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*On Pisier type problems and results (combinatorial applications to number theory)*. (In English)

**Mathematics of Ramsey theory, Coll. Pap. Symp. Graph Theory, Prague/Czech., Algorithms Comb. 5, 214-231 (1990).**

[For the entire collection see Zbl 715.00011.]

This is an excellent collection of applications of combinatorial ideas to proving deep number-theoretical results. We find here a lot of surprising connections between well-known facts from number theory on one side and combinatorics on the other. It is rather difficult to say which of these is the most important, so we choose one which is close to our field of interest:

A sequence  $X = x_1 < x_2 < \dots$  ( $x_i$  naturals) is said to be sum-free if none of its elements is a sum of distinct elements of  $X$ . Theorem 4.2. Let  $\epsilon > 0$ . There exists a sequence  $X$  with the following properties: 1)  $X$  fails to be a finite union of sum-free sequences. 2) For every finite subset  $Y$  of  $X$  there exists a sum-free subset  $Z$  of  $Y$  such that  $|Z| \geq (1 + \epsilon)|Y|$ .

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11B75 Combinatorial number theory

05D10 Ramsey theory

00A07 Problem books

05A18 Partitions of sets

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