

Profile stability and timing precision limit of millisecond pulsars

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Abstract. Millisecond pulsars are shown to have highly regular rotations and stable profiles, which enables the utilisation of them as accurate clocks. In this talk, I will present the latest studies on profile stability of several millisecond pulsars. I will focus on single pulse stability and its influence on the shape and phase of integrated profiles achieved on short timescales. It will be shown that the single pulse instability seems to be a source dependent issue, and they would influence differently on timing precision of the pulsar. The understanding of profile stability is essential in determining the timing precision limit and the optimal timing scheme with the future radio telescopes.
