

COMPLEX PRECESSION BEHAVIOUR OF THE V603 AQL ACCRETION DISC IN 2020-2021.

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Bright novalike cataclysmic variable V603 Aql demonstrates volatile photometric behaviour with a variable photometric period between slightly larger and slightly smaller than the orbital period of the system ($P_{\text{orb}} \approx 0.1385$ d). These changes were interpreted before as a positive or negative accretion disc precession. Here we present unprecedentedly long amateur photometric observations of V603 Aql in 2020 (45 nights during 66 days) and in 2021 (35 nights during 103 days). These long-duration observations allow us to investigate directly photometric changes connected with the accretion disc precession. We found that the accretion disc in 2020 exhibited a long negative precession period of 26.5 ± 4.5 days, directly visible in a power spectrum. The corresponding photometric period 0.13785 d, which is slightly shorter than the orbital period was also observed. The accretion disc precession became more complex in 2021. Three long photometric periods of 20.4 ± 4 d, $10.8_{-0.8}^{+1.8}$ d, and 6.8 ± 0.6 d were directly observed. We interpret the first period as a positive (in the same direction as the orbital motion) elliptical disc precession and the second one as a negative (in the opposite direction in comparison with the orbital motion) precession of the inclined disc. The third period which has the largest significance is connected with the first two as $P_3^{-1} = P_1^{-1} + P_2^{-1}$. The corresponded beat periods with the orbital period were also found – 0.1397 d, 0.13655 d, and 0.1417 d.