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Marius V Ionescu* (Marius.Ionescu@dartmouth.edu), 6188 Bradley Hall, Dartmouth College, Hanover, NH 03755-3551. *C*-Algebras associated with Mauldin-Williams Graphs.*

In recent years many classes of C^* -algebras have been shown to fit into the Pimsner construction of what are known now as Cuntz-Pimsner algebras. His construction is based on a so-called C^* -correspondence over a C^* -algebra.

A Mauldin-Williams graph is a (contravariant) representation of a finite directed graph by compact metric spaces and proper contractions. We define a C^* -correspondence putting emphasis on the singular points of the Mauldin-Williams graph. We associate a C^* -algebra $\mathcal{O}_{\mathcal{M}}(K)$ with a Mauldin-Williams graph \mathcal{M} and its invariant set K as the Cuntz-Pimsner algebra of this C^* -correspondence. We show that the associated C^* -algebra $\mathcal{O}_{\mathcal{M}}(K)$ is not isomorphic to the Cuntz-Krieger algebra \mathcal{O}_G for the underlying graph G in general. If \mathcal{M} satisfies the open set condition in K and G is irreducible and is not a cyclic permutation, then the associated C^* -algebra $\mathcal{O}_{\mathcal{M}}(K)$ is simple and purely infinite. We calculate the K-groups for some examples including the inflation rule of the Penrose tilings.

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