Characterizing Unimodal Maps with Embedded Adding Machines

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Abstract

We define a constructive characterization of kneading sequences that belong to unimodal maps with embedded adding machines. The characterization uses the concept of a $\{0,1\}$ -regular scheme, which can be used to generate all kneading sequences of unimodal maps for which the turning point is regularly recurrent, and then adds an extra condition guaranteeing the existence of the embedded adding machine. Through several examples, we then make connections between our construction and substitution shifts. We introduce the idea of a *substitutive structure* for kneading sequences and discuss some current results on these structures.