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OPTICAL SPECTRUM OF Y Mic

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Y Mic = GSC 07479-01243 = TYC 7479-1243-1 = AAVSO 2100-34 (RA = $21^{h}07^{m}06^{s}$, DEC = -34°16′47″) is an oxygen-rich (Jura & Kleinmann 1992) semi-regular variable with period of 364 d. Neither spectral type nor optical spectra of this star are available in the literature.

Several exposures of this object were taken between 31.07 to 6.08.2003 with the 1.9 m SAAO Radcliffe telescope in Sutherland equipped with grating spectrograph and SITe CCD camera in the range λ 3500 – 9200 Å. A slit 0.250 mm and gratings no. 9, 6, 5 were used. GG495 filter was used during exposures red-ward above 6700Å. A CuAr lamp spectra taken right after stellar spectra was used for wavelength calibration. The spectra were reduced with standard IRAF procedures.

The wavelength range used for spectral classification of Y Mic is presented in Figure 1, where most prominent spectral lines are identified as well. The spectral type of Y Mic is G2 I. The λ 6560 Å hydrogen emission is present in the spectrum of this star. Equivalent widths and FWHM's of most prominent lines are presented in Table 1. No attempt was made to measure radial velocities.

Assuming the relation between interstellar reddening and equivalent width of the 8620Å DIB of Munari (1999) we estimate $E_{B-V} = 0.16$.

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References:

Jura, M., Kleinmann, S. G., 1992, *ApJS*, **83**, 329
Munari, U., 1999, *BaltA*, **8**, 73

Table 1. Y Mic: EW, FWHM and line center measurements.

Identification	Lambda [λ]	EW [Å]	FWHM [Å]	Notes
CaII 3933	3932.652	12.93	13.73	
CaII 3968	3966.937	9.46	10.16	
FeI 4045	4042.684	0.53	2.30	
SrII 4077	4074.153	1.03	3.21	
HI 4101	4097.920	2.13	4.91	
FeI 4144	4139.469	0.62	2.45	
SrII 4215	4211.166	0.85	2.56	
CaI 4226	4221.216	1.23	4.40	
CH 4300	4292.251	7.17		G-band
FeI 4325	4320.097	0.73	2.48	
HI 4340	4334.431	2.75	6.50	
FeI 4383	4378.840	1.18	3.53	
FeI, TiII 4444	4438.108	1.48	4.59	
HI 4860	4859.715	2.39	5.20	
MgI 5173	5174.062	1.60	4.12	
MgI 5184	5179.190	0.92	3.68	
FeI 5884	5884.063	0.52	2.15	
NaI 5890	5889.929	0.64	2.17	interstellar
NaI 5895	5895.251	0.30	3.23	interstellar
CaI/FeI 6493/5	6495.359	0.75	3.14	
HI 6563	6561.725	0.22	2.22	emission + P Cygni
CaII 8498	8489.574	0.74	1.87	
CaII 8542	8533.801	2.40	2.97	
DIB 8620	8620.624	0.06	1.80	interstellar
CaII 8662	8654.198	1.60	2.19	

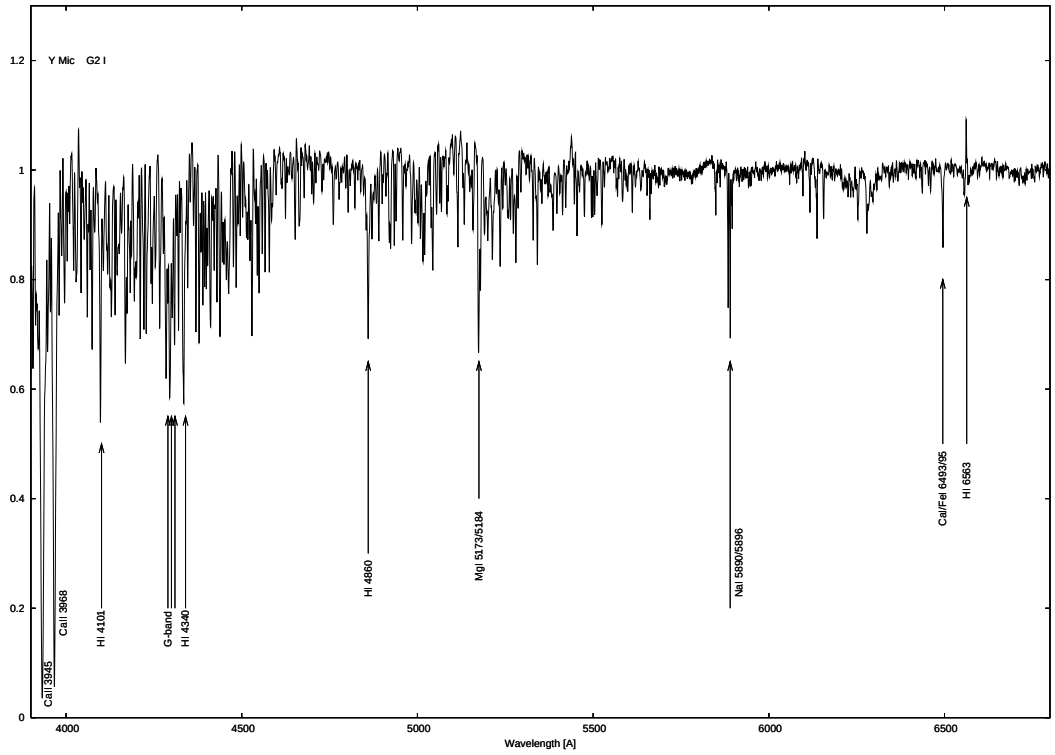

Figure 1. Optical spectrum of Y Mic. Positions of the most significant spectral features are indicated. the intensity scale is relative to the continuum