TOPOLOGICAL GAMES: ON THE 50TH ANNIVERSARY
OF THE BANACH–MAZUR GAME

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This is an expository paper on infinite positional games of perfect information with special emphasis on their applications to set–theoretic topology. The oldest game of this kind is the Banach–Mazur game still inspiring new results, even after 50 years from its invention.

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1. Introduction. A combinatorial game in a mathematical form was described likely for the first time at the beginning of the XVII century. Bachet de Meziriac [1612] gave the following game: two players alternately choose numbers between 1 and 10; the player, on whose move the sum attains 100, is the winner. This kind of game, called Nim, was studied by Bouton [1901-2], and it has an extensive literature. For a bibliography on combinatorial games the reader is referred to Fraenkel [1983, 198?] and also to Berlekamp, Conway and Guy

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