Development of system analysis methodology, methods and means of system mathematics for solving large-scale interdisciplinary tasks in various fields of national economy

A systematic methodology for strategic planning of new trends of innovative activities globalisation has been introduced, which presupposes usage of the methodology of technological foresight. The formalisation of strategy of multi-factor risks analysis minimisation has been developed with the account of specific methods of qualitative analysis. Alternative scenarios concerning the identification of perspective ways to implement critical technologies in the area of "Energy and Energy Efficiency" have been created. Priorities for Ukraine distant sensing of the Earth have been established (N.D. Pankratova).

The technique of building a dynamic Bayesian networks structure based on statistical data that entails usage of a new statistical parameter of quality has been suggested. The architecture of decision support system for solving the problems of adaptive modelling and foresight of nonlinear non-stationary processes of arbitrary nature has been designed. The system is based on the method of Bayesian statistical and structural analysis of data, the latter being based on the use of Bayesian networks, estimation theory and the theory of nonlinear non-stationary processes (P.I. Bidyuk).