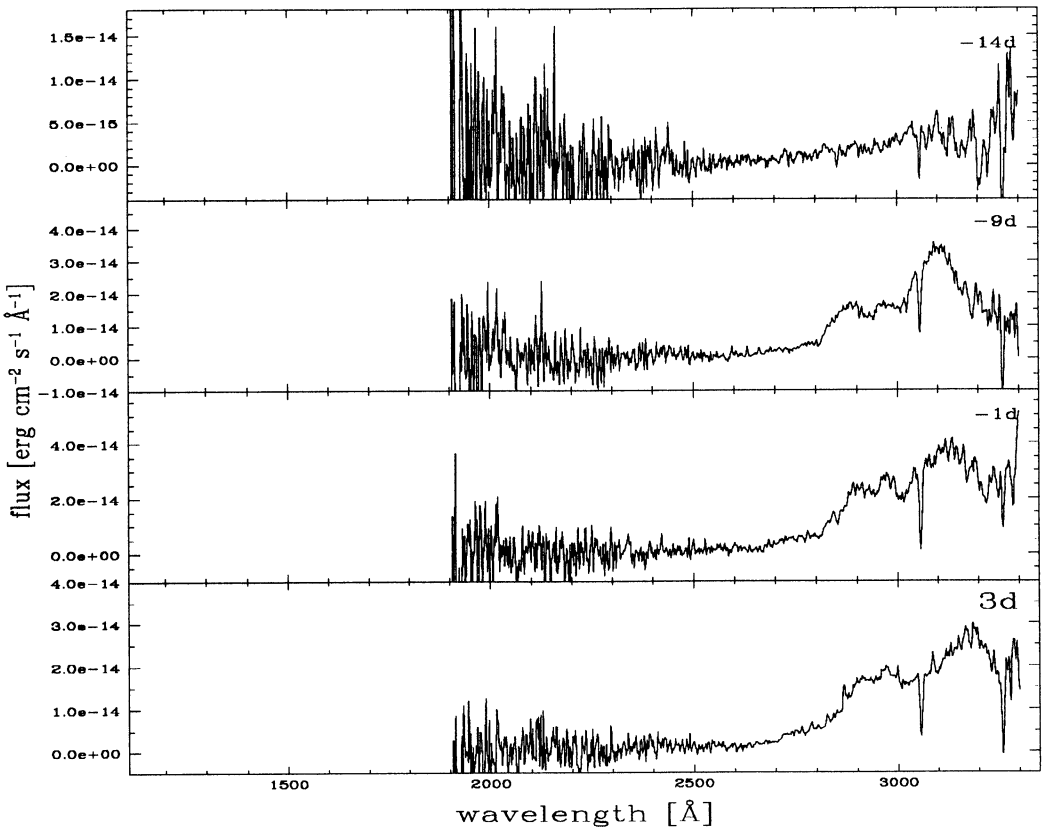

Figure 4: Selected IUE spectra

SN 1990W NGC 6221

GALAXY DATA

coordinates [2000.0]	$16^h\,52\,46\overset{s}{.}7 \quad -59°\,12'\,59''$
morphological type	SBS5
heliocentric velocity [km s^{-1}]	1350 ± 31
galactic absorption [A_B]	0.86
distance modulus	31.44
group affiliation	19-3+2 (Pavo - Ara)

SN DATA

classification	Ic
offset [arcsec]	7 East 5 North
coordinates [2000.0]	$16^h52^m47\overset{s}{.}18 \quad -59°12'55\overset{''}{.}0$
epoch of discovery [JD]	2448120
Light curve	
epoch of maximum [JD]	2448124:
B magnitude at maximum	15.4
B-V color at maximum	0.6
β^B_{100} [$mag\,100d^{-1}$]	/
γ^B [$mag\,100d^{-1}$]	/

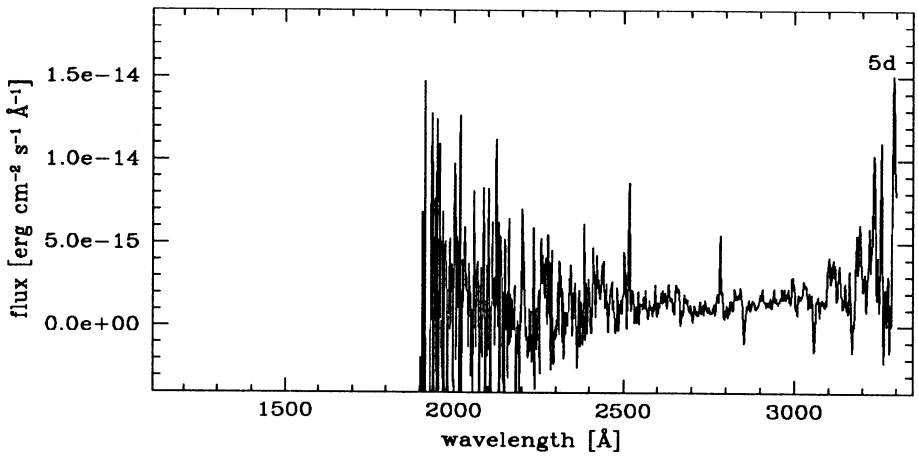

Figure 1: Selected IUE spectra

IUE spectra: ULDA tape **SN1990W**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWR18667L	26/08/90	17:38	5			15.81	

REFERENCES

GENERAL - IAU Circular No. 5076, 5077, 5079, 5080, 5090

SN 1991T NGC 4527

GALAXY DATA

coordinates [2000.0]	$12^h\,34\,08\overset{s}{.}8 \quad +02°\,39'\,13''$
morphological type	SXS4
heliocentric velocity [km s^{-1}]	1727 ± 56
galactic absorption [A_B]	0.02
distance modulus	30.65
group affiliation	$11 - 4 + 1$ (Virgo)

