CAFE-Dyn
Workshop in Complexity, Aperiodicity, Fractal and Ergodicity in Dynamics
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Spectrum of Stochastic Adding Machines and Julia Sets

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A stochastic adding machine is a Markov chain on the set of non-negative integers $\mathbb{Z}_+$ that models the process of adding one by successively updating the digits of a number in a given numeration system. At each step, random failures may occur, interrupting the procedure and preventing it from continuing beyond a certain point.

In this work, we study a stochastic adding machine associated with a Cantor numeration system. This stochastic process naturally induces a transition operator S and a non-autonomous filled Julia set $\mathcal{E}$, which is shown to coincide with the spectrum of S.

SLIDES

Wednesday - February 11, 2026 - 11:00 - 12:00
253 - Thesis Defense Room - 2nd Floor IMECC