

**COMPACTIFIERS IN EXTENSION CONSTRUCTIONS FOR REACHABILITY
PROBLEMS WITH CONSTRAINTS OF ASYMPTOTIC NATURE**

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A reachability problem with constraints of asymptotic nature is considered in a topological space. The properties of a rather general procedure that defines an extension of the problem are studied. In particular, we specify a rule that transforms an arbitrary extension scheme (a compactifier) to a similar scheme with the property that the continuous extension of the objective operator of the reachability problem is homeomorphic. We show how to use this rule in the case when the extension is realized in the ultrafilter space of a broadly understood measurable space. This version is then made more specific for the case of an objective operator defined on a nondegenerate interval of the real line.

Keywords: attraction set, topological space, ultrafilter, factor space.

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