The Value of Two-Person Zero-Sum Repeated Games with Lack of Information on Both Sides

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Abstract

We consider two-person zero-sum games in which each player has only partial information about a chance move that takes place at the beginning of the game. Under some conditions on the information pattern it is proved that $\lim_{n\to\infty} v_n$ exists, v_n being the value of the game with n repetitions. Two functional equations are given for which $\lim_{n\to\infty} v_n$ is the only simultaneous solution.

We also find the least upper bound for the error term $\left| v_n - \lim_{n\to\infty} v_n \right|$.