SN DATA

classification	**Ia Pec**
offset [arcsec]	26 East 45 North
accurate coordinate [2000.0]	$12^h34^m10\overset{s}{.}17 \quad +02°39'56\overset{''}{.}4$
epoch of discovery [JD]	2448359
Light curve	
epoch of maximum [JD]	2448375
B magnitude at maximum	11.64
B-V color at maximum	0.13
β^B [$mag\,100d^{-1}$]	10.9
γ^B [$mag\,100d^{-1}$]	1.4

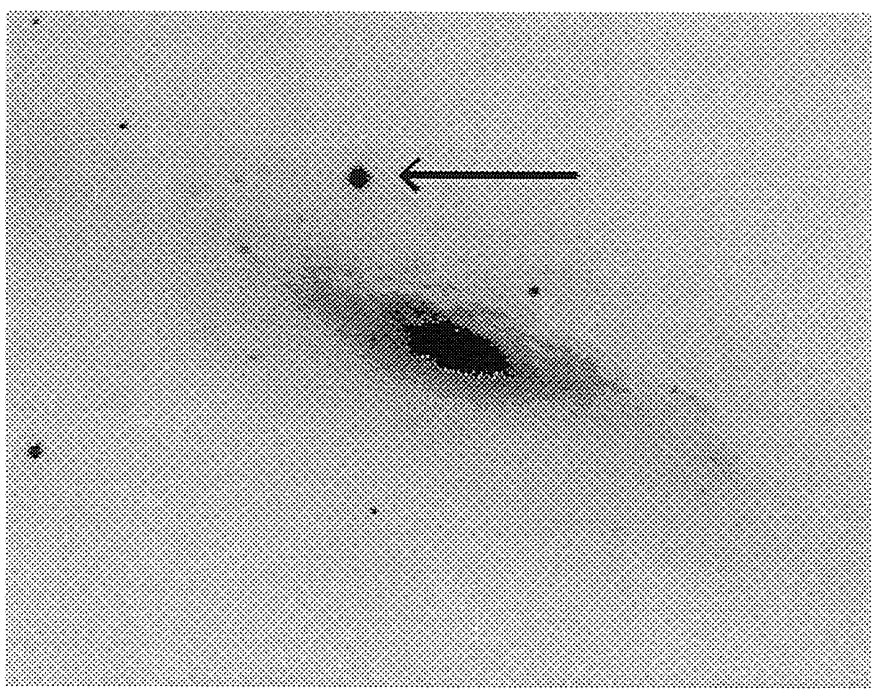

Figure 1: Map of SN 1991T (ESO-KP on SNe) North is top, east is left.

IUE spectra: ULDA tape **SN1991T**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP20242	27/04/91	08:11	-2	11.64		12.50	
LWP20243	27/04/91	10:29	-2	11.58		12.54	
LWP20268	29/04/91	15:33	+1	11.61		12.75	
LWP20587	13/06/91	05:50	+44			16.27	
LWP20646	20/06/91	06:24	+52			15.99	saturated

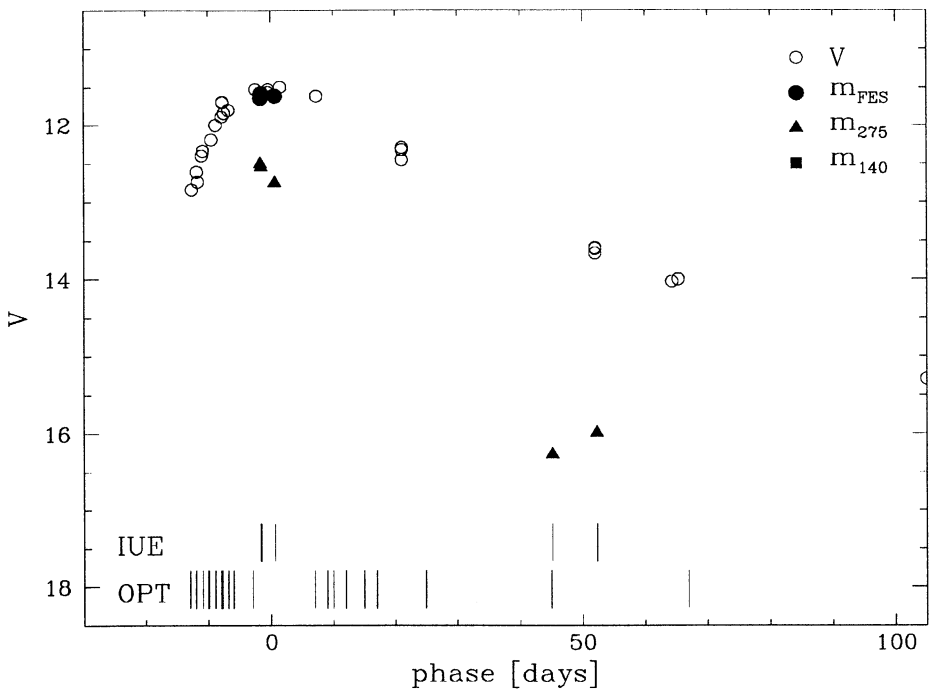

Figure 2: V+m_{FES}, m_{140}, m_{275} light curves. The epochs of IUE and published optical spectra are marked

