SOME EXISTENCE RESULTS FOR FIRST-ORDER DIFFERENTIAL INCLUSIONS AND DRILLING MODEL SYSTEMS

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June 20, 2020

Abstract

By using Schaefer's fixed point theorem combined with the selection theorem of Bressan and Colombo for lower semi-continuous maps with decomposable values, we prove the existence of solutions for a rst-order differential inclusion system . and also we prove a Filippov-Gronwall type inequality for solutions for this problem type. We end our work by some examples about drilling model systems to give some conditions for existence of solution.

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`Existence Of Solutions2.pdf` available at https://authorea.com/users/335312/articles/461146-some-existence-results-for-first-order-differential-inclusions-and-drilling-model-systems