

## Data dependence of the solutions for set differential equations

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ABSTRACT. Let  $\mathbb{R}^n$  be the real  $n$ -dimensional Euclidian space and  $P_{cp,cv}(\mathbb{R}^n)$  the family of all nonempty compact, convex subsets of  $\mathbb{R}^n$  endowed with the Pompeiu-Hausdorff metric  $H$ .

Let  $I = [a, b]$  and  $X : I \rightarrow P_{cp,cv}(\mathbb{R}^n)$  be an operator. Hukuhara derivative of  $X$  might be introduced in the following way:

$$DX(t) = \lim_{h \rightarrow 0^+} \frac{X(t+h) - X(t)}{h} = \lim_{h \rightarrow 0^+} \frac{X(t) - X(t-h)}{h}.$$

We consider the Cauchy problem of the type

$$\begin{cases} DX = F(t, X) \\ X(0) = X_0 \end{cases}$$

where  $F : I \times P_{cp,cv}(\mathbb{R}^n) \rightarrow P_{cp,cv}(\mathbb{R}^n)$ .

The main purpose of the note is to study the data dependence of the solutions of the above problem.

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