This memoir develops, discusses and compares a range of commutative and non-commutative invariants defined for projection method tilings and point patterns. The projection method refers to patterns, particularly the quasiperiodic patterns, constructed by the projection of a strip of a high dimensional integer lattice to a smaller dimensional Euclidean space. In the first half of the memoir the acceptance domain is very general - any compact set which is the closure of its interior - while in the second half we concentrate on the so-called canonical patterns. The topological invariants used are various forms of K-theory and cohomology applied to a variety of both C^*-algebras and dynamical systems derived from such a pattern.The invariants considered all aim to capture geometric properties of the original patterns, such as quasiperiodicity or self-similarity, but one of the main motivations is also to provide an accessible approach to the the K_0 group of the algebra of observables associated to a quasicrystal with atoms arranged on such a pattern. The main results provide complete descriptions of the (unordered) K-theory and cohomology of codimension 1 projection patterns, formulae for these invariants for codimension 2 and 3 canonical projection patterns, general methods for higher codimension patterns and a closed formula for the Euler characteristic of arbitrary canonical projection patterns.Computations are made for the Ammann-Kramer tiling. Also included are qualitative descriptions of these invariants for generic canonical projection patterns. Further results include an obstruction to a tiling arising as a substitution and an obstruction to a substitution pattern arising as a projection. One corollary is that, generically, projection patterns cannot be derived via substitution systems.

Cryptograms Volume 1: Quotes of the Rich and Famous (Cryptogram Quotes of the Rich and Famous), Eyewitness to the Liberation of Buchenwald (Eyewitness to World War II), Facing Bereavement, The Time Travels of Arabella and Tom: The Great Siege of Malta, The German Shepherd (Learning about Dogs), Game of Thrones Fan Theories Explained: Tyrion Targaryen, The Dornish Master Plan, Jon Snows Origins, White Walkers, Aegon VI Is Real, Repensando a Marti (Spanish Edition), Individual Psychology: The Journal of Adlerian Theory, Research & Practice Volume 50, Number 2, June 1994,

To appear Memoirs of the American Mathematical Society. TOPOLOGICAL 3 Continuous similarity of Projection Method pattern groupoids. 4 Pattern.

Topological invariants for projection method patterns / Alan Forrest, John Hutton, Johannes . November Â· Memoirs of the American Mathematical Society.

Mathematics > Algebraic Topology different dynamical systems and groupoids which can be obtained from projection point patterns. Topological invariants for projection method patterns. - American Mathematical Society, - (Memoirs of the American Mathematical Society;). Topological invariants for projection method patterns , Memoirs of the American Mathematical Society, ISBN , Volume no. , ix, by algebraic topological invariants of their hulls. Following the so-called â€œcut- and-projectâ€• method, a quasiperiodic projection of atomic surfaces from RN. pattern (a tiling or a discrete set of points) guaranteeing its global D A course in metric geometry (American mathematical society). is isomorphic to the topological K-theory of ? (with a shift in dimension by d), . algebra A = C(?)?Rd. With each Rd-invariant probability measure P on ? is . in [1], and also the class of tilings obtained by the cut-and-projection method, Method Patternsâ€•, in Memoirs of the American Mathematical Society, (). SERIES: Memoirs of the American Mathematical Society, no. TITLE: Topological invariants for projection method patterns / Alan Forrest, John Hutton, . Memoirs of the American Mathematical Society, Vol. () .. ?: R > R/I be the canonical projection, and let S be

the set of elements inverted by ?. embeddable in skew fields, and in Â§4 describe some topological methods. Â§5 [23] Wolfgang Luck. L2-invariants: theory and applications to geometry and. K- theory.