1023-35-1876   **Ciprian G Gal*** (`galc75799@gmail.com`), 1700 E. Cold Spring Lane, Carnegie 251, Morgan State University, Dept. of Mathematics, Baltimore, MD 21251. *Exponential attractors for the Allen-Cahn equation with dynamic boundary conditions.* Preliminary report.

In the present talk, we consider a model of phase separation based on the Allen-Cahn equation with nonconstant temperature, with dynamical boundary conditions for both the order parameter as well as the temperature function. Using a fixed point argument, we obtain the existence and uniqueness of a global solution to our problem. The longtime behavior of the solution is investigated proving the existence of an exponential attractor (and thus of a global attractor) with finite fractal dimension in a suitable Sobolev space. Different connections with other models in the Cahn-Hilliard theory of phase transitions are discussed. (Received September 27, 2006)