

UDC 621.396

Iohov O., Tymchenko S.

**PROPOSALS FOR THE DEVELOPMENT
OF INFORMATION-MEASURING SYSTEMS FOR CONTROL
OF THE TECHNICAL CONDITION OF SAMPLES OF SPECIAL EQUIPMENT**

Analysis of the current state of the fleet of measuring and diagnostic equipment for monitoring the technical condition of complex complexes, including modern samples of special equipment, shows that it contains a fairly wide arsenal of tools for measuring any quantities. But until recently, the development of such equipment, as a rule, did not provide for their joint use in other means of control, more complex in structure and organization [1]. In most cases, measuring and diagnostic equipment was used only in the form of separate stand-alone devices, which are designed to measure a single quantity or a small group, usually homogeneous quantities [2]. This limited the potential for their use. The expansion of opportunities for the use of measuring and diagnostic equipment gives the creation of information and measuring systems [3].

When developing information and measuring systems, it is proposed to use the method of individual design [4]. Such systems are designed to service certain objects or to solve specific problems [5]. The practice of such design results in an unjustifiably wide range of information and measuring systems that are currently in operation, excessive spending on their development, lack of unification. In addition, the possibility of synthesis of information and

measuring systems is removed, which require the creation of a new technical base every time in the process of their design.

In terms of technical and economic indicators, there is no significant advantage and the method of designing information and measuring systems, which involves the creation of excessively complex universal systems, characterized by increased functional and hardware redundancy.

This gives objective preconditions for another approach in the design and organization of further industrial production of systems based on the implementation of block-modular (aggregate) complex of measuring and diagnostic equipment – information and measuring systems aggregate type.

Aggregate type information and measuring systems is a set of technical means of measuring and diagnostic equipment, which are characterized by metrological, structural and operational compatibility of these tools. The development of unit-type information and measuring systems provides automation of measurement tasks, based on a new design principle, which is based on block-modular (aggregate) complex.

The general approach to the construction of such systems (complexes) is to implement the following measures:

- a set of measuring tasks is established, the solution of which should be carried out on the basis of the use of information and measuring systems aggregate type;
- the structure of information and measuring systems of aggregate type (at the level of functional devices) which reflects algorithms of the decision of measuring problems is developed, their list is specified;
- the structure and composition of the means of block-modular measuring complex, which are necessary for the construction of the information and measuring systems, are determined.

The implementation of the measures outlined in the report will allow the development of modern information and measuring systems to monitor the technical condition of samples of special equipment.

References

1. S. Herasimov, Y. Kozhushko, E. Roshchupkin and etc. **Evaluation of surface profile of holographic diffraction reflective coatings on scattering chart using in laser alarm systems**, *International Journal of Emerging Trends in Engineering Research*, vol. 8, is. 8, 2020, p.p. 4502-4507, <https://doi.org/10.30534/ijeter/2020/74882020>.
2. O. Kriukov, R. Melnikov, O. Bilenko and etc. **Modeling of the process of the shot based on the numerical solution of the equations of internal ballistics**, *Applied physics. Eastern-European Journal of Enterprise Technologies*, 1/5 (97), 2019, p.p. 4046, <https://doi.org/10.15587/1729-4061.2019.155357>.
3. O. Daki, S. Herasimov and H. Zubrytskyi, **Digital Correlation Method For Power Measurement**, *Information Processing Systems*, № 4 (163), 2020, p.p. 15-26, <https://doi.org/10.30748/soi.2020.163.02>.
4. S. Herasimov, M. Pavlenko, E. Roshchupkin and etc. **Aircraft flight route search method with the use of cellular automata**, *International Journal of Advanced Trends in Computer Science and Engineering*, vol. 9, is. 4, 2020, p.p. 5077-5082, <https://doi.org/10.30534/ijatcse/2020/129942020>.
5. S. Herasimov and V. Gridina, **Method justification nomenclature control parameters of radio systems and purpose of their permissible deviations**, *Information processing systems*, № 2 (153), 2018, p.p. 159-164, <https://doi.org/10.30748/soi.2018.153.20>.