

Entropy in the context of aperiodic order

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In this talk we study different notions of entropy for Delone sets. For Delone sets of finite local complexity (FLC) in the euclidean space it is well known that the patch counting entropy equals the topological entropy of an associated shift system. It was suggested by J. Lagarias for FLC Delone sets in the euclidean space that the patch counting entropy can always be computed as a limit. We present how the correspondence between the topological and the patch counting entropy can be used in order to show that the limit in the patch counting entropy formula indeed exists for compactly generated LCA groups. We will also discuss that a similar result does not hold for general LCA groups, an interesting breakdown of the usual subadditivity techniques. We will furthermore investigate the patch counting entropy of FLC Delone sets with pure point diffraction.