ABSTRACT OF SCIENTIFIC SPECIALTY

2.3.5. MATHEMATICAL AND SOFTWARE FOR COMPUTING SYSTEMS, COMPLEXES AND COMPUTER NETWORKS

Provides for the study of materials on the mathematical foundations of programming; computing systems, systems and networks; programming languages and systems; software development technologies; operating systems; methods of data storage and access, organization of databases and knowledge; protection of data and software systems.

Includes the following areas of research:

Models, methods and algorithms for designing and analyzing programs and software systems, their equivalent transformations, verification and testing.

Programming languages and programming systems, program semantics.

Models, methods, algorithms, languages and software tools for organizing the interaction of programs and software systems.

Database and knowledge management systems. Symbolic computing software systems. OS.

Human-machine interfaces; models, methods, algorithms and software for computer graphics, visualization, image processing, virtual reality systems, multimedia communication.

Models and methods for creating programs and software systems for parallel and distributed data processing, languages and tools for parallel programming.

Models, methods, algorithms and software infrastructure for organizing globally distributed data processing.

Quality assessment, standardization and maintenance of software systems