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**Timothy A Schroeder\*** (tas3@uwm.edu), 2924 N Shepard Ave, Milwaukee, WI 53211. *The  $\ell^2$ -homology of even Coxeter groups.*

Given any Coxeter system  $(W, S)$ , there is an associated CW-complex,  $\Sigma(W, S)$  (or simply  $\Sigma$ ), on which  $W$  acts properly and co-compactly. This is the Davis complex. When the nerve  $L$  of  $(W, S)$  is a triangulation of an  $(n - 1)$ -sphere,  $\Sigma$  is an  $n$ -manifold. We explore a version of the Singer Conjecture for Coxeter groups: When  $(W, S)$  is an *even* Coxeter system and  $L$  is a 3-sphere, then the reduced  $\ell^2$ -homology of  $\Sigma$  vanishes in all but the middle dimension. (Received September 17, 2007)