## **Deformation of Charge Selective Vesicles**

ROLF J. RYHAM, CHUN LIU AND LUDMIL ZIKATANOV

Department of Mathematics Penn State University University Park, PA 16802 ryham@@math.psu.edu

We present a model of a charged fluid/interface system where diffuse charges are selectively encapsulated by vesicles. The model is derived from energetic variational principles. We emphasize the dynamic coupling between interfacial and electric forces. We highlight the energetic consistency of the numerical methods, some analysis and finally, simulation.