Almost-Ramsey Sets in c_0

Jordi López Abad

We consider a Ramsey-style property of c_0, the property of being *almost-Ramsey* for sets of block subspaces. We give a proof of the following result, announced by W. T. Gowers in [2], namely, that every analytic set of block subspaces of c_0 which is large, almost-contains all the block subspaces of some block subspace. This result is a natural generalization of the works of N. Hindman [3] on sequences of finite sets of integers and of Gowers [1] on asymptotic sets of c_0. We also extend the result to all projective sets under Projective Determinacy.

[1] W. T. Gowers, Lipschitz functions on classical spaces, *European Journal of Combinatorics* **13** (1992), pp. 141–151.

[2] W. T. Gowers, Analytic sets and games in Banach spaces. Preprint IHES M/94/42.

[3] N. Hindman, Finite sums from sequences within cells of a partition of N, *Journal of Combinatorial Theory (A)* **17** (1974), pp. 1–11.

Address: Departament de Matematiques. Universitat Autonoma de Barcelona, Spain
E-mail: abad@mat.uab.es