Title:	Quasicrystals and Poisson summation formula
Authors:	Sitiraju, Iswarya (/jspui/browse?type=author&value=Sitiraju%2C+Iswarya)
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Abstract:	We say that a set Λ Ă R n holds a Poisson summation formula in terms of tempered distribution if it supports a measure μ which is a tempered distribution p is also a measure. such that its Fourier transform μ The aim of my thesis is to understand whether a Poisson summation formula can hold for any uniformly discrete subsets of R n . If it holds for a set then what will be its characterization. We will see that for the lattice Z n , a Poisson summation formula holds. Naturally, we can ask whether there are other uniformly discrete sets for which it holds. Initially, Cordoba has investigated this case with some control conditions on Dirac masses. The result was later generalized by Nir Lev and Olevskii recently in 2014. We begin this report with an introduction on tempered distributions and defining some operations on tempered distributions. We will also explain the well known identity, the Poisson summation formula which holds for a suitable class of functions. Then, we will state and prove Cordoba's first, second result and Nir Lev and Olevskii's result. One of the key concept used in the proof of Nir Lev and Olevskii' result is 'Meyer sets'. Meyer sets was discovered by Yves Meyer in 1970's. It has applica- tions in Number theory also. We will also explain and understand these sets.
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