

On the Ergodicity of Banach Spaces with Property (H)

RAZVAN ANISCA

*Department of Mathematical Sciences, Lakehead University, Thunder Bay, Canada
ranisca@lakeheadu.ca*

Presented by Jesús M.F. Castillo

Received December 18, 2011

Abstract: In this note we discuss the ergodicity of the class of Banach spaces which are characterized by property (H).

Key words: weak Hilbert spaces, Borel reducibility.

AMS Subject Class. (2010): Primary 46B20, Secondary 46B15.

REFERENCES

- [1] R. ANISCA, The ergodicity of weak Hilbert spaces, *Proc. Amer. Math. Soc.* **138** (2010), 1405–1413.
- [2] S.A. ARGYROS, K. BEANLAND, T. RAIKOFTSALIS, An extremely non-homogeneous weak Hilbert space, *Trans. Amer. Math. Soc.*, to appear
- [3] B. BOSSARD, A coding of separable Banach spaces. Analytic and coanalytic families of Banach spaces, *Fund. Math.* **172** (2002), 117–152.
- [4] P.G. CASAZZA, C.L. GARCÍA, W.B. JOHNSON, An example of an asymptotically Hilbertian space which fails the approximation property, *Proc. Amer. Math. Soc.* **129** (2001), 3017–3023.
- [5] P. CASAZZA, T. SHURA, “Tsirelson’s Space”, Lecture Notes in Mathematics, 1363, Springer-Verlag, Berlin, 1989.
- [6] S. DILWORTH, V. FERENCZI, D. KUTZAROVA, E. ODELL, On strongly asymptotic ℓ_p spaces and minimality, *J. Lond. Math. Soc. (2)* **75** (2007), 409–419.
- [7] V. FERENCZI, Minimal subspaces and isomorphically homogeneous sequences in a Banach space, *Israel J. Math.* **156** (2006), 125–140.
- [8] V. FERENCZI, E.M. GALEGO, Some equivalence relations which are Borel reducible to isomorphism between separable Banach spaces, *Israel J. Math.* **152** (2006), 61–82.
- [9] V. FERENCZI, C. ROSENDAL, On the number of non-isomorphic subspaces of a Banach space, *Studia Math.* **168** (2005), 203–216.
- [10] V. FERENCZI, C. ROSENDAL, Ergodic Banach spaces, *Adv. Math.* **195** (2005), 259–282.
- [11] H. FRIEDMAN, L. STANLEY, A Borel reducibility theory for classes of countable structures, *J. Symbolic Logic* **54** (1989), 894–914.

- [12] W.T. GOWERS, A new dichotomy for Banach spaces, *Geom. Funct. Anal.* **6** (1996), 1083–1093.
- [13] L.A. HARRINGTON, A.S. KECHRIS, A. LOUVEAU, A Glimm-Effros dichotomy for Borel equivalence relations, *J. Amer. Math. Soc.* **3** (1990), 903–928.
- [14] W.B. JOHNSON, Banach spaces all of whose subspaces have the approximation property, in “Special Topics in Applied Mathematics” (Proceedings GMD, Bonn, 1979), North Holland, Amsterdam-New York, 1980, 15–26.
- [15] M. JUNGE, D. KUTZAROVA, E. ODELL, On asymptotically symmetric Banach spaces, *Studia Math.* **173** (2006), 203–231.
- [16] R. KOMOROWSKI, N. TOMCZAK-JAEGERMANN, Banach spaces without local unconditional structure, *Israel J. Math.* **89** (1995), 205–226.
- [17] V. MASCIONI, On Banach spaces isomorphic to their duals, *Houston J. Math.* **19** (1993), 27–38.
- [18] N.J. NIELSEN, N. TOMCZAK-JAEGERMANN, Banach lattices with property (H) and weak Hilbert spaces, *Illinois J. Math.* **36** (1992), 345–371.
- [19] G. PISIER, Weak Hilbert spaces, *Proc. London Math. Soc. (3)* **56** (1988), 547–579.
- [20] C. ROSENDAL, Incomparable, non isomorphic and minimal Banach spaces, *Fund. Math.* **183** (2004), 253–274.
- [21] C. ROSENDAL, “Etude Descriptive de l’Isomorphisme dans la Classe des Espaces de Banach”, These de Doctorat de l’Universite Paris 6, 2003.
- [22] A. TCACIUIC, On the existence of asymptotic- ℓ_p structures in Banach spaces, *Canad. Math. Bull.* **50** (2007), 619–631.