1139-49-424   **Andrzej Ruszczynski*** (`rusz@business.rutgers.edu`), Rutgers University. *Risk-Averse Control of Partially Observable Markov Systems.*

We consider risk measurement in controlled partially observable Markov systems in discrete time. In such systems, part of the state vector is not observed, but affects the transition kernel and the costs. We introduce new concepts of risk filters and study their properties. We also introduce the concept of conditional stochastic time consistency. We derive the structure of risk filters enjoying this property and prove that they can be represented by a collection of law invariant risk measures on the space of function of the observable part of the state. We also derive the corresponding dynamic programming equations. Then we illustrate the results on a clinical trial problem and a machine deterioration problem. (Received February 18, 2018)