1004-35-181   **J. McCuan***, 686 Cherry Street, Atlanta, GA 30332, and **J. Pelesko**. *Electrostatically deflected membranes and their symmetry.* Preliminary report.

When a membrane, like a soap film, is charged and undergoes deflection due to the presence of additional charges, the membrane surface satisfies a coupled system of partial differential equations, one of mean curvature type and another potential equation. There are simple symmetry questions to ask about the solutions of such systems whose answers are not known. We describe a generalization of Alexandrov's reflection method for proving symmetry for such systems. (Received January 24, 2005)