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Rank Condition and Controllability of Parametric Convex Processes

This note is concerned with the controllability of differential inclusions whose right-hand sides are convex processes. More precisely, it relates the controllability of $\dot{x}(t) \in F(x(t))$ with the controllability of a perturbed version $\dot{x}(t) \in F_n(x(t))$. The reference (or nominal) convex process F is seen as the “limit” of a sequence $\{F_n\}_{n \in \mathbb{N}}$ of approximations.

Keywords: Convex process, differential inclusion, controllability, point spectrum, rank condition, Painlevé-Kuratowski convergence.

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