

Optimal control on infinite time-horizon: the maximum principle revisited

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Abstract

The talk will begin with a short review of necessary optimality conditions for ODE optimal control problems. Then a recent result by S. Aseev and the speaker will be presented.

The following features of the result are new:

- weak meaning of optimality (allowing for divergent objective integrals);
- normal form of the maximum principle;
- no continuity requirement for the dependence of the data on the control;
- weak regularity assumption (locally unbounded controls are allowed).

Some particular cases will be discussed and applications to several "classical" and new problems will be presented. Finally, extensions for classes of distributed control problems will be discussed.