

Значения параметров модели (3),  $\alpha_{11}=0,6$

объект	I <sub>111</sub>			I <sub>112</sub>			I <sub>113</sub>			I <sub>114</sub>			I <sub>11</sub>
	I <sub>111</sub>	$\alpha_{11}$ <sub>1</sub>	I* $\alpha_{11}$ <sub>1</sub>	I <sub>112</sub>	$\alpha_{11}$ <sub>2</sub>	I* $\alpha_{11}$ <sub>2</sub>	I <sub>11</sub> <sub>3</sub>	$\alpha_{11}$ <sub>3</sub>	I* $\alpha_{11}$ <sub>3</sub>	I <sub>114</sub>	$\alpha_{11}$ <sub>4</sub>	I* $\alpha_{11}$ <sub>4</sub>	
До симпатокоррекции	$\frac{0.52}{1}$	0,2	0,10	$\frac{440}{550}$	0,1	0,08	$\frac{9}{13}$	0,1	0,07	$\frac{0.4}{1}$	0,2	0,08	0,32
После симпатокоррекции	$\frac{0.65}{1}$		0,13	$\frac{448}{550}$		0,09	$\frac{6}{13}$		0,05	$\frac{0.7}{1}$		0,14	0,41

Получено улучшение в 1,3 раза.

1. Способ улучшения кровотока в заднем отрезке глаза путем комбинированного воздействия вращающимся полем на верхний шейный, звездчатый ганглий в сочетании с магнитотерапией органа зрения // Патент России №2016130842, 29.08.2017 / Коротких С.А., Борзунов О.И., Кублаев В.С., Бирюкова Г.Л.
2. Алгоритмические и эмпирические модели метода симпатокоррекции в офтальмологии./ Козлова Е.А., Бирюкова Г.Л., Гольдштейн С.Л./Системная интеграция в здравоохранении. Выпуск 2007 №7.

## SECURITY EVALUATION OF THE AUTOMATED PROCESS CONTROL SYSTEM OF THE ORGANIZATION OF MUNICIPAL SERVICES

Zyabkin V. S.<sup>1\*</sup>, Babenko A.A.<sup>2</sup>

<sup>1)</sup> Ural Federal University, Yekaterinburg, Russia

<sup>2)</sup> Volgograd State University, Volgograd, Russia

\*E-mail: [rusforward@yandex.ru](mailto:rusforward@yandex.ru)

Currently, various organizations of the communal complex are introducing technologies to automate the management of production processes. In this connection, the issues on the agenda include the provision of reliable, trouble-free functioning of the Automated Process Control System (APCS) and its information security.

The purpose of the article is to conduct a study of the mechanism for assessing the information security of an APCS at a public utility complex.

Objectives:

- to reveal the essence and safety features of the APCS;
- formulate the algorithm for evaluating the security of the APCS of the communal complex;
- develop a software package and conduct experimental tests.

As a result of the in-depth analysis, the author established potential threats to the information security of the APCS of the enterprise under investigation and suggested methods for increasing security against the main types of attacks.

The authors determined the purpose and tasks of the software package for security evaluation.

Purpose: security evaluation of the APCS of the organization of municipal services.

Tasks:

- input of initial data;
- calculation of the security evaluation of the APCS System with the implemented protection mechanisms and with the recommended protection mechanisms;
- forming a report on increasing the security of the APCS.

A formalized model for security evaluation of the APCS was developed to achieve the goal and objectives of the software package.

$$\text{Risk } i = P_k * L_k (1 - R_k) \quad (1)$$

$$S = \frac{1}{\sum_{k=1}^n P_k * L_k * (1 - R_k)} \quad (2)$$

$$\text{deltaS} = \frac{S_1 + S_2}{S_1} \quad (3)$$

The author carried out experimental studies of the software complex, checked the operability and declared functionality of the program, analyzed the results of experimental studies. The correctness of the implementation of the formalized model for assessing the security of the information system of the communal complex organization is proved. It is the task of calculating the numerical value of the information system's security as the reciprocal of the total risk of the information system.

In the author's opinion, the problem of evaluation and monitoring the security of information systems of manufacturing enterprises, in particular, of communal organizations, needs to remain highly relevant and needs further conceptual and applied developments. In the continuation of their research, the authors intend to improve the monitoring algorithm and the model for evaluating the safety of the APCS in the enterprise under study.