REFERENCES

V,OPTS - Filippenko, A.V. et al., 1992, ApJ 384, L15

VRI - Ford, C.H., et al., 1993, AJ 106, 1101

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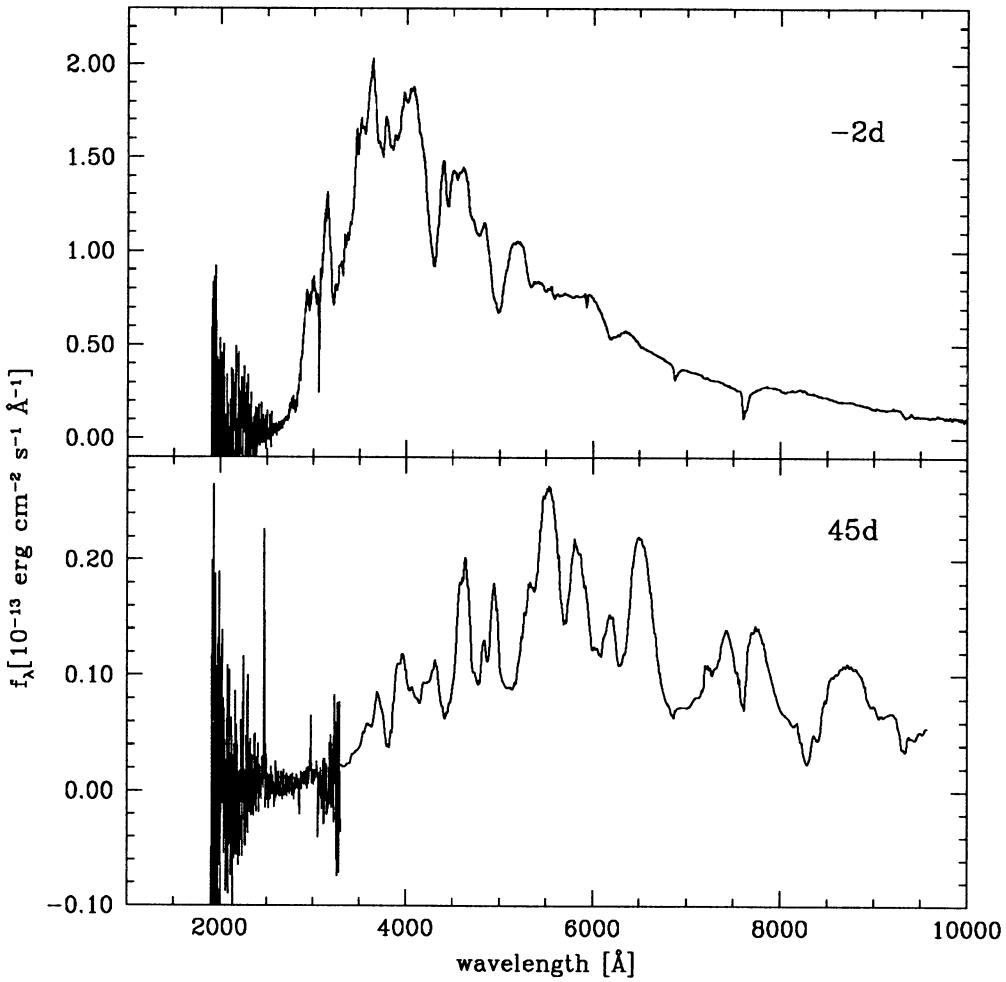

Figure 3: UV-optical spectra

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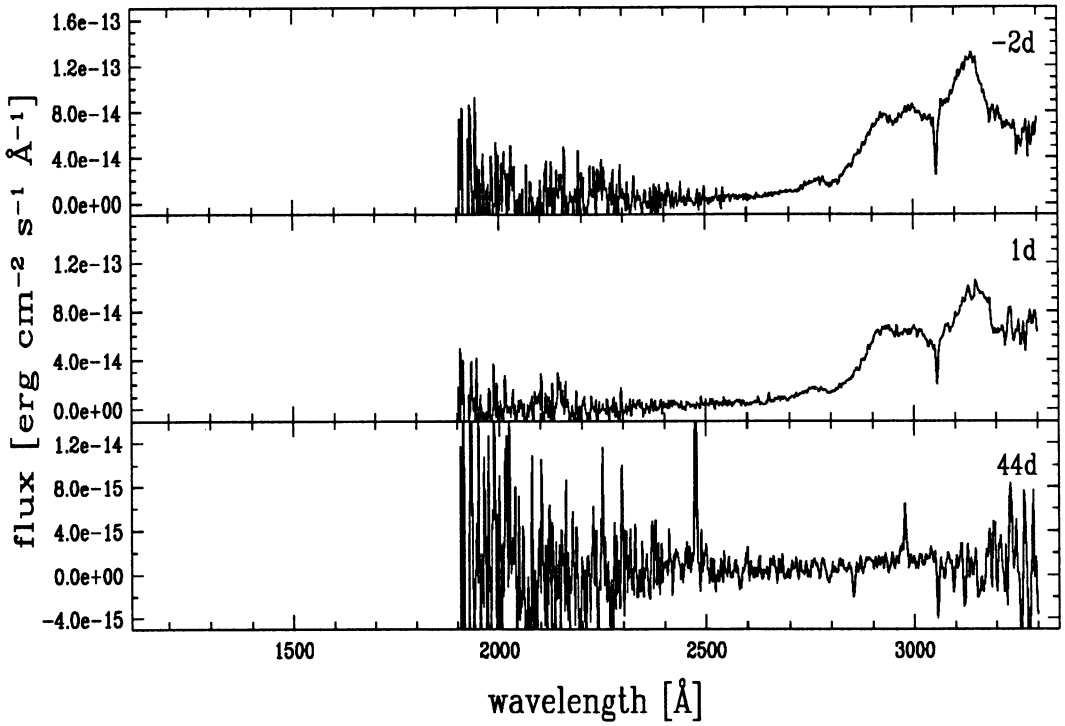

