Subshifts with slow forbidden word growth

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 - Examples 1,2 are SFTs, Example 3 is not

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• Such μ called measure of maximal entropy/MME

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• Example 2: $X = \{0,1\}^{\mathbb{Z}} \cup \{2,3\}^{\mathbb{Z}}$ (non-transitive) has multiple MMEs, one supported on $\{0,1\}^{\mathbb{Z}}$ and one on $\{2,3\}^{\mathbb{Z}}$

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- We'll take a different approach here

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- It can't approach 0, but 'slow growth' with *n* may be enough

Nearness to full shift

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- Idea was to use such hypothesis to prove unique MME

• Theorem: (P.) $\sum_{n=1}^{\infty} n^2 F_n (3/|A|)^{n/3} < \frac{1}{36} \Rightarrow X$ has unique MME μ with the K-property.

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- But in such X, 0^{∞} is always isolated point; $[0^m] = \{0^{\infty}\}$

- Theorem: (P.) $\sum_{n=1}^{\infty} n^2 F_n (3/|A|)^{n/3} < \frac{1}{36} \Rightarrow X$ has unique MME μ with the K-property.
- This condition controls both tail behavior (F_n can't grow faster than $(|A|/3)^{n/3}$) and small *n* behavior (sum has explicit bound)
- Note: this doesn't imply any transitivity/mixing/specification on X
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- Clearly will satisfy hypotheses if k is large
- But in such X, 0^{∞} is always isolated point; $[0^m] = \{0^{\infty}\}$
- Shows that unique MME not always fully supported $(\mu([0^m]) = 0)$

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 Then sum is ∑[∞] n²k(3/k)^{n/3}, small enough when M large
- *n*=M
 In fact, we can also apply our results to some of the much more complicated α-β shifts (coding x → α + βx (mod 1))

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 - Often unique MME is limit of some sort of average over periodic points; this shift has none!

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- We prove more generally that these hypotheses imply uniqueness of MME/K-property
 - Proof works even if G only has specification, i.e. can have gap of length R indep. of v, w

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- X bounded supermultiplicative: technical argument based on Miller's

Thanks for listening!

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