

Computational Science in Armenia (Invited Talk)

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Abstract. This survey is devoted to the development of informatics and computer science in Armenia. The results in theoretical computer science (algebraic models, solutions to systems of general form recursive equations, the methods of coding theory, pattern recognition and image processing), constitute the theoretical basis for developing problem-solving-oriented environments. As examples can be mentioned: a synthesizer of optimized distributed recursive programs, software tools for cluster-oriented implementations of two-dimensional cellular automata, a grid-aware web interface with advanced service trading for linear algebra calculations. In the direction of solving scientific problems that require high-performance computing resources, examples of completed projects include the field of physics (parallel computing of complex quantum systems), astrophysics (Armenian virtual laboratory), biology (molecular dynamics study of human red blood cell membrane), meteorology (implementing and evaluating the Weather Research and Forecast Model for the territory of Armenia). The overview also notes that the Institute for Informatics and Automation Problems of the National Academy of Sciences of Armenia has established a scientific and educational infrastructure, uniting computing clusters of scientific and educational institutions of the country and provides the scientific community with access to local and international computational resources, that is a strong support for computational science in Armenia.