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ABSTRACT
BOOK

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**HYBRID METHODS IN ENERGY-PHYSICAL CONTROL OF THE
ENVIRONMENT**

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ABSTRACT

In energy and physical monitoring, monitoring the parameters of the natural environment is a much more complex task, which is found in certain fields of technology, chemistry, physics, and biology. The large number of normalized chemicals and physical parameters, the unpredictable variability and complexity of the composition of unpredictable samples, the global scale of fields, the human factor require a special approach to organizing such observations in order to prevent environmental violations and accidents, often aimed at hiding traces.

Sampling and preparation of samples for quantitative analysis is formed by the identification signal itself, at which time such a design of automated hybrid control systems is most appropriate, and the sample itself as transport (mobile) phases. Analytical systems based on this approach practically 'independently' prepare comparative preparations (solutions) during the analysis and concentrate the Substances analyzed during the analysis, capable of sampling. An example of this approach is fluorescent (fluorimetric) detectors developed at the RSciA, which provide a lower detection limit of three to four orders compared to other methods. Here, the Cherenkova-Vavilova inhibitory radiation is used as a source of excitation of fluorescence sludge, and for further repetition of samples, sampling and its concentration (100 times) by changing the polarization mark is carried out in layered selective absorbers (electropolarizing sorbents).

Thus, such hybrid methods are able to carry out 30 types of samples in automatic mode without contribution from the "target" analyzed substances and for full chemical analysis and record the fact of exceeding the normal content of the component, control the parameters of the natural environment in energy and physical monitoring.

Keywords: control, component, environment, hybrid methods, samples.