

1075-35-76

Fernando Guevara Vasquez* (fguevara@math.utah.edu), Mathematics Department,
University of Utah, 155 S 1400 E Room 233, Salt Lake City, UT 84112, and **Graeme W. Milton**
and **Daniel Onofrei**. *Active exterior cloaking for the Helmholtz equation*.

We present a way of using active sources to hide objects from a known incident field. The active sources cancel out the incident field in a region while having a small far field. Since very little waves reach objects in the cloaked region, the scattered field is greatly diminished, making the object practically invisible. We recall how to construct such a cloak using a single and double layer potential on a surface (Green's formulas) and then show how the same effect can be achieved using a few multipolar sources that do not completely surround the cloaked region. We report on progress towards generalizing this approach to the Maxwell equations. (Received August 22, 2011)