Figure 4: Selected IUE spectra

SN 1991bg NGC 4374

GALAXY DATA

coordinates [2000.0]	$12^h\,25\,03\overset{s}{.}7 \quad +12°\,53'\,15''$
morphological type	E1
heliocentric velocity [km s^{-1}]	1029 ± 11
galactic absorption [A_B]	0.13
distance modulus	31.13
group affiliation	11-1 (Virgo)

SN DATA

classification	**Ia Pec**
offset [arcsec]	2 East 57 South
coordinates [2000.0]	$12^h25^m03\overset{s}{.}60 \quad +12°52'15\overset{''}{.}5$
epoch of discovery [JD]	2448603
Light curve	
epoch of maximum [JD]	2448604
V magnitude at maximum	13.95
B-V color at maximum	0.7
β^B [$mag\,100d^{-1}$]	2.9
γ^B [$mag\,100d^{-1}$]	0.21

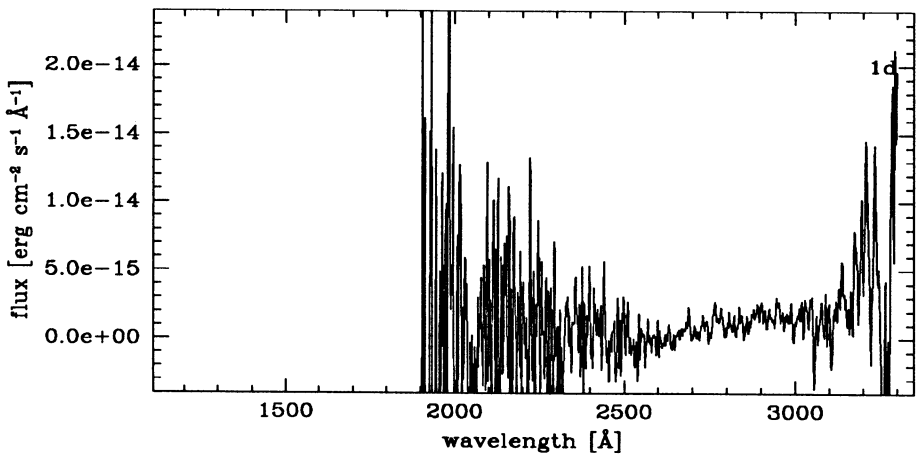

Figure 1: Selected IUE spectra

IUE spectra: ULDA tape **SN1991BG**

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP21999L	14/12/91	18:32	+1			16.01	

REFERENCES

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VRI,OPTS - Filippenko, A.V., et al., 1992, AJ 104, 1543
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SN 1992A NGC 1380

GALAXY DATA

coordinates [2000.0]	$03^h\,36\,26\overset{s}{.}9 \quad -34°\,58'\,33''$
morphological type	LA
heliocentric velocity [km s^{-1}]	1841 ± 15
galactic absorption [A_B]	0.00
distance modulus	31.14
group affiliation	51 – 1 (Fornax)

SN DATA

classification	**Ia**
offset [arcsec]	6 West 61 North
coordinates [2000.0]	$03^h h36m24\overset{s}{.}52 \quad -34°57'31\overset{''}{.}5$
epoch of discovery [JD]	2448632
Light curve	
epoch of maximum [JD]	2448641
B magnitude at maximum	12.60
B-V color at maximum	0.00
β^B [$mag\,100d^{-1}$]	11.9
γ^B [$mag\,100d^{-1}$]	1.47

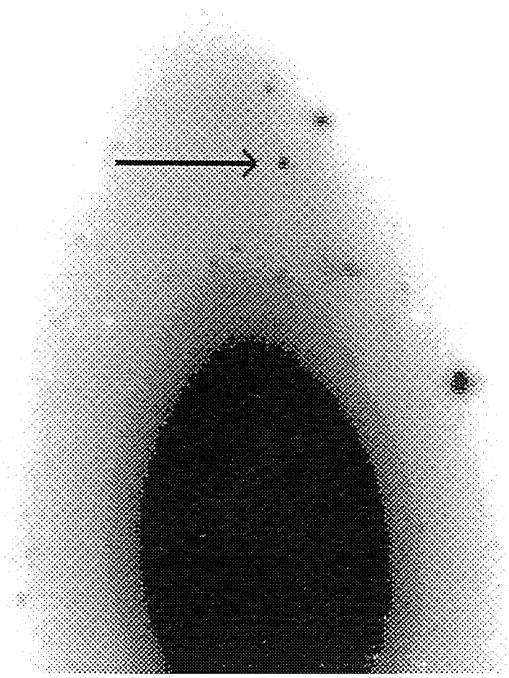

Figure 1: Map of SN 1992A (ESO-KP on SNe) North is top, east is left.

IUE spectra: not yet in ULDA (december 1994)

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP22246	14/01/92	01:09	-5			13.44	
LWP22252	16/01/92	03:44	-3			13.28	
LWP22253	16/01/92	05:17	-3			13.26	
LWP22272	18/01/92	21:35	0			13.44	
LWP22273	18/01/92	22:46	0			13.47	
LWP22280	21/01/92	12:57	+3			13.80	
LWP22288	27/01/92	12:39	+9			14.63	
LWP22306	30/01/92	20:05	+12				
LWP22333	04/02/92	12:59	+17			15.42	
LWP22369	10/02/92	12:16	+23			15.79	

