

Improvement of Efficiency by Means of Communication Channel Information Redundancy

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Abstract – the report proves the necessity of solving the information technology to develop methods of control to ensure authenticity of the information transmitted via communication channels, both in the air and on land by using mathematical modeling of information redundancy, which in its turn is created by the Heminha and Barker distance and managed and controlled by the adaptive Bayesian method.

Keywords – channel connection, information redundancy, mathematical modeling, objective function, coding of information, adaptation.

I. INTRODUCTION

The report proves the necessity of solving the information technology to develop methods of control to ensure authenticity of the information transmitted via communication channels, both in the air and on land by using mathematical modeling of information redundancy.

II. GOAL OF RESEARCH

Goal is to solve scientific and technical problem of developing the means of creation of information redundancy control in communication channels with information redundancy, which is characterized by the classification of coded signals using the objective function of communication channel.

III. PROBLEM SOLUTION

Control methods of classification of coded information signals with providing correction of errors by the Heminha and Barker distance managed and controlled by an adaptive Bayesian method are among the problems to be solved. Various types of communication channels require various approaches to creating information redundancy. It is therefore proposed the application of specifically designated sufficient stackspace case for digital information exchange between the consumer and the bearer of this information. This sequence,

the so-called sufficient stackspace regime of switch each of possible factors of information redundancy (power control transmitter, automatic change of frequency radiation signal, the application code packages, etc.).

IV. RESEARCH RESULTS

The creation of structural diagram of the control parameters of signals in communication channels, which are produced in the air and ground data, their classification, for example, the principles of pattern recognition using imitation persistent codes that allow you to simulate an information channel redundancy of communication is the result of solving our scientific technical problem.

V. CONCLUSION

1. Ensuring authenticity of information transmission requires designs, methods of control, classifications, development of signals coding.
2. Communication channels should ensure the error correction for Heminha and Barker distance, managed and controlled by an adaptive Bayesian method.

REFERENCES

- [1] В.И. Коржик, Л.М.Финк. Помехоустойчивое кодирование дискретных сообщений в каналах со случайной структурой: учеб. пособ. - М., «Связь», 1975. 272с.
- [2] Р. Морелос-Сарагоса. Искусство помехоустойчивого кодирования. Методы, алгоритмы, применение: учеб. пособ. для вузов. - Москва, Техносфера, 2005.-320с.
- [3] В.И. Каганов, В.К. Битюков. Основы радиоэлектроники и связи: учеб. пособ. для вузов. – М: Горячая линия – Телеком, 2007. – 542с.

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