

## ON A METHOD OF "CORRECTION" OF MULTI-VALUED MAPS AND ITS APPLICATIONS TO DIFFERENTIAL INCLUSIONS WITH NON-COMPACT RIGHT-HAND SIDES

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**Abstract.** Multi-valued maps (acting in metric spaces) having arbitrary images and not necessarily continuous (or semicontinuous) with respect to the Hausdorff distance are considered. For such maps, conditions of existence and continuous dependence on parameters of fixed points are obtained. All the statements are based on the idea of replacing the initial "bad" map with a map that has closed values and is contracting in some neighborhood of a given point. The obtained results are applied then to studying the Cauchy problem for a differential inclusion in finite-dimensional space. For the case when the right-hand side of the inclusion is not necessarily compact-valued or continuous (upper semicontinuous, lower semicontinuous) in the phase variable, theorems on existence of solutions and their continuous dependence on parameters are proved.

**Key Words and Phrases:** Multi-valued map, fixed point, continuous dependence on parameters, differential inclusion with non-compact right-hand side.

**2010 Mathematics Subject Classification:** 47H04, 47H10, 34A60.

**Acknowledgement.** The author is grateful to Professor E.S. Zhukovskiy for useful remarks brought up in the course of work.

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*Received: March 27, 2014; Accepted: May 29, 2014.*

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The work is supported by the state program of the Ministry of Education and Science of the Russian Federation (project No. 1.1809.2017/DP) and by the Russian Fund for Basic Research (project No. 17-01-00553).