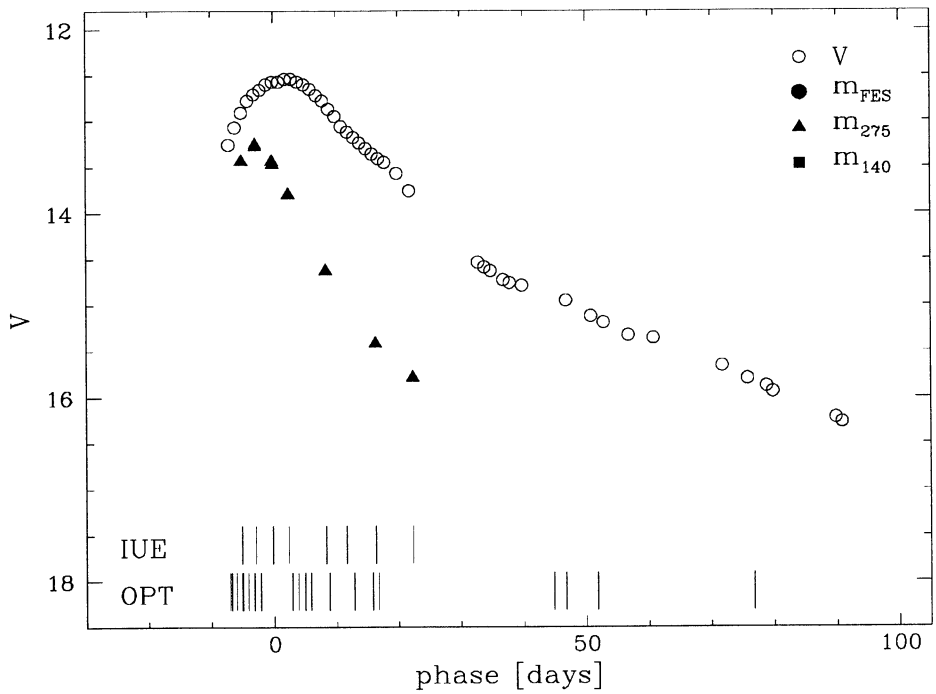

Figure 2: V+m_{FES}, m_{140}, m_{275} light curves. The epochs of IUE and published optical spectra are marked

REFERENCES

IUE,HST,MOD,OPTS - Kirshner, R.P., et al., 1993, ApJ 415, 589
POL - Spyromilio, J., Bailey, J., 1993, PASA 10, 263

