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Sukanya Basu* (basus@gvsu.edu), Department of Mathematics, Grand Valley State University, Allendale, MI 49401-6495, **Auroop R. Ganguly** (a.ganguly@neu.edu), Dept. of Civil and Environmental Engineering, Northeastern University, Boston, MA 02115, and **Evan Kodra** (evan.kodra@gmail.com), Dept. of Civil and Environmental Engineering, Northeastern University, Boston, MA 02115. *A Discrete Dynamical Systems Model to Study the Interaction Between Arctic Sea-Surface Temperature and Sea-Ice Cover.*

We propose a mathematical model involving discrete dynamical systems to understand the interaction between sea-surface temperature and sea-ice cover over the Arctic Ocean. Observed data from multiple sensors will be used to validate the model. The implications and caveats of the future projections made by our model will be explored. (Received September 21, 2011)