

Diversity of electronic information systems: “EcoIS” monitoring system

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Abstract:

Great diversity of electronic information systems used in human practice nowadays is a real characteristic of contemporary world. The purpose of our work was the development of new specialized information system for monitoring of changes in organisms due to the chemical pollution of environment in wide time ranges using modern information and computer technologies, on the base of novel electronic information systems with databases. During the work following methods were used: methods of comparative research of the samples of technical devices, imitation modeling, which was based on numerical results obtained in experiments with the recording of chemo sensitive trans membrane electrical currents in neurons in voltage clamp mode or patch-clamp, other methods. In result the original “EcoIS” system have been developed for monitoring in wide time ranges. “EcoIS” was supplemented with detector groups, databases, expert subsystem and interface. The system was able to distinguish between certain types of chemicals at the input; to display their identification data and, if necessary, reports about their harmfulness. For “EcoIS” system, some its elements the patents of Ukraine were obtained. The consequences of chemicals influence in few time intervals were possible to study: from the first moments of their influence on single organism cells – to months and years after this influence on whole organism. Some results of the work done will be demonstrated as well as conclusions about the functioning of constructed information system and its practical application will be suggested.