

On A Certain Version of The Erdos Problem

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A certain version of the Erdos problem is studied. More precisely, it is proved that there does not exist a finite constant c such that each plane set with the outer Lebesgue measure greater than c contains the vertices of a triangle of area 1. It is shown that a sentence "each plane set E with Lebesgue outer measure $+\infty$ contains the vertices of a triangle of area 1" is independent from the theory (ZF)&(DC). The Erdos problem is studied for the shy-measure in an infinite-dimensional separable Banach space and it is established that any number from the interval $[0,1[$ is Erdos constant for such a measure. It is constructed an example of a thick (in the sense of shyness) subset of l_2 which does not contain vertices of a triangle of area 1.