Research of the model for detecting UMV interfaces vulnerabilities based on information criterion.

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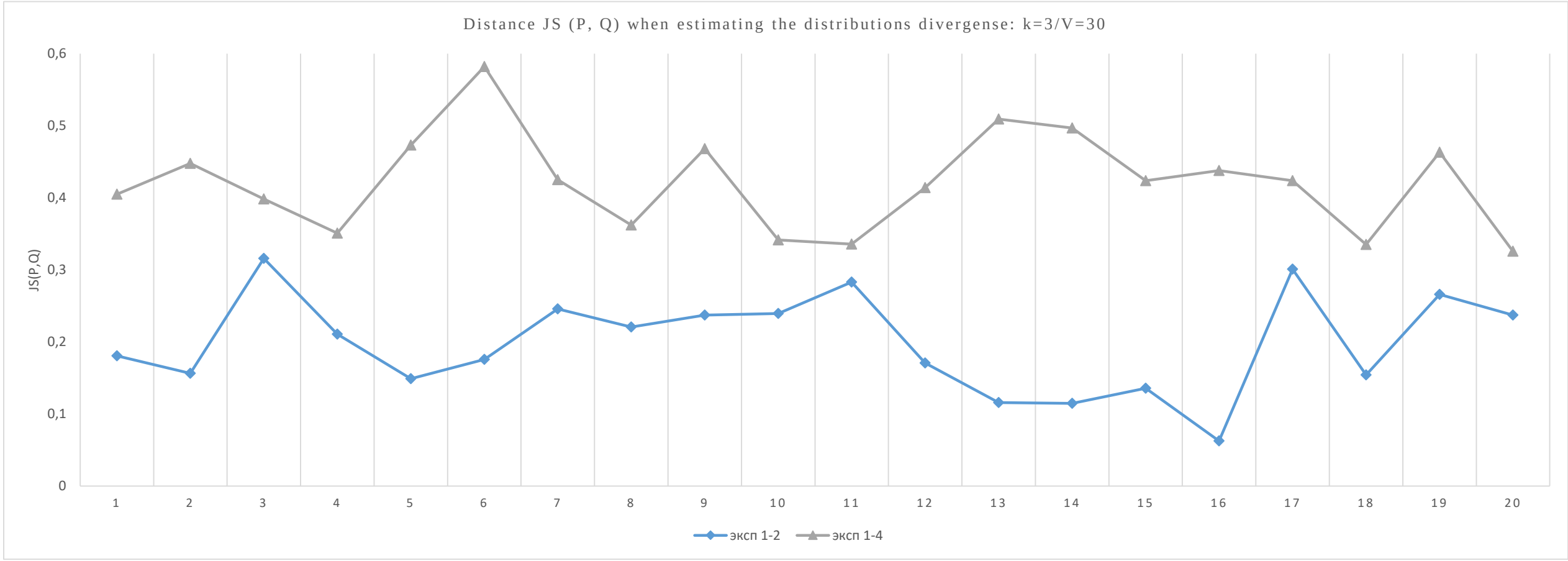
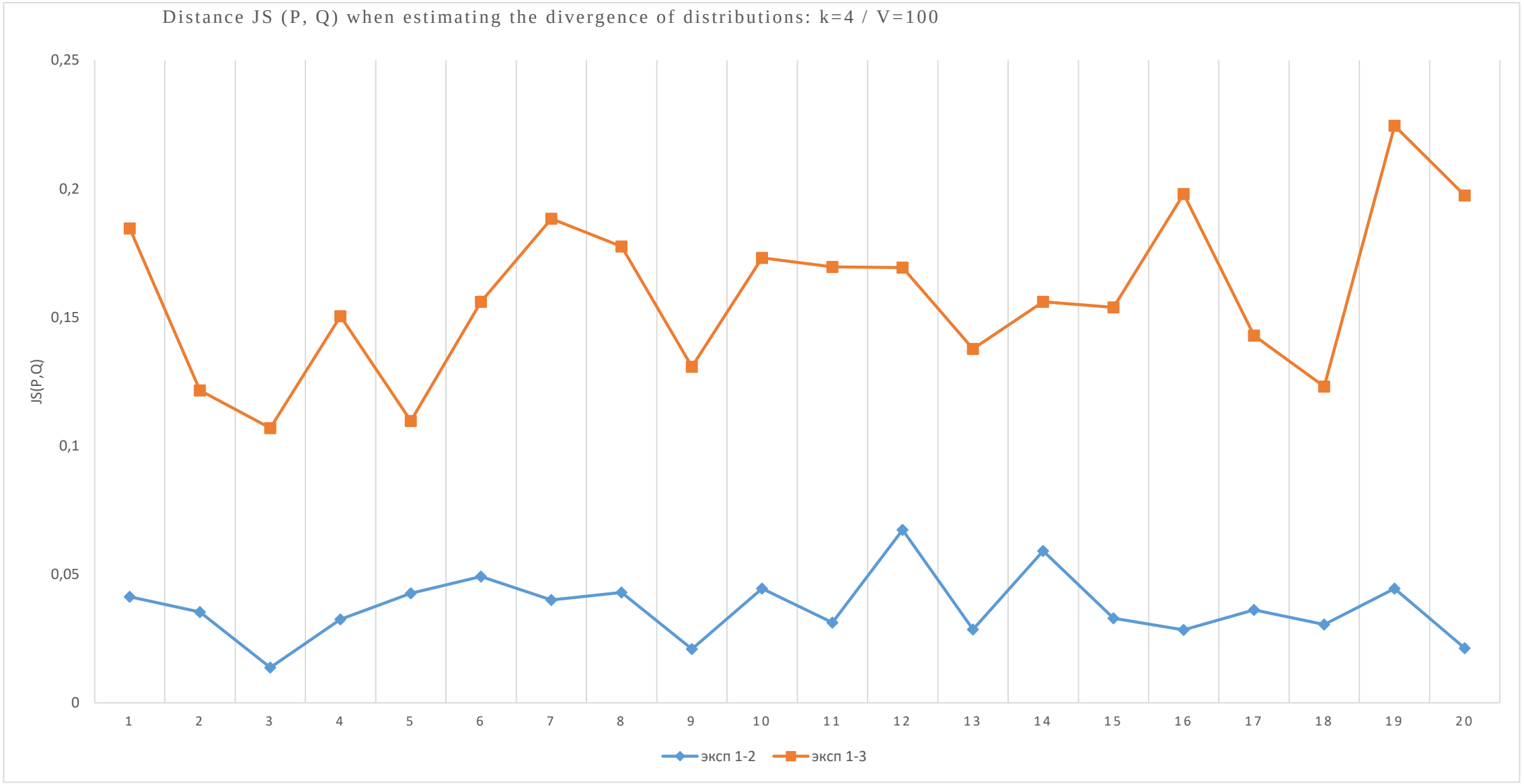
Abstract.

- An approach related to the development of methods for ensuring unmanned vehicles computer security is considered. The approach is based on the statistical distance estimation between the probability distributions of a random variable. The Jensen-Shannon information criterion, which provides a symmetric version of the Kullback-Leibler divergence, is proposed as an evaluation criterion. Vulnerability detection is performed on the basis of processing the UMV resources state values. The features of UMV state monitoring give rise to new problems characterized by data flows with variable intensity, heterogeneous information flows in conditions of a lack of a priori information and noisy data. When solving this problem, there are problems of big data processing: high computational complexity due to the processing of huge data amounts; high dynamics of controlled objects; non-stationary information situation of the objects state and the environment; ensuring high speed of query processing; providing metrics of information resources in real time.

The distance JS (P, Q) when estimating the divergence of the distributions exp 1-2, kspp 1-4: k=3 / V=30





The research was carried out with the financial support of the RFBR in the framework of scientific projects № 19-29-06015 и № 19-29-06023.