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VARIATIONS IN THE PERIOD OF NEGATIVE SUPERHUMPS IN SU UMa-TYPE DWARF NOVAE. I. MN Dra (2012-2017)

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This is a photometric study of the dwarf nova MN Dra made during 2012-2017 on nine telescopes over 152 nights. Overall, the observations covered 4 superoutbursts, 7 normal outbursts and the quiescent state. The interval between neighboring superoutbursts in 2017 was 65 days, and between neighboring normal bursts, 15 days. During he superoutbursts of 2012 and 2017, positive superhumps with a period of 0.10558(6) and 0.10500(2) days, respectively, were observed and in the quiescent state, negative superhumps with an average period of 0.095921(3) days, It is shown that the period of the negative superhumps varied cyclically between normal outbursts: sharply decreasing during an outburst and gradually increasing toward the onset of the next outburst. This feature of the variation in the period of the negative superhumps may correspond to a rapid increase in the radius of the accretion disk during the time of an outburst followed by a slow decrease, in agreement with the theory of thermal-tidal instability.

Keywords: *MN Dra: cataclysmic variables: negative superhumps: evolution of negative superhumps; accretion*

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