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Abstracts

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Thermodynamical analogies in the problems of stability of socio-economic systems functioning and optimal control

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Statistical Physics essentially expands the field of it's application, nowadays it also penetrates into economic sciences [1]. In economics there is the representation of manufacturing firm with mass production output as very complicated open socio-economic system [2], connected by means of specific relations with its external and internal surroundings, "where determinate character of manufacturing processes, being observed, goes with their stochastic nature, highlights the transformation of random element-to-element manufacturing microinteractions as some entirely regular process of mass production output. Thereby, there appears microlevel in the macrosystem, where the connections among the elements are random, and macrolevel, where the connections among the system's operation factors are determinate"[2]. In this work the peculiarities and conduct of the production system separate element (object of labour) appropriatenesses. The position of such element in the production process technological chain can be defined by the manufacturing operations consecution, rates of raw materials consumption, operational prices and other microscopic production factors. Interaction between the levels or the character of the random motions of the macrosystem's elements transformations into regular process can be realized by aggregation of microscopic description of system's separate elements conduct.

[1] Zang V.-B., Synergetic Economics. -M.: Mir, 1999, 335p. edited by German Khacken.

[2] Wilson A.J., Entropic Methods of Complicated Systems Modelling. Transl. from Engl.- Nauka, M. 1978, 248p.

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