

## **On adaptive robust control in discrete time**

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We will present an approach to stochastic control in discrete time subject to model uncertainty. The true model is assumed to belong to a class of models that are parameterized in terms of a finite dimensional parameter. The true parameter is unknown. The controller combines robust optimization and learning using adaptive robust control methodology. The learning amounts to deriving confidence regions for the unknown parameter. The confidence regions are computed on-line, that is recursively. This allows for solving the underlying uncertain stochastic control problem via what we call the adaptive robust dynamic programming. An illustrating example will be presented.