

Almost every convex or quadratic programming problem is well-posed

A. D. Ioffe, R.E. Lucchetti and J.P. Revalski

Abstract

We provide an abstract principle aimed at proving that classes of optimization problems are *typically* well-posed in the sense that the collection of ill-posed problems within each class is σ -porous. As a consequence, we establish typical well-posedness in the above sense for unconstrained minimization of certain classes of functions (e.g. convex and quasi-convex continuous) as well as of convex programming with inequality constraints. We conclude the paper by showing that the collection of consistent ill-posed problems of quadratic programming of any fixed size has Lebesgue measure zero in the corresponding Euclidean space.

Key words: well-posed problem, (quasi)-convex problem, quadratic mathematical programming problem, porous set, Lebesgue measure zero, Baire category.

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