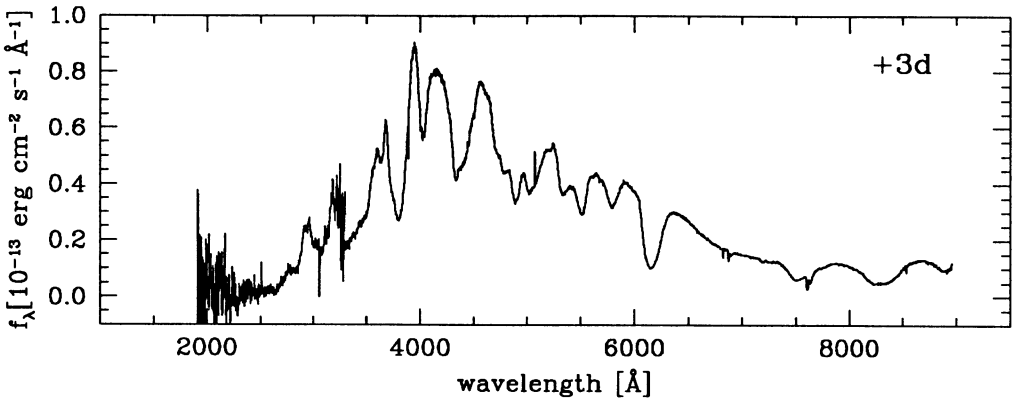

Figure 3: UV-optical spectra

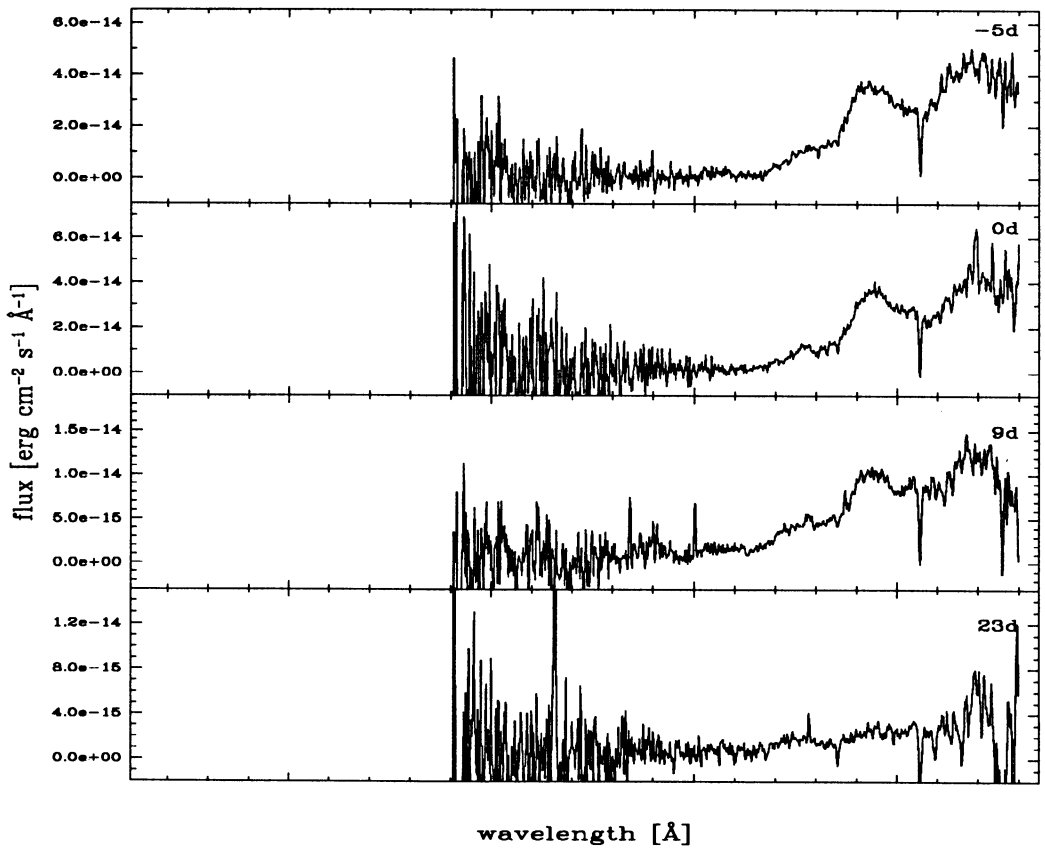

Figure 4: Selected IUE spectra

SN 1992ad NGC 4411B

GALAXY DATA

coordinates [2000.0]	$12^h\,26\,47\overset{s}{.}3 \quad +08°\,53'\,02''$
morphological type	SXS6
heliocentric velocity [km s^{-1}]	1250 ± 46
galactic absorption [A_B]	0.00
distance modulus	31.13
group affiliation	11–1 (Virgo)

SN DATA

classification	II
offset [arcsec]	35 East 26 South
coordinates [2000.0]	$12^h26^m49\overset{s}{.}59 \quad +08°52'38\overset{''}{.}2$
epoch of discovery [JD]	2448804
Light curve	
epoch of maximum [JD]	2448804:
V magnitude at maximum	13.5
B-V color at maximum	/
β^B_{100} [$mag\,100d^{-1}$]	/
γ^B [$mag\,100d^{-1}$]	/

Spectra not yet available

IUE spectra: not yet in ULDA (december 1994)

ident.	date	UT	phase	m_{FES}	m_{140}	m_{275}	notes
LWP23423L	03/07/92	12:06	+2				
SWP45058L	03/07/92	13:03	+2				

REFERENCES

GENERAL - IAU Circular No. 5552, 5555, 5570

SN 1993J NGC 3031

GALAXY DATA

coordinates [2000.0]	$09^h\,55\,24\overset{s}{.}8$ $+69°\,04'\,00''$
morphological type	SAS2
heliocentric velocity [km s^{-1}]	-49 ± 10
galactic absorption [A_B]	0.16
distance modulus	25.67
group affiliation	14 – 10

SN DATA

classification	**IIb**
offset [arcsec]	45 West 160 South
coordinates [2000.0]	$09^h55^m24\overset{s}{.}79$ $+69°01'13\overset{''}{.}7$
epoch of discovery [JD]	2449075
epoch of explosion [JD]	2449074
Light curve	
epoch of maximum [JD]	2449077
B magnitude at maximum	10.78
B-V color at maximum	0.08
β^B_{100} [$mag\,100d^{-1}$]	3.5
γ^B [$mag\,100d^{-1}$]	1.4

Figure 1: Map of SN 1993J (Lewis et al. 1994). North is top, east is left.

IUE spectra: not yet in ULDA (december 1994)

ident.	date	UT	phase[a]	m_{FES}	m_{140}	m_{275}	notes
LWP25237L	30/03/93	04:59	+3			9.22	
SWP47385L	30/03/93	05:11	+3		8.93		
LWP25238L	30/03/93	06:13	+3				high res.
SWP47386L	30/03/93	11:21	+3				high res.
LWP25239L	30/03/93	12:59	+3			9.39	
SWP47388L	30/03/93	17:54	+3		9.63		
SWP47389L	30/03/93	18:35	+3		9.64		
SWP47393L	31/03/93	04:16	+4		10.21		
LWP25242L	31/03/93	04:46	+4			9.80	
SWP47394L	31/03/93	05:43	+4				high res.
LWP25243L	31/03/93	06:27	+4			9.87	
LWP25245L	31/03/93	14:02	+4			10.12	
SWP47395L	31/03/93	17:38	+4		11.07		
LWP25249L	01/04/93	02:36	+5			10.56	
SWP47398L	01/04/93	02:54	+5		11.67		
LWP25250L	01/04/93	03:41	+5				high res.
SWP47399L	01/04/93	07:49	+5		11.96		
SWP47403L	01/04/93	22:16	+6		12.80		
LWP25254L	02/04/93	10:01	+6			10.68	
LWP25254S	02/04/93	10:16	+6				
SWP47405L	02/04/93	10:36	+6		13.29		
SWP47412L	03/04/93	06:38	+7		13.86		
LWP25262L	03/04/93	15:57	+7			11.82	*
LWP25264L	04/04/93	03:02	+8			11.94	*
SWP47415L	04/04/93	04:35	+8		14.16		
SWP47423L	05/04/93	09:53	+9		14.45		
LWP25287L	07/04/93	09:59	+11			12.66	*
LWP25291L	08/04/93	02:28	+12			12.28	*
LWP25292L	08/04/93	04:14	+12			12.43	*
SWP47453L	10/04/93	02:31	+14		14.92		
LWP25313L	10/04/93	15:48	+14			12.26	*
SWP47482L	14/04/93	06:44	+18		15.12		
LWP25347L	14/04/93	14:48	+18			12.17	*
LWP25375L	20/04/93	03:04	+24				*
SWP47525L	22/04/93	03:15	+26		15.27		
LWP25448L	30/04/93	17:23	+34			12.44	*
LWP25482L	06/05/93	20:23	+40			12.25	*
SWP47688L	18/05/93	00:37	+52		15.78		
LWP25552L	18/05/93	12:38	+52			12.18	*

