**An additive energy bound for Ahlfors-regular sets**

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The sum-product theorem states that given a finite set X of real numbers, either the sum set X+X or the product set X.X must have large cardinality. There is a "discretized" version of this result, which says that if X is a union of intervals of length delta, then under some mild hypotheses on X, the delta-entropy of either X+X or X.X must be large. If the set X is Ahlfors-regular, then it turns out that X+X must always be large. I will discuss this result and some applications that originally motivated the question.