962-47-93 **G. Beate Zimmer** (bzimmer@muw.edu), Division of Science and Mathematics, Mississippi University for Women, Columbus, MS 39701. *A Representation Theorem for Near-isometries of $C(K)$-spaces.*

We prove the following theorem: Let X, Y be compact Hausdorff spaces and $T : C(X, \mathbb{R}) \to C(Y, \mathbb{R})$ be a linear bijection with $\|T\|\|T^{-1}\| < 2$. Then there is a homeomorphism $\phi : Y \to X$ and a linear map $S : C(X) \to C(Y)$ with $\|S\| < 2\left(\|T\| - \frac{1}{\|T^{-1}\|}\right)$ such that $(Tf)(y) = T1_X(y)f(\phi(y)) + (Sf)(y)$. Amir and Cambern proved the existence of a homeomorphism, but our proof adds the representation theorem to the result. Our proof uses nonstandard peak functions, which are nonnegative functions in the nonstandard extension of $C(X)$ that are supported within one monad and have norm one. We show that the image of a peak function under T is bounded by $\|T\| - \frac{1}{\|T^{-1}\|}$ except in one monad where it exceeds this value. This induces a homeomporphism between X and Y. (Received July 28, 2000)