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Armando Arciniega* (armando.arciniega@utsa.edu) and **Edward Allen**. *Shooting Methods for Numerical Solution of Linear and Nonlinear Stochastic Boundary Value Problems*.

Numerical methods are developed for approximate solution of linear and nonlinear stochastic boundary value problems. First, a shooting method procedure is developed for numerically solving linear systems of Stratonovich boundary value problems. Then, the shooting method procedure is described for numerically solving nonlinear stochastic boundary value problems. These stochastic shooting methods are analogous to standard shooting methods for numerical solution of ordinary deterministic boundary value problems. It is shown that the shooting method techniques provide accurate approximations for numerical solution of linear and nonlinear stochastic boundary value problems. Error analyses are performed and computational simulations are described. (Received September 21, 2011)