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Rami Atar. *On Some Free Boundary Problems for Stochastic Systems.*

We consider a family of degenerate elliptic nonlinear PDE with gradient constraints in polyhedral domains. Some results on the well-posedness of the equation will be given and applications to some problems in stochastic networks will be described. Finally some open questions related to the associated free boundary problems and regularity theory of the PDE will be presented. This is joint work with R. Atar. (Received January 20, 2014)