

Weak Invariance for Impulsive Differential Inclusions

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A measure-driven differential inclusion generated by an impulsive control system with trajectories of bounded variation is considered. The solutions of the differential inclusion are upper semicontinuous set-valued functions with selections of bounded variation [2–4]. The property of weak invariance of closed sets relative to the differential inclusion is investigated. The weak invariance property deals with conditions under which there exists a set-valued solution starting and remaining in a given closed set C . Definitions and characterizations for weak invariance and preinvariance are presented and discussed. These results are related to the proximal theory [1, 5] and have a form of systems of proximal Hamilton-Jacobi inequalities.

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