a) from extimated explosion epoch

* heavily contaminated by scattered Sun light

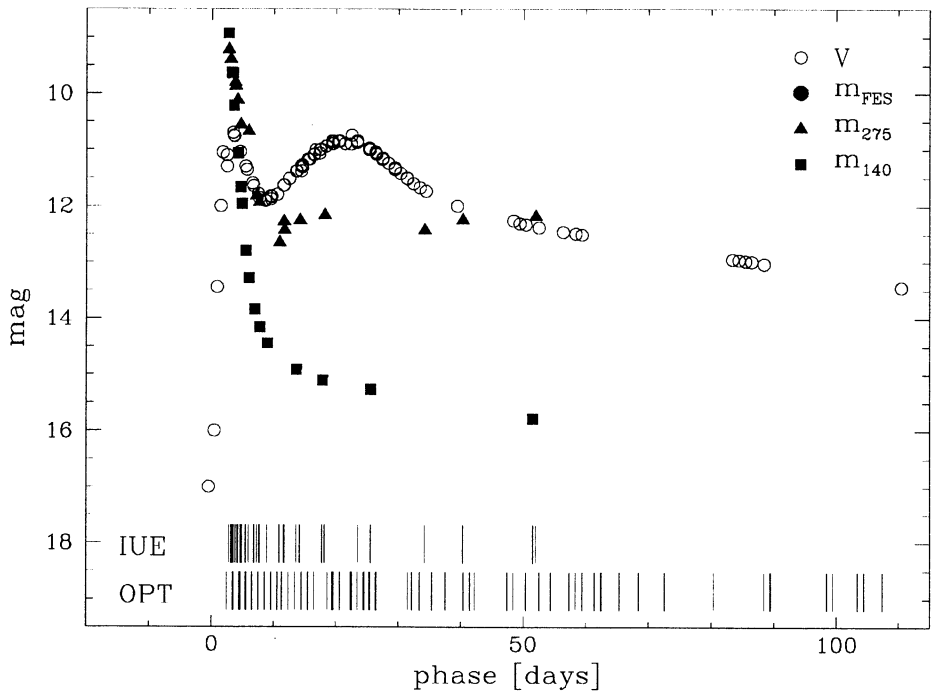

Figure 2: V+m_{FES}, m_{140}, m_{275} light curves. The epochs of IUE and published optical spectra are marked

REFERENCES

OTHER - Aldering, G., Humphreys, R.M., Richmond, M., 1994, AJ 107, 662

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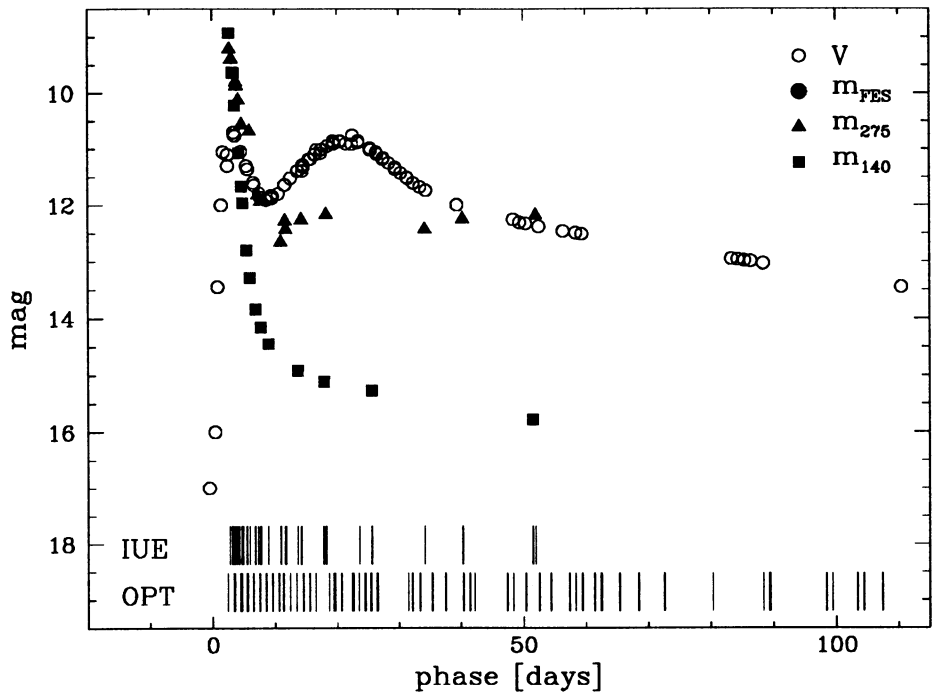
UBVRI - Mikolajewski, M., Ruminski, K., Wikierski, B., Kuleza, B., 1994, Proceedings of the XXVI meeting of the Polish Astronomical Society, eds. M. Sarna & J. Zalewski, Copernicus Foundation for Polish Astronomy.



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HR-OPTS,OPTS,IRS - Wheeler, J.C., et al., 1993, ApJ 417, L71

