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**Mark S. Korlie\*** ([korliem@mail.montclair.edu](mailto:korliem@mail.montclair.edu)), Montclair State University, Department of Mathematical Sciences, 1 Normal Ave, Montclair, NJ 07043. *Mathematical Modeling of Elastic Snap Through*. Preliminary report.

The response to an elastic material under stress is of interest to mathematicians, scientists, and engineers. Various methods have been used to model or simulate this response. Many of the methods use classical continuous approach, and the models or simulations discussed are often limited to one or two dimensions. In this talk, we will present and discuss a three-dimensional particle model of an elastic snap through. Systems of nonlinear differential equations are used to describe the motion of the elastic particles in the elastic material. These systems of equations must be solved numerically since they have no analytical solutions. (Received September 26, 2006)