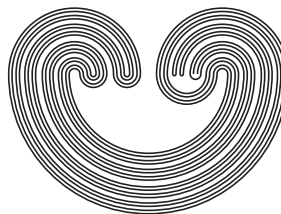


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k -MARKOV AND k -TACTIC FOR NONEMPTY IN THE CHOQUET GAME

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ABSTRACT. There is an open question in the Choquet game about existence of NONEMPTY's winning 1-tactic whenever s/he has a Markov winning strategy in the Choquet game (Galvin). In a more general version, we can ask the question: If NONEMPTY has a k -Markov winning strategy in the Choquet game, does NONEMPTY have a winning k -tactic in that game? In some special topological spaces, we give some affirmative answers to this question. For example, we show that if NONEMPTY has a k -Markov winning strategy in the Choquet game on a topological group or on a space in which all points are P-points, then s/he has a winning k -tactic in this game.

1. INTRODUCTION

There are some well-known results in the Banach–Mazur game about strategies of NONEMPTY. For example, we know that if NONEMPTY has a Markov winning strategy in the Banach–Mazur game on a space X , then NONEMPTY has a winning 1-tactic in this game ([3, Corollary 9]). Furthermore, from [1, Theorem 42], we know that if NONEMPTY has a k -Markov winning strategy in the Banach–Mazur game on a space X , then the player has a winning k -tactic in this game where $k > 1$. Thus, having a k -Markov winning strategy implies the existence of a winning k -tactic for NONEMPTY in the Banach–Mazur game. But if we talk about the Choquet game, for NONEMPTY, whether having a k -Markov winning strategy implies having a winning k -tactic is a mystery. For example, where $k = 1$, it is a relatively old question that whether

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