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Abstract:

The high sensitivity of the FAST makes it the ideal instrument to study the eclipse duration versus frequency and eclipse mechanism. We propose to carry out an in-depth study of radio eclipse of the spider PSR J1816+4510 with the FAST. This proposal will allow us to: (1) study the frequency dependence of the eclipse duration and provide an observational constraints available for theoretical studies of the eclipse mechanisms. (2) study the change of polarisation of pulses during the eclipse, interactions between the pulsar wind and the eclipse medium, and the mechanisms responsible for the apparent attenuation of pulsar radio emission during the eclipse. All these are useful for further study the plasma lensing.