1117-34-176    **Rudi Weikard\*** (`rudi@math.uab.edu`), Department of Mathematics, University of Alabama at Birmingham, Birmingham, AL 35294-1170. *The spectral problem for the dispersionless Camassa-Holm equation.*

We analyze the spectral problem for $-y'' + qy = \lambda w y$ where $q$ is a non-zero positive distribution (or measure) and $w$ a real distribution of order zero decaying at infinity. We then investigate the inverse spectral problem and discuss the application of the results to the Camassa-Holm equation.

This is joint work with Malcolm Brown and Christer Bennewitz. (Received January 12, 2016)