APPLICATIONS OF QUASICRYSTALS IN HARMONIC ANALYSIS

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Abstract: Quasicrystals are non-periodic structures discovered by Shechtman in 1984, while he was studying materials whose X-ray diffractions spectra present such non-periodic behaviors (see [7]).

Nowadays, one of the best mathematical ways to model quasicrystals are the so called *model sets* introduced by Meyer in [6] many years before the discovery of Shechtman. The aim of Meyer was to study approximation of algebraic characters by continuous ones in locally compact abelian groups (see also [3]).

Recently, important applications of quasicrystals to Fourier Analysis have been found (see [5], [2], [4]). In this talk we will discuss some of these applications, making focus in those related with problems of sampling and interpolation in Paley Wiener spaces.

References

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