

Robustness of computer algorithms to simulate optimal experimentation problems.

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Three methods have been developed by the authors for solving optimal experimentation problems. David Kendrick (1981, 2002, Ch.10) uses quadratic approximation of the value function and linear approximation of the equation of motion to simulate general optimal experimentation (active learning) problems. Beck and Volker Wieland (2002) use dynamic programming methods to develop an algorithm for optimal experimentation problems. Cosimano (2003) and Cosimano and Gapen (2005) use the Perturbation method to develop an algorithm for solving optimal experimentation problems. The perturbation is in the neighborhood of the augmented linear regulator problems of Hansen and Sargent (2004). In this paper we take an example from Beck and Wieland which fits into the setup of all three algorithms. Using this example we examine the cost and benefits of the various algorithms for solving optimal experimentation problems.

#### References

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