

FORMATION OF DIAGNOSTIC CONCLUSIONS USING THE INTELLIGENT DECISION SUPPORT SYSTEM “SYRENA”

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Nowadays, modern software products, which are often called expert systems, are widely used for solving the tasks of technical diagnostics and forecasting the condition of power networks equipment. These systems differ significantly both in the functions performed and the number of diagnosed equipment, but most of them use known algorithms based on the norms specified in the current standards or author's methods to form diagnostic conclusions [1]. At the same time, expert systems for forming conclusions use only mechanisms of heuristic search for solutions, which is their main difference from conventional software products.

Intelligent decision support system IDSS “SYRENA” [2, 3], which is being developed at the Department of Electric Power Transmission of NTU “KHPI” is also not an expert system, because it uses developed algorithms rather than heuristic search mechanisms. Of course, this circumstance is a disadvantage, because it deprives users of all the advantages that accompany the use of classical expert systems. On the other hand, taking into account the real volume of performed diagnostic procedures and the number of diagnosed equipment, the development, adjustment and debugging of IDSS “SYRENA” with a strictly algorithmic mechanism for obtaining diagnostic conclusions will have a lower cost in comparison with a classical expert system similar in functions. In addition, the modular principle of construction of IDSS “SYRENA” [4] allows to connect new functional modules quite flexibly and quickly, without making changes to the existing knowledge base.

References:

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