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Henri Schurz* (hschurz@math.siu.edu), Department of Mathematics, Southern Illinois University, 1245 Lincoln Drive, Carbondale, IL 62901. *1-D Stochastic Wave Equations with Quasi-nonlinearity and Q-Regular Space-Time Noise: The Nonlinear String.*

One-dimensional wave equations with certain cubic-type quasi-nonlinearity and perturbed by Q-regular space-time white noise are considered. This model describes the displacement of a noisy nonlinear string. We shall discuss existence and uniqueness of (strong) solutions using energy-type methods based on the construction of Lyapunov-functions. Moreover, the probabilities of large fluctuations are estimated and some nonstandard partial-implicit difference methods for their numerical integration are presented. Parts of this presentation are related to ideas of an ongoing joint work with Boris Belinskiy. (Received July 23, 2005)