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Abstract:

LS I +61 303 is one of the few gamma-ray binaries, consisting of a young Be type star and a compact object. Using the Five-hundred-meter Aperture Spherical radio Telescope (FAST), we have firstly detected a periodic signal (P = 269 ms) and dozens of energetic single pulses in the direction of LS I +61 303 on 2020 January 7th. Then, another two single pulses were detected on 2021 November 2nd. The properties of these single pulses are distinguished from those observed in other pulsars. Here we propose a continuation of the FAST program, aiming to redetect the pulsations and to expand the sample of the single pulses. In addition, the simultaneous Insight-HXMT observations will be scheduled to search for the potential accompanying X-ray bursts.