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**Iuliana Teodorescu** and **Razvan Teodorescu\*** ([razvan@usf.edu](mailto:razvan@usf.edu)), CMC 314, 4202 E Fowler Ave, University of South Florida, Tampa, FL 33620. *Stochastic dynamical systems under geometric constraints.*

We discuss the problem of defining stochastic dynamical systems under geometric constraints. These are important for applications such as modeling growth processes (biological, physical) or describing stochastic perturbations to constrained, correlated systems. The difficulty in defining such processes is due to the existence of global, nonlocal constraints which must be incorporated with local, random driving forces. We present a class of such models for which there exists a general formalism, based on integral transforms in two dimensions. (Received September 24, 2018)