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Harold M Hastings* (harold.hastings@hofstra.edu), Department of Physics - Berliner 102, 151 Hofstra University, Hempstead, NY 11549-1510. *Limits on predictability in systems of stochastic difference equations.*

Many "complex" systems, including ecological and financial systems, can be modeled by systems of stochastic difference equations. This talk will explore limits on predictability in such systems, especially those arising from limited samples of their dynamical behavior. This material is based upon work supported by the Department of Energy under Award Number DE-FG02-08ER64623. This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof. (Received May 16, 2011)