

# 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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