these clouds. Such studies illustrate the value of exploiting a temporarily bright source in order to study the physics of the intervening material.

These reflections are being written one week after the explosion. We still have much to learn. Does the LMC supernova represent a new, previously unknown class of supernova? Will we see changes in the interstellar lines that will indicate the size of these gas filaments? Can model calculations together with early observations accurately pinpoint the moment the envelope began to expand? If so, what is the time delay between the beginning of the expansion and neutrino burst detected by the Mont Blanc Neutrino Observatory? When will we be able to see the inner part of the expanding envelope with its rich soup of the products of nuclear fusion? Surely this supernova will be one of the most actively studied objects in the sky for years to come.

J. Wampler (ESO)

A workshop will be held at the ESO Headquarters in Garching from July 6–8, 1987 on

"The Supernova in the LMC"

Data obtained during the first half year of the supernova will be presented and other evidence and theories about supernovae confronted with the data.

For further information please contact:

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Walraven Photometry

The measurements were converted from log intensity to magnitudes.

UT	V	V–B	B	B–L	L	B–U	U	U–W	W
WAVEL. (Å)	5467		4325		3838		3633		3255
BANDW. (Å)	710		420		220		230		160
Feb.									
25.02	4.64	−0.19	4.83	−0.12	4.95	−0.13	4.96	−0.14	5.10
25.15	4.57	−0.19	4.76	−0.11	4.87	−0.11	4.87	−0.10	4.97
26.01	4.55	−0.26	4.81	−0.24	5.05	−0.31	5.12	−0.18	5.30
26.20	4.53	−0.26	4.79	−0.28	5.07	−0.33	5.12	−0.14	5.26
27.01	4.48	−0.39	4.87	−0.48	5.35	−0.65	5.52	−0.57	6.09
27.17	4.45	−0.40	4.95	−0.50	5.45	−0.71	5.66	−0.65	6.31
28.01	4.46	−0.56	5.02	−0.72	5.74	−1.26	6.28	−1.09	7.37
28.10	4.45	−0.54	4.99	−0.72	5.71	−1.27	6.26	−1.02	7.28
28.24	4.45	−0.56	5.01	−0.76	5.77	−1.35	6.36	−1.02	7.38
+/−	0.02	0.02	0.04	0.02	0.04	0.02	0.06	0.02	0.09

Observed by F. Steeman on the Dutch 91-cm telescope on La Silla.

P. Monderen, H.E. Schwarz (ESO), and F. Steeman (Leiden).

Geneva Seven Colour Photometry

The Supernova 1987A in LMC was measured 46 times between February 25 and March 2 in the seven filter Geneva photometry (Golay, M., 1980, *Vistas in Astronomy,* vol. 24, 141) at the ESO La Silla observatory.

SN 1987A was measured together with the comparison star HD 37935, a Geneva standard star. It should be

