

WEAK* -FIXED POINT PROPERTY IN ℓ_1

ENRICO MIGLIERINA

In this talk we study the w^* -fixed point property (w^* -FPP) for nonexpansive mappings in the space ℓ_1 . First, we provide some sufficient conditions for w^* -FPP in ℓ_1 based on structural properties of the predual X of ℓ_1 . Then, the main result of our paper provides some characterizations of weak-star topologies that fail the fixed point property for nonexpansive mappings in ℓ_1 space. The key tool of our result is a detailed study of the hyperplanes of the space c . Finally, we deal with the stability properties of w^* -FPP in ℓ_1 , by linking it to some geometrical features related to the notion of polyhedral space. The talk is essentially based on a series of papers written jointly with Emanuele Casini, Łukasz Piasecki, Roxana Popescu and Libor Vesely.

REFERENCES

- [1] E. Casini, E. Miglierina, Ł. Piasecki. Hyperplanes in the space of convergent sequences and preduals of ℓ_1 . *Canad. Math. Bull.* **58** (2015), 459-470.
- [2] E. Casini, E. Miglierina, Ł. Piasecki. Separable Lindenstrauss spaces whose duals lack the weak* fixed point property for nonexpansive mappings. *Studia Math.* **238** (2017), 1-16.
- [3] E. Casini, E. Miglierina, Ł. Piasecki and L. Vesely. Rethinking polyhedrality for Lindenstrauss spaces. *Israel J. Math.* **216** (2016), 355-369.
- [4] E. Casini, E. Miglierina, Ł. Piasecki and R. Popescu, Stability constants of the weak* fixed point property for the space ℓ_1 . *J. Math. Anal. Appl.* **452** (2017), 673684.
- [5] E. Casini, E. Miglierina, Ł. Piasecki and R. Popescu, Weak* Fixed Point Property in ℓ_1 and Polyhedrality in Lindenstrauss Spaces, to appear on *Studia Math.*

DIPARTIMENTO DI DISCIPLINE MATEMATICHE, FINANZA MATEMATICA ED ECONOMETRIA, UNIVERSITÀ CATTOLICA DEL SACRO CUORE, VIA NECCHI 9, 20123 MILANO, ITALY
E-mail address: enrico.miglierina@unicatt.it