



YMC 2006



Young Mathematicians Conference 2006

August 4th-6th at The Ohio State University.

NON-UNIFORM SAMPLING AND FORGETFULNESS IN EVOLUTIONARY GAMES

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Abstract of Poster Presentation: Our work draws heavily on H. Peyton Young's theory of evolutionary games and stochastic stability for two-payer two-strategy coordination games. Young, for the sake of simplicity, assumes that agents sample a game history with uniform distribution; our work introduces the notion of 'myopic' agents by introducing a discount factor with which agents preferentially sample recent elements of the game history. This discount factor exponentially decreases the weight with which past elements are sampled. Using a Mathematica simulation and analytic calculations, we have interpreted the effects of this non-uniform sampling. Based on our current results, we argue that the notion of stochastic stability remains independent of discount factors. In this sense, we might conclude that even a 'forgetful' population will stay in an ideal absorbing state a majority of the time.

[PM14225816]

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Received: July 22, 2006