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Abstract:

The recent detection of a new population of ultrahigh-energy gamma-ray sources by the Large High Altitude Air Shower Observatory (LHAASO) represents a major step toward the identification of sources of PeV cosmic-ray accelerators, or “PeVatrons”. Some LHAASO sources are believed to be associated with energetic pulsars, such as Crab Nebula, which is associated with Crab pulsar PSR B0531+21. However, in some other LHAASO sources, the origin of the TeV emission remains unknown. For two interesting LHAASO sources which have 100 TeV gamma-ray emission, there are two newly found pulsars by FAST within the LHAASO source region. It is not clear whether these pulsars are energetic enough to power the TeV sources. Thus, we propose to measure the spin-down parameters of these two FAST pulsars, which are important to study the origin of these LHAASO gamma-ray sources.