1052-14-155   **Jeremiah Heller*** (`heller@math.northwestern.edu`), Dept. Mathematics, 2033 Sheridan Road, Evanston, IL 60208. *Vanishing Theorems for Real Algebraic Cycles.*

We discuss recent joint work with M. Voineagu where we show that the reduced Lawson homology of a real algebraic variety vanishes in degrees larger than the dimension of the variety. These homology groups are defined via homotopy groups of some spaces of cycles on a real variety and are an interesting mix of topological and algebraic data, related for example to motivic cohomology and real morphic cohomology. We discuss a few applications and computations. (Received August 25, 2009)