

On some methods, calculi, phenomena, principles and results in the theory of extremum

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Abstract

The talk is intended to discuss the following issues:

- Newton's modified method of solution of nonlinear equations and theorems on inverse mappings,
- Method of conification and application to the principle of duality and calculus of convex objects in Convex Analysis,
- Phenomena of decomposition in convex calculus and convexity connected with integration in optimal control,
- The Lagrange principle for necessary conditions and application to smooth and convex problems, problems of calculus of variations and optimal control,
- Generalized Lagrange principle for sufficient conditions,
- Principles of existence of solutions,
- General principles of the theory of extremum and concrete problems.