

**AN ABSTRACT REACHABILITY PROBLEM: “PURELY ASYMPTOTIC”
VERSION**

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A reachability problem in a topological space under constraints of asymptotic nature is considered. An extension construction using elements of compactification, as well as more general procedures employing generalized elements, is studied. The primary focus is on the case where exact solutions are absent. For this case, we study conditions for the realization of the set of admissible generalized elements in a remainder appearing under the immersion of the space of ordinary solutions. In particular, we specify conditions that provide such a realization in a remainder in the case of using (as generalized elements) ultrafilters of broadly understood measurable spaces.

Keywords: attraction set, topological space, ultrafilter.

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