

## Fourier Quasicrystals

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The classic Poisson's summation formula provides an example of a measure with discrete support and spectrum. Which other measures of this type may exist? The problem has been investigated by J.-P. Kahane - S. Mandelbrot, Y. Meyer, E Bombieri, A. Cordoba and other mathematicians.

A new peak of the interest to the subject appeared in the middle of 80's after the experimental discovery of quasicrystals . It has been conjectured that if both the support and the spectrum of a measure are uniformly discrete then the measure has periodic structure. The conjecture was proved recently in our joint work with Nir Lev.

I will present a necessary background and discuss this and related results.