

Abstract Submitted
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Non-uniform forcing of a magnetic soap film RANDY BACK, REGAN BECKHAM, The University of Texas at Tyler — The effects of a non-uniform magnetic field on a suspension of magnetic nanoparticles in a soap film are investigated. Experiments show that a strong non-uniform field will form a two-dimensional structure of magnetic nanoparticles within the soap film. A model is developed to compare with experimental results for several different magnetic field configurations. The system is modeled with a two-dimensional thin film equation with no-flux boundary conditions. We show qualitative agreement between the model and experiments.

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