

# VOI-aware Monte Carlo Sampling in Trees

David Tolpin, Solomon Eyal Shimony  
Department of Computer Science,  
Ben-Gurion University of the Negev, Beer Sheva, Israel  
{tolpin,shimony}@cs.bgu.ac.il

November 28, 2011

## Abstract

Upper bounds for the VOI are provided for pure exploration in the Multi-armed Bandit Problem. Sampling policies based on the upper bounds are suggested. Empirical evaluation of the policies is provided on random problems as well on the Go game.

## 1 Empirical Evaluation

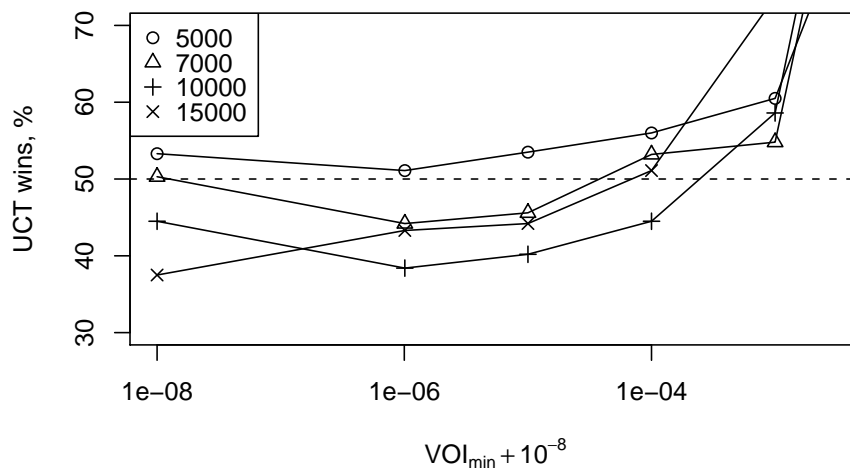


Figure 1: Winning rate: UCT against VCT

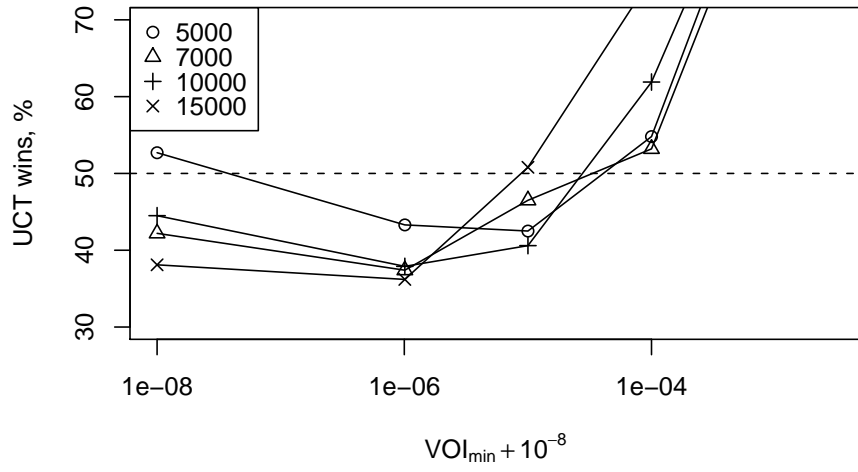


Figure 2: Winning rate: UCT against ECT

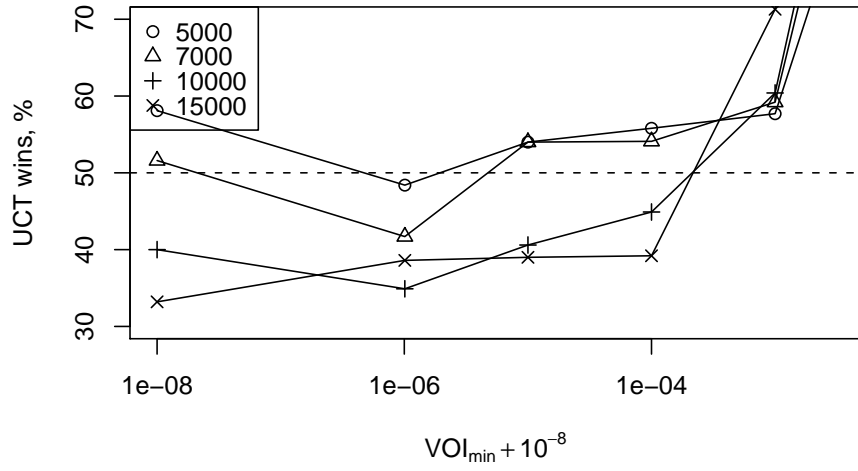


Figure 3: Winning rate: UCT against BCT

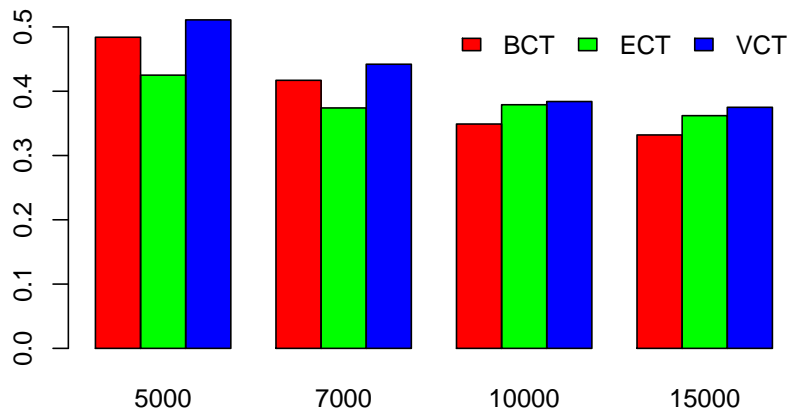


Figure 4: Best winning rate comparison

## References