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Abstract:

We propose to search for radio pulsations from the cataclysmic variable LAMOST J024048.51+195226.9 (henceforth, J0240+19). Recently, Thorstensen (2020) has suggested that the cataclysmic variable LAMOST J0240+19 is a twin of AE Aqr based on its optical spectra. Optical photometry shows the star to be a high-inclination eclipsing binary with a spin period of 24.93 s, making it the fastest spinning white dwarf. More recently, the J0240+19 presents high circular polarization and a negative spectral index using the VLA and MeerKAT radio observations. In addition, the brightness temperature of the J0240+19 is about 10^{13} K. The high brightness temperature implies a coherent emission process. Therefore, the radio pulsations from the J0240+19 will determine that the radio emission from the white dwarf magnetosphere, making it to be the first true white dwarf pulsar, which also help us to understand the generation of coherent radio emission of the pulsars.