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## $\begin{array}{c} {\bf BAUMSLAG-SOLITAR} \ \ {\bf GROUP} \ \ C^*\text{-}{\bf ALGEBRAS} \ \ {\bf FROM} \\ {\bf INTERVAL} \ \ {\bf MAPS} \end{array}$

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ABSTRACT. We yield operators U and V on Hilbert spaces that are parameterized by the orbits of certain interval maps that exhibit chaotic behavior and obey the (deformed) Baumslag–Solitar relation

$$UV = e^{2\pi i\alpha}VU^n$$
,  $\alpha \in \mathbb{R}$ ,  $n \in \mathbb{N}$ .

We then prove that the scalar  $e^{2\pi i\alpha}$  can be removed whilst retaining the isomorphism class of the  $C^*$ -algebra generated by U and V. Finally, we simultaneously unitarize U and V by gluing pairs of orbits of the underlying noninvertible dynamical system and investigate these unitary representations under distinct pairs of orbits.

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