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Proposal Abstract:

We aim to conduct high-sensitivity, single-pulse observations of three newly discovered pulsars, PSR J1817-0545, PSR J0528-0404, and PSR J1858+2728, utilizing the Five-hundred-meter Aperture Spherical radio Telescope (FAST). These pulsars, recently detected by the Commensal Radio Astronomy FAST Survey (CRAFTS), exhibit intriguing properties that deserve further scientific exploration. Specifically, PSR J1817-0545 shows variability in the single-pulse emission, while PSR J0528-0404 possesses remarkably stable radiation characteristics. Notably, PSR J1858+2728 stands out as a particularly fascinating target due to its potential nulling behavior, wherein its emission temporarily ceases. Nulling pulsars are of significant interest as they provide insights into the complex dynamics of pulsar magnetospheres and emission mechanisms. By investigating the occurrence and timing of these nulling events, we can gain valuable knowledge about the conditions governing their emissions. We are confident that these observations, leveraging FAST's unparalleled sensitivity and broad frequency coverage, will yield invaluable data that will enhance our comprehension of pulsars and their role in the cosmos.