

Control systems with an Impulse Part Driven by Measures

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Abstract

In this paper, we investigate a dynamical system whose continuous evolution is driven by a differential inclusion while its impulse part is driven by Borel measure. When the measure is discrete, the impulse part causes the discontinuity of the solution. The general situation for a general Borel measure is more complicate. We study existence of solutions of this system and we prove compactness of the solution set. We also investigate the viability property of constrained inclusion.

Key Words: Differential Inclusion, Impulse control, Viability