Pulse intensity investigation in the emission zone of the pulsar B0950+08

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We have analyzed the behavior of individual pulses on the base of two series of observations of PSR B0950+08 at the frequency 110 MHz. We have shown that the intensity distribution of pulses depends on the flux density of the average profile that changes up to 10 times from day to day. It is a consequence of scintillation effect. For low flux density of the average profile the intensity of individual pulses can exceed the average profile amplitude by a factor of few tens. It is shown that the intensity distribution of weak pulses as a function of longitude of their appearance in the emission zone differs strongly from the distribution of strong pulses. We have also studied the evolution of the mean profile with a frequency in the range from 110 MHz to 4.85 GHz.

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