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OPTIMAL DEVELOPMENT MODELS BASED ON OPTIMAL AGGREGATION OF SYSTEMS “PRODUCTION, DEVELOPMENT”

The problem of building an effective working mathematical model of optimal development of the production system. Here is "working" - implemented programmatically, "effective" - with no restrictions like "concave", "continuity" and problems model dimensions. Work is the development and generalization of [1]. Analysis of analogues and prototyping (fig. 1). A significant part of the problem is removed by means of optimal aggregation - replacement of the resource structure of the production system (PS), a technological converter "input, output", equivalent to the optimal function of production (OEPF). The task of determining an optimal development strategy is decided for a one-dimensional object – OEPF with method of the principle maximum. The novelty of the work using the method of optimal aggregation integrated structures “production, development”.

In prototypes, aggregation is performed only for development functions of subsystems. Performed important for the practical application of the modification of mathematical models of aggregation and variational problems of development-accounting resource fluctuations and products during the plan period, developed: - the parameterized version of the operator optimum aggregation and partitioning scheme in the development process at intervals when there are uncertainty. The simulation of processes for optimum development of deterministic and stochastic external Wednesday. In Fig. 1. is represented by the development of a new logic model of optimal development: basic model, analogues and new models.

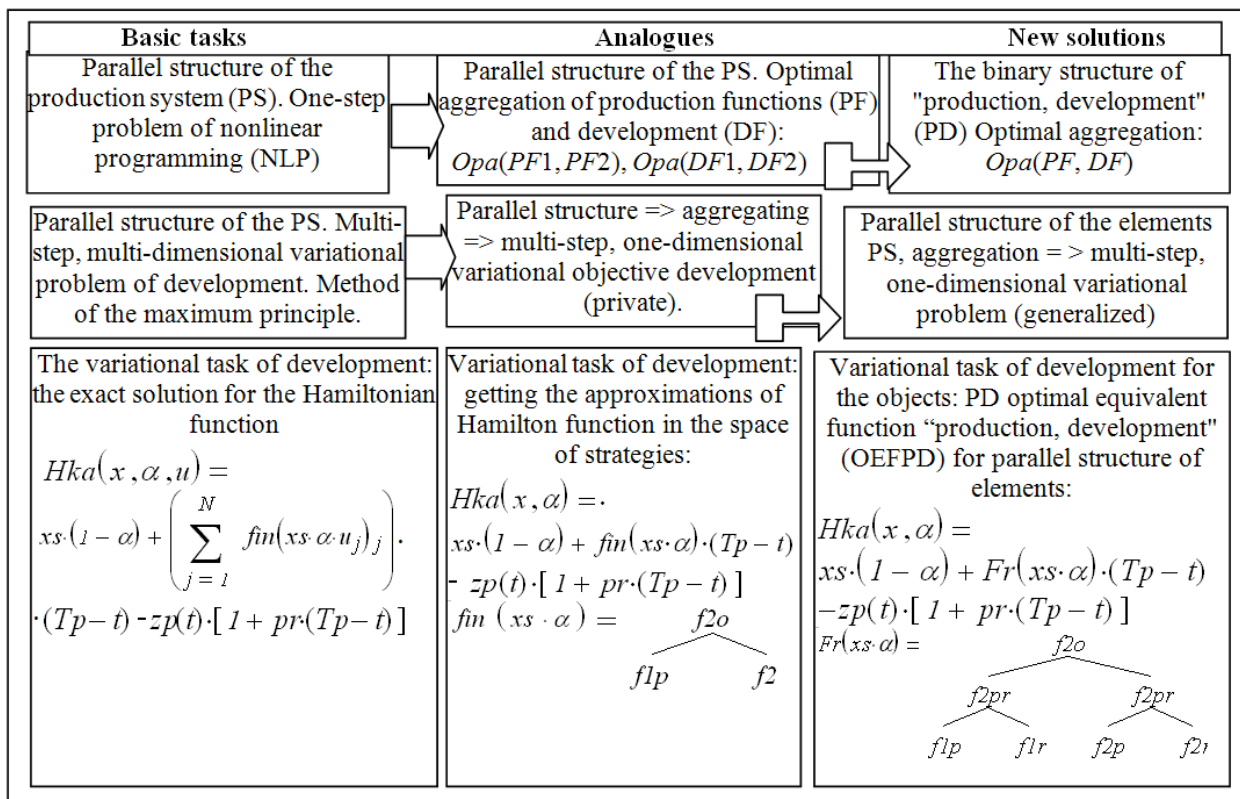


Fig. 1. Examples of optimization results for structures with parametric relationships

In the work is put forward and solved the problem of generalized solutions of the variational optimal development methodology based optimal aggregation.

References

1. Borovska, T. N. (2014). Optimal aggregation of production systems with parametric connections. Eastern-European Journal of Enterprise Technologies, 4(11(70)), 9-19. DOI: 10.15587/1729-4061.2014.26306.