

# DIFFRACTION AND MAHLER MEASURES

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Using a renormalisation approach for pair correlation functions (which provide a decomposition for the usual autocorrelation of a generic tiling arising from a primitive inflation rule), one can examine the spectral type of components of the diffraction measure via Lyapunov exponents. This talk delves into the connection of these exponents to Mahler measures of polynomials with integer coefficients. In particular, relevant properties of these Mahler measures which allow us to rule out the presence of absolutely continuous spectrum will be pointed out, as well as some related open questions in number theory.