

Some Key Issues of Technology and Optimization

Nikolai Voropai*

Melentiev Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

*Corresponding author: Nikolai Voropai, Melentiev Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Scientific Leader of the Melentiev Energy Systems Institute, Irkutsk, Russia, Tel: +7914 8952 301; E-mail: voropai@isem.irk.ru

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Editorial

Global Journal of Technology and Optimization (GJTO) editorial staff is introducing its latest current issue which started successfully in 2010 to publish high quality peer-reviewed papers. The area of interests of GJTO includes new ideas for technology developments in different sectors of economy and optimization techniques for solving the best decisions in complicate technical, economic and human areas. It is necessary to note many optimization approaches which are published in GJTO including classic calculation methods [1- 5] and heuristic intelligent procedures with multiple modifications [6-10].

As far as GJTO Editorial Strategy is concerned, Editorial staff would like to draw the attention on several specific aspects concerning optimization problems in our non-simple reality.

The first aspect is connected to the systemic character of the studied objects and problems whose we are dealing with usually. It is very important, that our complicate objects and problems have rather strong influence of different economic, social, and environmental factors. As the result, we have to consider, that our advanced innovative studied technologies will operate in such complicate systemic environment with contradictory requirements. Therefore we have to make at least two conclusions taking into account above mentioned interrelations: (a) the complexity of real studied optimization problems is very high, and it is very important to make carefully mathematical formulation of optimality criteria and detail restrictions of studied optimization problem for the real task; (b) as the result, in this case we have to deal with multi-criteria optimization problems and to get over well-known difficulties on this way.

Another aspect of the problems consists in the fact that there are individual interests of the stakeholders who have to make decisions concerning one or the other advanced innovative technology. In our market liberalized environment usually there are many stakeholders with specific contradictory interests which require considering multi-criteria optimization problems based on game theoretical approach. It is necessary to note mathematical and calculation complexity of such optimization problems. Editorial staff hopes on significant progress on this way including by activity of GJTO.

As for advanced innovative technologies which have to be discussed in the papers of GJTO, Editorial staff can say certainly only about electric power technologies what connect to my professional area of

interests. Editorial staff would like to separate electrical and power advanced technologies. In electrical group it is necessary to note new workouts of power electronics, FACTS devices, electric storage systems, etc. High interest relates to new control systems, especially by using artificial intelligent algorithms, fuzzy techniques and the best approaches of general control theory. As for power group of innovative technologies, Editorial staff could note first of all utilization of renewable energy sources, fuel cells, high efficient gas turbines, environmental friendly coal-fired technologies, and the others. It is important to discuss the problems of study and implementation of different advanced electrical and power technologies for electric power industry. The specifics of electric power systems operation in normal and emergent conditions taking into account new electric and power technologies have to be presented and discussed in GJTO. All these above mentioned technological aspects relate to well-known technological platform of Smart Grid for electric power industry of the future.

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