

The Optimal Stopping of Markov Chain and its Application to other Probability Problems

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The optimal stopping (OS) of a Markov chain (MC) is a classical problem of stochastic control. The main goal of the talk is to show that this model has broad applications and can serve as building block for more general applied probability models. The second goal is to show that the State Elimination Algorithm (SEA) for OS of MC developed earlier by the author (Sonin (1995, 1999) can be also applied to a wider range of problems of stochastic control. The problems under consideration are related closely also to a classical Gittins index and to its generalizations analyzed in Denardo, Rothblum, Van der Heyden (2004), Presman, Sonin (2006) and Sonin (2008).