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Abstract:

The observed binary fraction can be subject to selection bias as pulsars in binaries are harder to detect. The aim of the proposal is to search for new pulsars in binaries. We select potential pulsar binary candidates by making use of the LAMOST low-resolution survey and high-precision photometric data made available by the Kepler and TESS missions. The proposal targets are taken from a group of variable stars having ellipsoidal variation signatures and large radial velocity difference. The five objects where the derived minimum mass of the invisible star approaches or even larger than one solar mass are excellent neutron star candidates. Their radio pulsed signals can be detected by FAST. Using 2.5 hours of observations, we aim to detect 1-2 pulsars not known before.