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On C*-Algebras from Interval Maps

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Abstract Given a unimodal interval map f, we construct partial isometries acting on Hilbert spaces associated to the orbit of each point. Then we prove that such partial isometries give rise to representations of a C*-algebra associated to the subshift encoding the kneading sequence of the critical point. This construction has the advantage of incorporating maps with a non necessarily Markov partition (e.g. Fibonacci unimodal map). If we are indeed in the presence of a finite Markov partition, then we prove that these new representations coincide with the (previously considered by the authors) representations arising from the Cuntz–Krieger algebra of the underlying (finite) transition matrix.

Keywords Interval maps · Symbolic dynamics · Cuntz–Krieger algebras · Subshifts · Representations of algebras

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