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## APPLICATION OF THE ALTRUISTIC AND AGGRESSIVE TYPES OF BEHAVIOR IN A TWO-PERSON NON-ZERO-SUM POSITIONAL DIFFERENTIAL GAME ON THE PLANE

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A two-person non-zero-sum positional differential game is studied. In addition to the normal (*nor*) behavior aimed at maximizing the cost functional, each player can use other types of behavior, in particular, the altruistic (*alt*), aggressive (*agg*), and paradoxical (*par*) types. It is assumed that the players can switch between the types of behavior in the course of the game. Simultaneously with the choice of a positional strategy, each player also chooses an indicator function defined on the entire game interval and taking values in the set  $\{nor, alt, agg, par\}$ . The indicator function of each player shows the dynamics of behavior switchings of this player. The notion of *BT*-solution of the game is introduced. On *BT*-solutions, the application by a player of the behavior types different from normal produces a more favorable result for this player than a game with the normal behavior only. The procedure for constructing *BT*-solutions is exemplified by a planar game with simple motion dynamics and state constraints.

Keywords: non-zero-sum positional differential game, terminal cost functional, behavior types of the players, altruistic and aggressive types, Nash solution.

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