

CHANGES IN THE BE STARS IN A CASSIOPEIA-PERSEUS REGION

B. Iriarte, E. Chavira, O. Cardona

Instituto Nacional de Astrofísica, Óptica y Electrónica
Puebla, México

RESUMEN: Se inició un estudio similar al hecho en 1952 en Tonantzintla sobre las estrellas Be, con el propósito de buscar cambios en treinta años. El material se obtuvo con la cámara Schmidt de Tonantzintla. Encontramos un cambio en la intensidad de H α de alrededor de 13% en las estrellas de Casiopea, y 9% en las de Perseo.

ABSTRACT. We started a new survey similar to the one carried out in Tonantzintla in 1952 on Be stars, with the purpose to find changes in thirty years. We obtained the material with the Tonantzintla Schmidt camera. We found changes of around 13% in the Cassiopeia stars, and 9% in the Perseus area in the intensity of H α .

Key words: STARS-BE — STARS-SPECTRUM VARIABILITY

With the purpose of finding changes in Be stars with respect to the study made in 1952 in Tonantzintla (González et al. 1954, 1956; Iriarte and Chavira 1956), we have undertaken a new survey in steps, on the galactic equator between the galactic longitude 90° to 230°. The material of 1952 was obtained with the Tonantzintla's Schmidt camera, a 4° objective prism, emulsion 103aE, and a Wratten 29 filter.

The actual material was obtained with the same characteristics than in 1952. The batch of plates was not as sensitive as we expected and the light pollution in the observatory has increased in this thirty years, producing a lowering of one magnitude with respect to the plates taken in 1952. We will try to study the changes in the intensity of the H α emission in the Be and Ae stars mainly. We started in Cassiopeia with right Ascension 1^h00^m and declination +60°00' (1950) and Perseus with 2^h29^m and +57°00' (1950), we compared 38 stars with conspicuous H α emission in Cassiopeia and found that five stars (13%) varied in intensity. In Table 1, we show these stars where we indicate the intensity in H α by I = strong, II = medium, III = weak, IV = very weak, 0 = not present as a bright line. In Perseus, of 56 stars with H α in emission, five (9%) stars showed variations. In Table 2 with the same indications as in Table 1, we show the results.

TABLE 1

Star No.	1952	1985
5	0	I
6a	II	0
10	0	I
24a	III	0, IV, IV
28	II	I, II, IV, 0

TABLE 2

Star No.	1952	1986
172a	0	III
171a	0	II
195	II	0
206	0	II
205a	III	0

We show the approximate coordinates in Table 3

TABLE 3

Star No	R.A.(1950),	Dec(1950)	Star No	RA(1950	Dec(1950
5	0 ^h 43.1 ^m	60°22'	206	2 ^h 18.3 ^m	56°57'
6a	0 47.3	60 38	205a	2 21.0	56.47'
10	0 52.5	60 34	171a	2. 21.8	57 41
28	1 01.9	60 45	195	2 30.1	57 15
24a	1 08.1	60 50	172a	2 34.4	58 06

REFERENCES.

- González, G. and González, G. 1954, Bol. Obs. Tonantzintla y Tacubaya, 1, 9, p. 3.
 González, G. and González, G. 1956, Bol. Obs. Tonantzintla y Tacubaya, 2, 14, p. 19.
 Iriarte, B. and Chavira, E. 1956, Bol. Obs. Tonantzintla y Tacubaya, 2, 14, p. 31.

DISCUSSION

MacCONNELL: ¿Cuál es la dispersión de las placas y por qué no usaron placas II o IIIaF, las cuales tienen menos granulosidad y más extensión al rojo?

CARDONA: La dispersión es de 250 A/mm en H γ y aproximadamente 1000 A/mm en H α . Estamos limitados a las condiciones del estudio de 1952 y además es más fácil distinguir H α en emisión en estas placas con el filtro Wratten 29.

Octavio Cardona, Enrique Chavira y Braulio Iriarte: Instituto Nacional de Astrofísica, Óptica y Electrónica, Apartado Postal Nos. 51 y 216, 72000 Puebla, Pue. México.