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Abstract:

Pulsar's single pulses are known to randomly jitter and shifting in shape. However, our recent observations reveal that we could identify different modes and patterns in the single pulses of some pulsars, such as PSR J1518+4905, by using the highly sensitive FAST telescope. In this proposal, we aim to study single pulse morphology of a small group of bright pulsar with different integrated profiles (from single peak to five components), to reveal their hidden emission patterns or modes. This could potential unravel the physical mechanism behind the random jitter of pulsar radiation.