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On Stability of Solutions to Systems of Convex Inequalities

For systems of relations $\varphi_t(x) \leq p_t$, $t \in T$, Ax = y, where T is an arbitrary set, φ_t is a convex l.s.c. function on a Banach space X for every t and A is a linear bounded operator from X into another Banach space Y, we discuss the following three problems:

(a) stability of solutions with respect to variations of the right hand side;

(b) effect of linear perturbations of functions φ_t and mapping A;

(c) distance to infeasibility (the minimal norm of linear perturbations that make the system infeasible.)