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Gangaram S Ladde* (gladde@usf.edu), Department of Mathematics and Statistics, University of South Florida, Tampa, FL 33620-5700. *Interconnected Nonlinear Survival State Hybrid Dynamic Models*. Preliminary report.

In this work, a large-scale interconnected nonlinear stochastic hybrid dynamic model for survival state process is developed. Employing energy function and differential inequalities methods, comparison theorems are developed. These comparison theorems are applied to investigate various types invariant sets and their qualitative properties, in a systematic way. (Received September 25, 2018)