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## Obervations of Nova Cygni No. 3

by Issei Yamamoto.

Observations on the magnitude of Nova Cygni No. 3 have been made ever since the announcement of its discovery was received in Kyoto Of these observations, about fifty seven were made within the year 1920, and these have been plotted on paper along with available reports of other observers at home and abroad, some of which have been published, and some communicated to me personally. A probable light-curve has been drawn through them. In this curve we see that in its earliest stages, the increase in brightness was comparatively slow, reaching the maximum of 1.7 magnitude early on August 24th. Then the brightness decreased with unusual rapidity until the middle of last October. From that time, the brightness has kept between the 8th and 9th magnitudes. Fluctuations of a short period of about seven days are clearly seen in the curve; but instead of the brightness rising and falling as is usually the case, we have seen alternate stages of stationary and decreasing brightness The first stationary stage was on August the 29th. Slight variations of a similar period are suspected in the later period, when the brightness became more steady. There was one remarkable rise of about 1.5 mag. from a temporary minimum of 9.5 mag. in the middle of November. This phenomenon must be regarded as the recovery often seen in other novae. (See p. 92.)

During the period from August 24th to September 9th twenty-three photographs of objective-prism spectra were obtained with 7-inch telescope. On August 24th, the spectrum was of A type, in which nine hydrogen absorptions were strongly stamped, and whose red sides were marked with slight emissions. Other dark lines were seen, most of which were probably enhanced metals. On the next day the emissions by the redsides of hydrogen lines were strongly developed promising eloquently the "nova-peculier" type. On August 28th, after two days of clouds, the spectrum was a beautiful specimen of the nova type, broad hydrogen emissions predominating over the entire range of our plates Helium lines were also seen, as well as the problematic band 4640 Å, both in emission. After this day the developments of the latter band were most interesting, certainly showing the progress of the star toward its nebular stage. This stage was not, however, reached by the end of our photographic series.

The position of the new star was determined on September 2nd and 3rd with a transit instrument with the following results:

R.A. 19hr 55min 54.601 sec, Decl., 53°, 20', 50 28" (1900).

Kyoto University Observatory,

March 1st, 1921.

英文欄

白鳥座第三新星の観測……山本一清（雑報欄に譯文あり）