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Abstract:

The pulsars, powered by their rotation, are capable of producing pulsed radiation from the radio up to gamma-rays. The gamma-ray pulsars brings a wealth of new information on pulsar emissions. With the increase of the number of gamma-ray pulsars, the unexpected class, radio-quiet gamma-ray pulsar, was discovered. It is unclear whether the radio-quiet pulsar has no radio emission or the radio emission is too weak to be detected. With extremely high sensitivity, FAST is an ideal facility to search for faint radio emissions in pulsars. We propose to searching for radio emissions from radio-quiet gamma-ray pulsars using FAST. If radio emissions are detected, we will update the percentage of the radio-quiet/radio-loud gamma-ray pulsars, which can provide new constraints on pulsar emission models. If no radio emissions are detected, we will obtain the most stringent upper-limit of the radio flux density of radio-quiet gamma-ray pulsars at 1250 MHz so far. Our observations will play an important role in understanding the radio-quiet gamma-ray pulsars.