

1065-46-249

Thomas Michael Everest* (tme3@pitt.edu), Department of Mathematics, University of Pittsburgh, 301 Thackeray Hall, Pittsburgh, PA 15260, and **Chris Lennard**. *Fixed points of asymptotically non-expansive maps and uniformly Lipschitzian maps on certain closed, bounded, convex subsets of ℓ^1 .*

In this talk, I will give an overview of the following joint work with Chris Lennard.

In 1979 Goebel and Kuczumow introduced a certain closed, bounded, convex, non-weak*-compact subset K of ℓ^1 (with its usual norm), and showed that K has the fixed point property for nonexpansive mappings.

We show that K also has the fixed point property for asymptotically nonexpansive mappings with approximate fixed point sequences. This class of mappings includes those that are asymptotically nonexpansive and affine.

We further calculate the best uniform-Lipschitz constant of the right shift R on K .

We also consider another closed, bounded, convex, non-weak*-compact subset H of the positive face of the usual unit sphere, S , in ℓ^1 . Dowling, Lennard and Turett recently showed that H has the fixed point property for nonexpansive mappings. In this paper we show that, in contrast to the set K above, H fails to have the fixed point property for asymptotically nonexpansive mappings with approximate fixed point sequences.

The above results can be generalized to a large class of non-weak* compact, closed, bounded, convex subsets of ℓ^1 . (Received September 14, 2010)