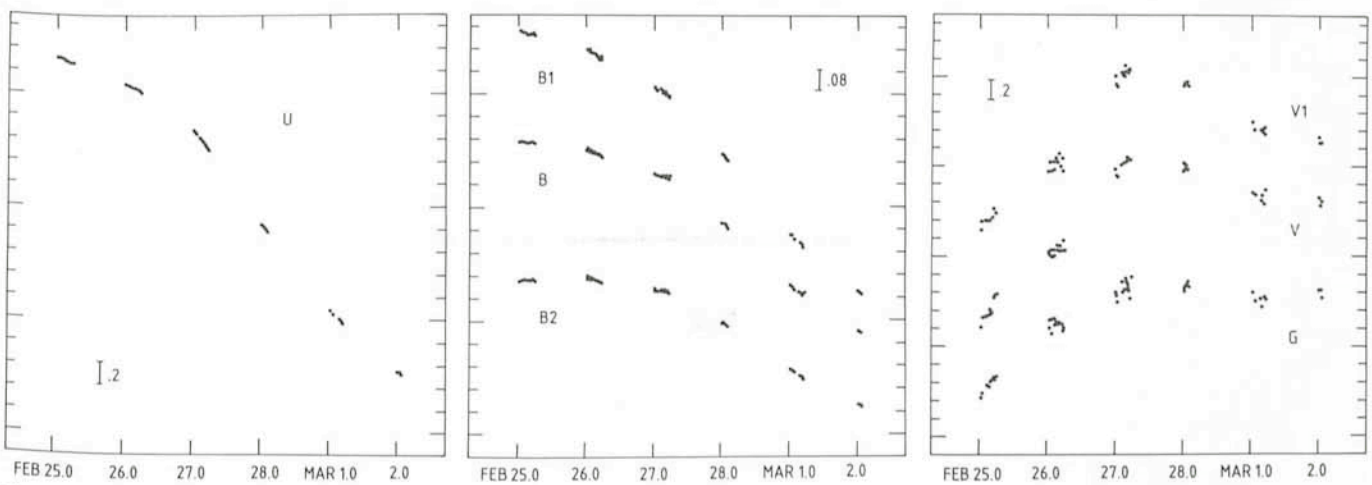

Figure 1: *(a) U magnitude relative to the comparison star HD 37935; (b) B1, B and B2 magnitudes relative to the comparison star HD 37935; (c) V1, V and G magnitude relative to the comparison star HD 37935.*

Table 1

Date	DV/DT	DU/DT	DB/DT
Feb. 25.0	−0.08	0.23	0.03
Feb. 26.0	−0.10	0.40	0.08
Feb. 27.0	0.01	0.83	0.18
Feb. 28.0	0.02	0.74	0.22
Feb. 29.0	0.01	0.55	0.17

noted that the values presented here are only preliminary, the final reductions will be performed in Geneva. Figure 1 shows the different magnitudes, relative to the comparison star. A first important feature to be noticed is the retardation of the intensity drop in the longer wavelength V1, V and G filters with respect to the B1, B and B2 and especially to the U filter, which was already decreasing significantly during the first night of observations. In Figure 1A, referring to the U filter, we see that after a strong decrease in brightness between February 27.0 and 27.9, the curve exhibits an inflexion point. From the calculated gradients of the U light curve (Table 1), we conclude that the curve became considerably smoother after the inflexion point.

The decrease in B1, B and B2 (Figure 1B) is much slower, the B2 curve even remains almost constant during the first two nights. Nevertheless, these curves too show an inflexion point. In contrast, the V1, V and G curves have a pronounced maximum during the third night (February 27.0) and a slow decrease afterwards. The V1-G index, in Figure 2, shows a completely different behaviour from the other colour indices. It has a strong peak towards the blue, coinciding with the time of maximum light in the V filter. This feature can be correlated with the disappearance of the P Cygni He I 5876 line observed simultaneously by Danziger, Fosbury and Dachs at the 3.6-m telescope.

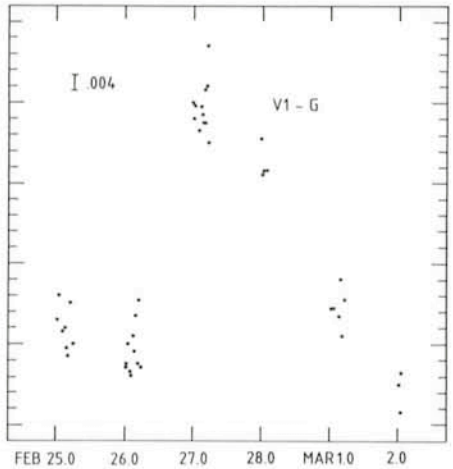

Figure 2: *V1-G index relative to the comparison star HD 37935.*

J. Babel (Lausanne/Genève), D. Heynderickx (Leiden)

Strömgren Photometry

As of March 2, the supernova SN 1987A was observed with the Danish 50-cm telescope on every night since its discovery. The Strömgren *uvby* intermediate band system was used. This combination of a small telescope and band widths of about 200 Å turned out to be ideal for observing such a bright star.

The bands in the *uvby* system are centred at 5490 Å (*y*), 4690 Å (*b*), 4110 Å (*v*), and 3500 Å (*u*). From spectra of the supernova obtained by other observers on La Silla we know that *y* essentially measures the continuum while both *b* and *v* fall on edges between emission lines and their P Cygni absorption throughs. The *y* magnitude is very similar to the visual V magnitude.

Preliminary light curves in the instrumental system are shown in the figure. It is obvious that *u* peaked before observations began and is now declining rapidly, while a maximum in *y* probably was reached around February 28, 1987. However, the changes in *y* are small. In addition to the *uvby* light curves, some Hβ observations are made to see whether changes in the Hβ structure can be detected by studying the flux through the narrow (30 Å) beta filter.

B.E. Helt (Copenhagen), L.P.R. Vaz (São Paulo) and H.E. Jørgensen (Copenhagen)