

## **Agent-based simulation modeling for regional ecological-economic systems. A case study of the Republic of Armenia**

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Actual problems of modeling of ecologic-economic systems on the example of the Republic of Armenia (RA) are considered. Based on methods of agent modeling and system dynamics, the simulation model of ecological-economic system, which has allowed constructing the RA Ecological Map, was created. The important purpose of the suggested approach is search of scenarios of rational modernization of the agent-enterprises, which are the main sources of emissions with simultaneous definition of effective strategy of the government regulation. The bi-criterial optimization problem for the ecological-economic system of RA is formulated and solved with the help of the developed genetic algorithm [1].

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- [1] Beklaryan, L. A., A. S. Akopov, A. L. Beklaryan, and A. K. Saghatelyan. 2016 (in press). Agent-based simulation modelling for regional ecological-economic systems. A case study of the Republic of Armenia. *Machine Learning and Data Anal.*