COMMISSION 27 OF THE I. A. U.
INFORMATION BULLETIN ON VARIABLE STARS
Number 1754

Konkoly Observatory
Budapest
1980 March 5

SPECTROPHOTOMETRIC OBSERVATIONS OF MIRA CETI

Following an announcement in the IAU Circular No. 3407 by S. McLean, we have observed the long period variable Mira (o Ceti) on two nights (6 and 18 October 1979) with the help of a scanner attached to the 104-cm reflector of the Uttar Pradesh State Observatory as a spectral resolution of 50 Å. The monochromatic magnitudes of the star have been corrected for atmospheric extinction and have been put on an absolute scale corresponding to Hayes and Latham (1975) calibration of Vega. Table 1 gives these data.

From a plot of these data against wavelength (λ), classification indices α, β and γ (Rautela and Joshi, 1979) were formed. These indices reveal spectral types of M5.5 III and M4.5 III of the star on the 6th and on the 18th October 1979, respectively. From a correlation of β index with effective temperature, the effective temperatures on the above two nights were found to be 2470° K and 2760°K.

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References:
Hayes, D.S. and Latham, D.W.: 1975, Astrophys.J. 197, 593
Rautela, B.S. and Joshi, S.C.: 1979, Bull.Astron.Soc.India,7,43

Table 1

Monochromatic fluxes of the star Mira Ceti normalized to λ 555.0 nm

λ (nm)	6/7 Oct. 1979	18/19 Oct. 1979	λ (nm)	6/7 Oct. 1979	18/19 Oct. 1979
400	+0.63	-	600	-0.14	-0.47
405	+0.50	-	605	-0.37	-0.28
410	+0.49	-	610	-0.51	-0.20
415	+0.50	-	615	-0.60	-0.34
420	+0.57	-	620	-0.54	-0.62
425	+0.63	-	625	-0.33	-0.63
430	+0.66	-	630	-0.46	-0.94
435	+0.67	-	635	-0.75	-1.04
440	+0.71	-	640	-0.96	-1.12
445	+0.79	-	645	-1.13	-1.13
450	+0.83	-	650	-1.37	-0.99
455	+0.84	-	655	-1.32	-0.89
460	+0.81	-	660	-1.32	-0.88
465	+0.83	+1.02	665	-1.27	-0.96
470	+0.79	+1.07	670	-1.13	-1.14
475	+0.68	+0.88	675	-1.02	-1.30
480	+0.64	+0.81	680	-1.10	-1.54
485	+0.63	+0.77	685	-1.32	-1.73
490	+0.44	+0.47	690	-1.51	-1.79
495	+0.24	+0.17	695	-1.82	-1.65
500	+0.31	-0.03	700	-1.92	-1.29
505	+0.45	-0.20	705	-2.10	-1.26
510	+0.17	-0.06	710	-1.96	-1.41
515	+0.00	+0.13	715	-1.70	-1.66
520	-0.06	-0.03	720	-1.49	-1.93
525	+0.02	-0.13	725	-1.66	-2.11
530	-0.07	-0.14	730	-2.01	-2.39
535	-0.08	-0.09	735	-2.47	-2.46
540	-0.18	+0.00	740	-2.73	-2.48
545	-0.17	-0.01	745	-2.81	-2.48
550	-0.09	+0.00	750	-2.83	-2.09
555	+0.00	-0.08			
560	+0.01	-0.18			
565	+0.05	-0.30			
570	-0.05	-0.30			
575	-0.16	-0.10			
580	-0.26	-0.12			
585	-0.28	-0.17			
590	-0.07	-0.30			
595	-0.02	-0.42			