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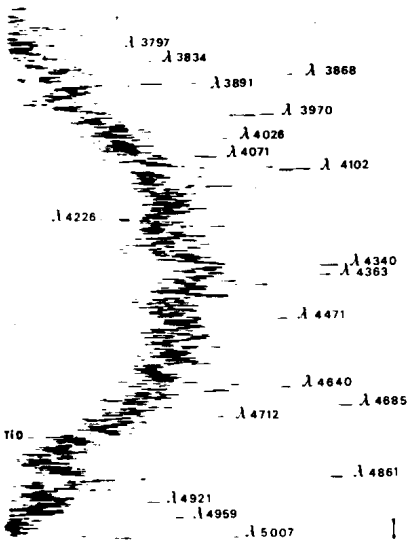
SPECTROSCOPIC OBSERVATION OF CI CYGNI IN 1980

The visible spectrum of the symbiotic star CI Cygni was recorded on September 19, 1980 with the 193 cm telescope at the Observatoire de Haute-Provence. The spectral range is from λ 3700 Å to 5000 Å and the reciprocal dispersion is 38.2 Å mm^{-1} at Hγ.

Photometric data by several observers (1), (2) indicate that the star was at the time in the post-eclipse phase (V = 10.55, B-V = 0.93, U-B = 0.99).



The microphotometer tracing represented in Figure 1 shows the main features of the spectrum which exhibits some strong emission lines. So, the following lines are readily observed:

- [Fe V] : λλ 3891 Å, 4071 Å (IP : 75 eV)
  which were absent in 1978-79 (3),
- [Ne III] : λ 3868 (IP : 63.4 eV) fairly strong,
- [O III] : λλ5007 Å, 4959 Å, 4363 Å, (IP : 54.9 eV),
  (note that λ 5007 line is stronger than λ 4363 as in the 1979's observations (4)).
- He II : λ 4686 Å (IP : 54.4 eV).

The 2-O absorption band of the TiO α-system is present. All the identified emission lines are listed in Table I.

Table I

λ_{obs}	Elements	λ_{obs}	Elements
3770	H 11	4341	Hγ
3797	H 10	4363	[O III] (2 F)
3835	Hη	4388	He I (51)
3868	[Ne III] (1 F)	4413	Fe II (32)
3889	He I (2) + Hζ	4417	[Fe II] (6 F)
3891	[Fe V] (3 F)	4471	He I (14)
3967	[Ne III] 1 F	4485	Fe II (9)
3969	Fe II (3)	4492	Fe II (37)
3970	Hε + H I	4514	N III (3)
4009	He I (55)	4520	Fe II (37)
4026	He I (18)	4541	He II (2)
4068	[S II] (1 F)	4556	Fe II (37)
4071	[Fe V] (1 F)	4582	Fe II (38)
4097	N III (1)	4629	Fe II (37)
4102	Hδ	4634	N III (2)
4121	He I (16)	4640	N III (2)
4144	He I (53)	4650	C III (1)
4178	Fe II (28)	4656	[Fe III] (3 F)
4199	He II (3) + N III (6)	4685	He II
4226	Ca I abs	4712	He I (12)
4233	Fe II (27)	4861*	Hβ*
4245	[Fe II] 21 F	4922	He I (48)
4267	C II (6)	4959	[O III] (1 F)
4286	Fe II	5007	[O III] (1 F)

*A doubling of the H_β line is observed (λλ 4860.5-1.8)

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