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PHOTOELECTRIC OBSERVATIONS OF THE Ap STAR  
 HD 27309 = 56 Tau

In his catalogue, Osawa (Ann. Tokyo AO, Ser. II.9.123, 1965) pointed out the Si ( $\lambda$  3955,  $\lambda$  4200) spectral peculiarity of the star HD 27309 (5<sup>m</sup>32).

The first photoelectric observations of the star were made by Hildebrant (Dissertation, AdW der DDR, Berlin, 1972) in the UBV system. In spite of the small number of observations, which did not permit the precise determination of the light curve from, a period of 2<sup>d</sup>.69 could be determined for the light variation.

Within the range of a program of investigation of Ap-stars in ten different regions of the spectrum in the interval between 3000 and 8000 Å (Nikolov, Dissertation, AdW der DDR, Berlin, 1974) the author observed HD 27309 = 56 Tau photoelectrically with the 35 cm reflector of the Academy of Sciences of the GDR at Shemaha Astrophysical Observatory (Azerbaijan SSR) from January 19 to February 18, 1973 (J.D. 2441702-732). Every observation usually consists of five symmetric blocks each of which has the following form: background, comparison star, twice variable, comparison star, background. HD 27176 (A5; 5<sup>m</sup>56) was used as a comparison star. The observations are given in the Table in which the headings are selfexplanatory. The differences in magnitude are in the sense comparison HD 27176 minus variable. The phases are calculated by the elements J.D. (min. light) = 2440979.153 + 2<sup>d</sup>.69 · E.

Table I

J.D.	Ph	$\Delta m$ 3450 Å	$\Delta m$ 3750 Å	$\Delta m$ 4050 Å	$\Delta m$ 4620 Å	$\Delta m$ 5160 Å
2440000+						
1702,274	0,82	1,247	1,056	0,842	0,504	0,322
1705,298	0,94	1,297	-	0,856	0,518	0,359
1707,239	0,66	1,219	1,020	0,820	0,460	0,288
1711,223	0,14	1,335	1,112	0,870	0,528	0,350
1712,261	0,53	1,262	1,059	0,838	0,507	0,324
1713,202	0,88	1,295	1,061	0,845	0,516	0,342
1718,228	0,75	1,232	1,032	0,835	0,482	0,319
1720,276	0,50	1,303	1,100	0,843	0,515	0,329

Table I (continued)

J.D.	Ph	$\Delta m$ 3450 Å	$\Delta m$ 3750 Å	$\Delta m$ 4050 Å	$\Delta m$ 4620 Å	$\Delta m$ 5160 Å
2440000+						
1721,223	0,86	1,271	1,056	0,844	0,510	0,336
1724,207	0,97	1,302	1,073	0,853	0,512	0,326
1725,225	0,35	1,370	1,141	-	0,554	0,400
1728,268	0,48	1,366	1,130	0,865	0,536	0,348
1729,190	0,83	1,252	1,047	0,833	0,495	0,323
1732,199	0,94	1,289	1,072	0,848	0,522	0,352

Table I (continued)

J.D.	Ph	$\Delta m$ 5420 Å	$\Delta m$ 6000 Å	$\Delta m$ 6470 Å	$\Delta m$ 7150 Å	$\Delta m$ 8100 Å
2440000+						
1702,274	0,82	0,266	0,140	0,076	-0,067	-0,158
1705,298	0,94	0,280	0,154	-	-0,029	-
1707,239	0,66	0,220	0,087	-	-0,096	-0,199
1711,223	0,14	0,311	0,175	0,085	-0,021	-0,099
1712,261	0,53	0,267	0,138	0,044	-0,072	-0,148
1713,202	0,88	0,280	0,143	0,047	-0,051	-0,135
1718,228	0,75	0,249	0,120	0,031	-0,095	-0,163
1720,276	0,50	0,279	0,166	0,075	-0,044	-0,128
1721,223	0,86	0,275	0,143	0,036	-0,053	-0,140
1724,207	0,97	0,270	0,132	0,047	-0,064	-0,122
1725,225	0,35	0,352	0,195	0,122	-	-0,086
1728,268	0,48	0,296	0,154	0,080	-0,038	-0,120
1729,190	0,82	0,265	0,122	0,039	-0,082	-0,154
1732,199	0,94	0,277	0,124	0,053	-0,051	-0,122

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