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Abstract:

Double-neutron-star (DNS) is a compact system containing two neutron stars orbiting each other which gives us the most exciting "laboratories" for relativistic gravity (Wex 2014). The non-detection of companion stars' radio pulses could probably be caused by the misalignment between their radio beam and our line of sight (LOS). It is possible that the beam of the companion star will point towards us at a certain moment due to the geodetic precession. Thus we propose to continue the observations for 11 DNS systems in FAST sky. By monitoring the DNS in a long run, we can probably observe the radio emission from companion neutron star, similar to the case of PSR J0737-3039. Meanwhile, through studying their changing pulse profile and polarization properties, we can constrain the geodetic precession rate to test General Relativity.