METHODS AND SYSTEMS FOR RECOGNITION OF DIAGNOSTIC SITUATIONS

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From the point of view of the theory of recognition, the peculiarities of two basic kinds of diagnostic situations, are discussed; medical and technical diagnostic situations. The basic methods for the recognition of diagnostic situations, including also those elaborated by the group of authors in the Institute of Engineering Cybernetics of the Bulgarian Academy of Sciences, are analyzed. A concept for constructing diagnostic systems and devices is stated by determining the relationship and the role of human operators, in a diagnostic system. The possibilities of applying conventional computing techniques (universal and minicomputers, registering devices etc.) of specialized devices are discussed. The following developments are indicated: complex systems with specialized sensors for introducing objective symptoss (features); devices for information filtration; and conventional computing technique for analysis and registration. The basic principles of the synthesis and realization of a machine for diagnostics of cardiac diseases EDM-1, a system for early cancer diagnostics, INTERTEST-automaton for functional control and diagnostics of bipolar integral structures are described.