

عنوان مقاله:

Digital Binary Phase-shift Keyed Signal Detector

محل انتشار:

ماهنامه بین المللی مهندسی، دوره 32، شماره 4 (سال: 1398)

تعداد صفحات اصل مقاله: 9

نویسندگان:

O. V. Chernoyarov - *International Laboratory of Statistics of Stochastic Processes and Quantitative Finance, National Research Tomsk State University, Tomsk, Russia* | *Department of Higher Mathematics and System Analysis, Maikop State Technological University, Maikop*

L. A. Golpaiegani - *Department of Electronics and Nanoelectronics, National Research University MPEI, Moscow, Russia*

A. N. Glushkov - *Department of Infocommunication Systems and Technologies, Voronezh Institute of the Ministry of Internal Affairs of the Russian Federation, Voronezh, Russia*

V. P. Lintvinenko - *Department of Radio Engineering, Voronezh State Technical University, Voronezh, Russia*

خلاصه مقاله:

We have developed the effective algorithm for detecting digital binary phase-shift keyed signals. This algorithm requires a small number of arithmetic operations over the signal period. It can be relatively easy implemented based on the modern programmable logic devices. It also provides high interference immunity by identifying signal presence when signal-to-noise ratio is much less than its working value in the receiving path. The introduced detector has intrinsic frequency selectivity and allows us to form the estimate of the noise level to realize the adaptive determination of decision threshold. In order to get confirmation of the detector operability and performance, we suggest the expressions for false alarm and missing probabilities. In addition, we have examined, both theoretically and experimentally, the influence of the detector parameters on its characteristics.

کلمات کلیدی:

Phase-shift Keying, Signal Detection, Fast Digital Processing, Noise Interference, Interference Immunity

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/962840>

