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Sommario/riassunto	The concept of "energy" includes methods for obtaining and using various types of energy for the needs of human society. Energy is one of the foundations for the development of modern society. The effectiveness of solving social, economic and technical problems, as well as the anthropogenic transformations of nature, is largely determined by energy production and the scale of energy production. Modern energy is not a separate industry, but it penetrates widely into other areas, in particular, chemical, transport, aerospace, construction, metallurgy, engineering, agriculture, etc. The energy sector is based on complex technical systems that are multicomponent, spatially distributed systems that during their operation are affected to a wide range of design and non-design thermomechanical loading conditions, the effects of aggressive fields and units, unauthorized influences (operator errors, terrorism, sabotage) and can reach various limit

states. Complex technical systems are characterized by complex non-linear interactions between their constituent elements, complex chains (scenarios) of cause-effect relationships between hazardous, probabilistic events and processes that occur during their life. These scenarios can be implemented over complex ramified scenario trees. Ensuring the operational reliability, durability and safety of power equipment is a difficult task, which is associated with the organization of the reliability of control over the operation of power plants and ensuring optimal conditions for their operation. In this regard, we can distinguish a whole class of tasks related to the development of control systems, diagnostics and monitoring in the energy industry, which are presented in this book. Of particular relevance now is the use of UAVs in the energy sector. Particular attention must be paid to the environmental consequences of the operation of energy facilities, the main of which is significant environmental pollution in large cities and industrial areas. The development of environmental management information systems is the prerogative of the state, corporations and one of the main directions of the national informatization policy. A clearly debugged system of environmental monitoring gives a general idea of the features of the current ecological state, the main directions of state policy in the field of environmental protection, the use of natural resources and environmental safety. The methodology and hardware-software tools for monitoring the state of the environment presented in the monograph are effective tools for supporting decision-making in managing the environmental safety of the atmosphere during its technogenic pollution.
