NUMERICAL SIMULATIONS OF INFLATED RANDOM DYNAMICAL SYSTEMS

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The theory of *random dynamical systems* considers dynamical systems under random influences (for the non random theory see Temam [4]). To uncover the dynamics and bifurcation behavior, we need new concepts (see Arnold [1], Crauel and Flandoli [2]). In this talk we are interested in *inflated random dynamical systems* generated by *random differential inclusions* of the form $\frac{dx}{dt} \in F(\theta_t\omega, x)$ where $F : \mathbb{R}^+ \times \Omega \times \mathbb{R}^d \rightrightarrows \mathbb{R}^d$ is a set-valued inflation mapping with convenient conditions and θ is the model for the noise driving the deterministic dynamics. We present implementations of numerical schemes for approximation of *selections* of random differential inclusions. Later we apply this to dynamical systems

REFERENCES

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