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Amarjit Budhiraja, Paul Dupuis* (paul_dupuis@brown.edu), **Pierre Nyquist** and **Guo-Jhen Wu**. *Quasistationary Distributions and Ergodic Control Problems*.

We introduce two ergodic control problems that can be used to analyze the quasistationary distributions (QSDs) associated with a diffusion process. One control problem is defined in terms of the generator of the process, while the other (actually a collection of problems indexed by a reference measure) in terms of its adjoint. The first can be used to characterize the Q-process associated with the QSD, and the cost potential of the second to characterize the QSD itself. We briefly mention how the control problems can be used to construct numerical approximations to the QSD, and how in unbounded domains they can be used to explain and characterize nonuniqueness of QSDs. (Received January 19, 2021)