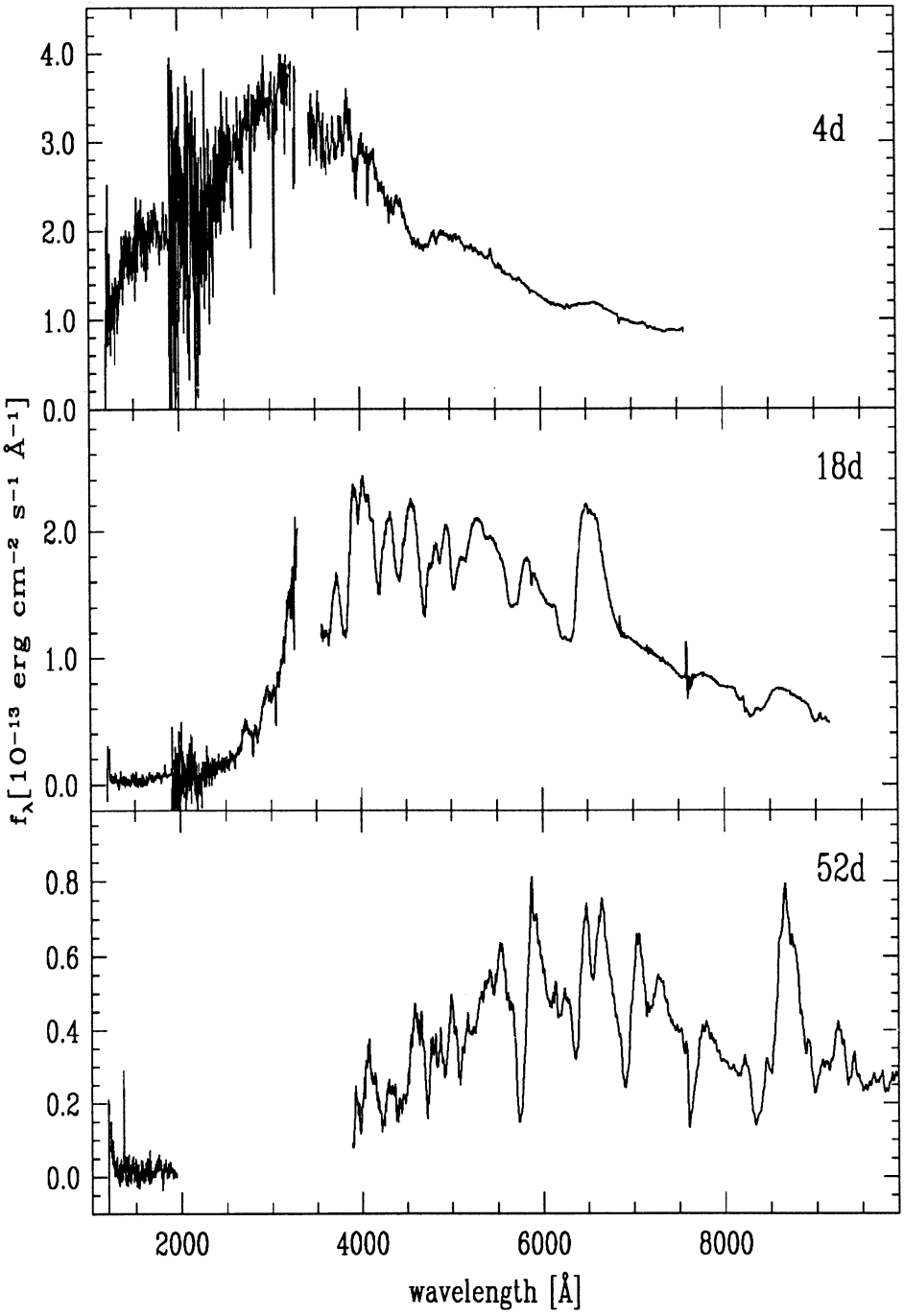

Figure 3: UV-optical spectra. The LWP spectrum at phase 18d has been scaled down to match the SWP and optical spectra

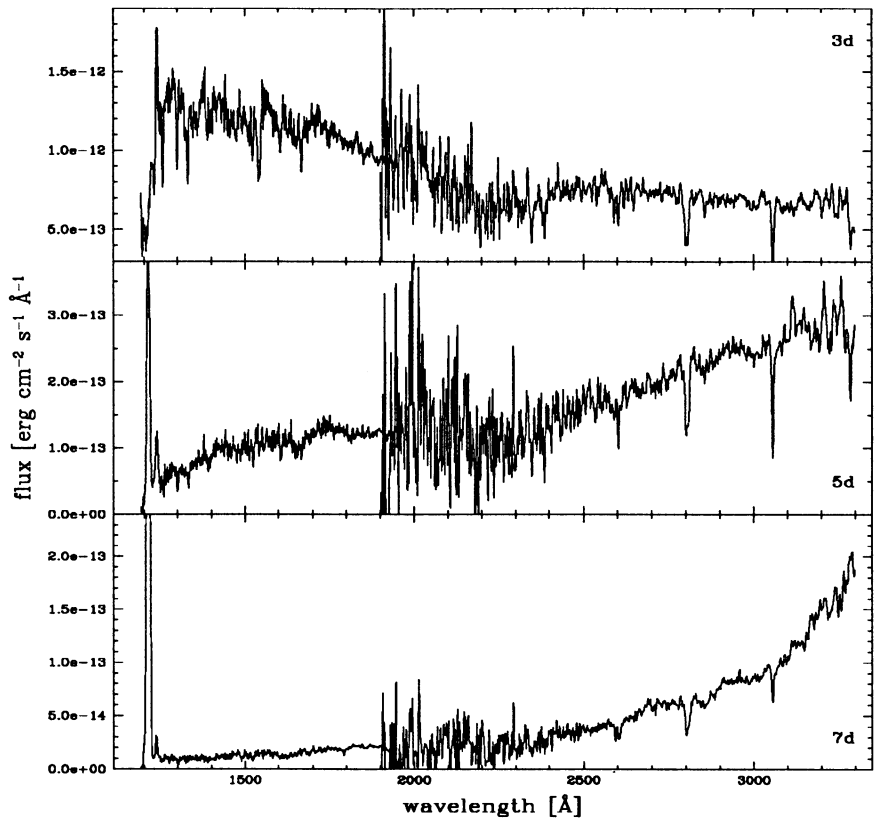

Figure 4: Selected IUE spectra. NB: long wavelenght spectra at phase later than 1 week are heavily contaminated by scattered Sun light