1077-91-1338   **Uma V Ravat*** (`ravat1@illinois.edu`) and **Uday V Shanbhag**. *On the characterization of solution sets of smooth and nonsmooth stochastic Nash games.*

Variational analysis provides an avenue for characterizing solution sets of deterministic Nash games over continuous strategy sets. A direct application of deterministic results to settings when player objectives are stochastic is challenging since the expectation operation generally leads to a far less tractable nonlinear function. We present a framework for the tractable verification of existence of equilibria of stochastic Nash games; importantly, this avenue does not necessitate the evaluation of an expectation or its derivatives. Extensions to nonsmooth regimes are also presented. We provide some illustrative examples from risk-averse Nash-Cournot games. We have also extended the above framework to stochastic generalized Nash games in smooth and nonsmooth regimes. (Received September 22, 2011)