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IQ Cyg = V 1290 Cyg

During my work on *PICA project* (Precise Identification and Coordinate Adjustment of about 7000 variables) I have found that *IQ Cyg* is identical with *V1290 Cyg*.

IQ Cyg = 315.1929 was discovered by Hoffmeister (1929), giving only range of light changes and Mira-type variability. A finding chart was published by Hoffmeister (1930). The star has received its final designation in 1931 (Guthnick, Prager, 1931). Ahnert (1941) published results on this star giving times of 3 maxima, period and more precise range of light variations. This is the only work found to deal with *IQ Cyg* light variations.

V1290 Cyg = VV 220 was found to be variable by Miller (1968). He gave a detailed study of this star, together with finding chart. The star has received its final designation in 1970 (Kukarkin et al., 1970). Miller's paper is the only one found to deal with *V1290 Cyg* at all.

While working on field variable stars around *SY Cyg* I have noticed that the charts for both above mentioned stars in fact refers to one star (see Figure 1). There remained one problem concerning the reported periods – 304 days (by Ahnert) and 363 days (by Miller). As Ahnert's observations are more scarce than Miller's, the 363 days looked better. A bit of computing confirmed that a period adjustment to 356 days is possible for all maxima earlier than JD 2433480, while later maxima are well represented with 366 day period. But even with this correction there remained one problem to be solved. Ahnert states the star being < 17 pg in the interval JD 2429050 – 2429250, while Miller gives a maximum at JD 2429135. At present time I am not able to solve this remaining discrepancy – a check of star's behaviour on archival plates is needed.

Name	Position (B1950)				Position (J2000)				Type	Max mag	Min mag	Phot. system
	h	m	s	° ' "	h	m	s	° ' "				
IQ Cyg	19 45 12			+32 17.8	<i>19 47 08</i>			<i>+32 25.3</i>	M	14.4	< 17.5	p
V1290 Cyg	19 44 54			+32 18.0	<i>19 46 50</i>			<i>+32 25.4</i>	M	14.7	< 17.5	p
VV 220	<i>19 44 53.59</i>			<i>+32 17 57.5</i>	<i>19 46 49.59</i>			<i>+32 25 24.0</i>				
GSC 2660.1432	<i>19 44 53.59</i>			<i>+32 17 56.3</i>	<i>19 46 49.59</i>			<i>+32 25 22.8</i>		10.55		1

Table 1: Comparative table of *original* data for IQ Cyg, V1290 Cyg, VV 220 and GSC 2660.1432. Data concerning IQ Cyg and V1290 Cyg are from GCVS, data for VV 220 are by Miller (1968) and data for GSC 2660.1432 are from GSC. Photometric system code 1 for GSC represents the Kodak IIA-D plate with W12 filter. In GSC there are two entries for this star, reported coordinates are weighted means. The magnitude of second entry, 10.27, doesn't contradict the 366 day period, as the GSC plates were taken 364 days apart. Coordinates printed in italics were computed from the above stated data sources.



Figure 1: Left: enlarged finding chart for IQ Cyg = 315.1929 (circle) by Hoffmeister (1930). Size of box is 6'. Right: the same region for V1290 Cyg = VV 220 adapted from Miller (1968). Labeling of comparison stars was removed from Miller's chart and both charts have lines added to make easier their comparison. North is up on both charts. According to coordinates *originally* reported for IQ Cyg this star should be located almost exactly on the place of zero in the VV 220 label of Miller's chart. The star immediately north (only 9") of VV 220 is GSC 2660.0988 and may be source of troubles in brightness estimates on not-perfect plates.

The reported coordinates for *IQ Cyg* were found to be somewhat off the star's real position, while those reported for *V1290 Cyg* are good. As this star is identical with GSC 2660.1432 the J2000 coordinates were easily found (see Table 1).

Following cross-identifications are valid : IQ Cyg = V1290 Cyg = 315.1929 = VV 220 = GSC 2660.1432.

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