

INFORMATION TECHNOLOGY FOR COMPREHENSIVE EVALUATION OF COMPLEX HIERARCHICAL NETWORK SYSTEMS

Areas of Application

The technology is to be used for real-time evaluation of the state and quality of operation of complex hierarchical network systems, for example, urban or regional transport systems, water, gas, and power supply systems, etc.

Specification

The technology is based on combining local, prognostic, interactive, and aggregated methods for evaluation of the main components of complex dynamical system and using an adjusted score system and advanced software and hardware for their implementation. This technology enables to obtain a sufficiently complete and holistic view of the state and quality of operation of system elements and subsystems at all levels of partitioning

Advantages

The technology has no analogs in Ukraine and in the world. Usually, the existing approaches to evaluation only visualize the source data about the quality of system operation and use the simplest methods of aggregation and forecasting. This technology makes it possible to localize emergency situations with a reasonable accuracy and to forecast their further development

Stage of Development. Suggestions for Commercialization

TRL5, TRL4
Customization of technology for evaluation of complex system as a whole or its separate components in specific subject area, transfer of evaluation technology, and staff training, upon request

IPR Protection

IPR1, IPR2

Contact Information

Mykhailo S. Yadzhak, Pidstryhach Institute for Applied Problems of Mechanics and Mathematics of the NAS of Ukraine; +38 032 258 5169, e-mail: yadzhak_ms@ukr.net