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Michael A. Brilleslyper* (mike.brilleslyper@usafa.edu), Department of Mathematical Sciences, 2354 Fairchild Drive Suite 6D124, USAF Academy, CO 80840-6252. *Fluid Flow and Electric Fields with all kinds of Sources and Sinks*. Preliminary report.

Using conformal mappings to study electric fields or the velocity field of an ideal flow in some two-dimensional region is well known. Placing sources and sinks of various strengths at points on the boundary of the region is also known, though there are some subtle points about sources and sinks at infinity. In this talk we extend the idea to entire intervals of sources and sinks along the boundary. We are thus able to simulate flows such as a levy breaking on a river or a uniform charge along a wire. We will show some very cool pictures of these types of flows in different regions. (Received December 19, 2006)