

Proposal Abstract:

Globular Clusters (GCs) are fascinating stellar collections where many peculiar pulsar systems are found. Here we propose to continue our monitoring and searching campaign of GC M2 and M14. Since the last cycle, we have discovered four new binary millisecond pulsars and obtained exciting scientific results of the known pulsars. The new observations are crucial for constructing coherent timing solutions of the new discoveries. They will also continue to measure new orbital and astrometric parameters, increase measurement precision of the current ones, and find new pulsars. These measurements would provide opportunities for binary-pulsar experiments on testing gravity theories and constraining the state of matter in the ultra-high-density regime. They could be used to study the properties of the cluster itself and probe the magnetic environment in the Galactic halo. The searches from new observations will continue to increase the opportunity to find exotic pulsar systems, such as a MSP-black hole binary in these two clusters.