

Abstract Submitted
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Magnetically Controlled Capacitor Membrane System NATHAN FORTENBURY, JOHN HYDE, REGAN BECKHAM, RANDY BACK, The University of Texas at Tyler — The effects of electric fields on elastic membranes have been studied in detail in recent years. It is the purpose of this research to explore the effects of the interaction between magnetic fields and electric fields on these membranes with the addition of magnetic ferrofluid. Variables under consideration include strength and shape of magnetic field, concentration of magnetic ferrofluid, and voltage supplied to the membrane. Of particular interest are the stable state conditions for various parameters as well as maximum stable voltages for the same.

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