

# Chaos in the forced pendulum—an easy case of Lagrangian Coherent Structures

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C A L T E C H  
Control & Dynamical Systems



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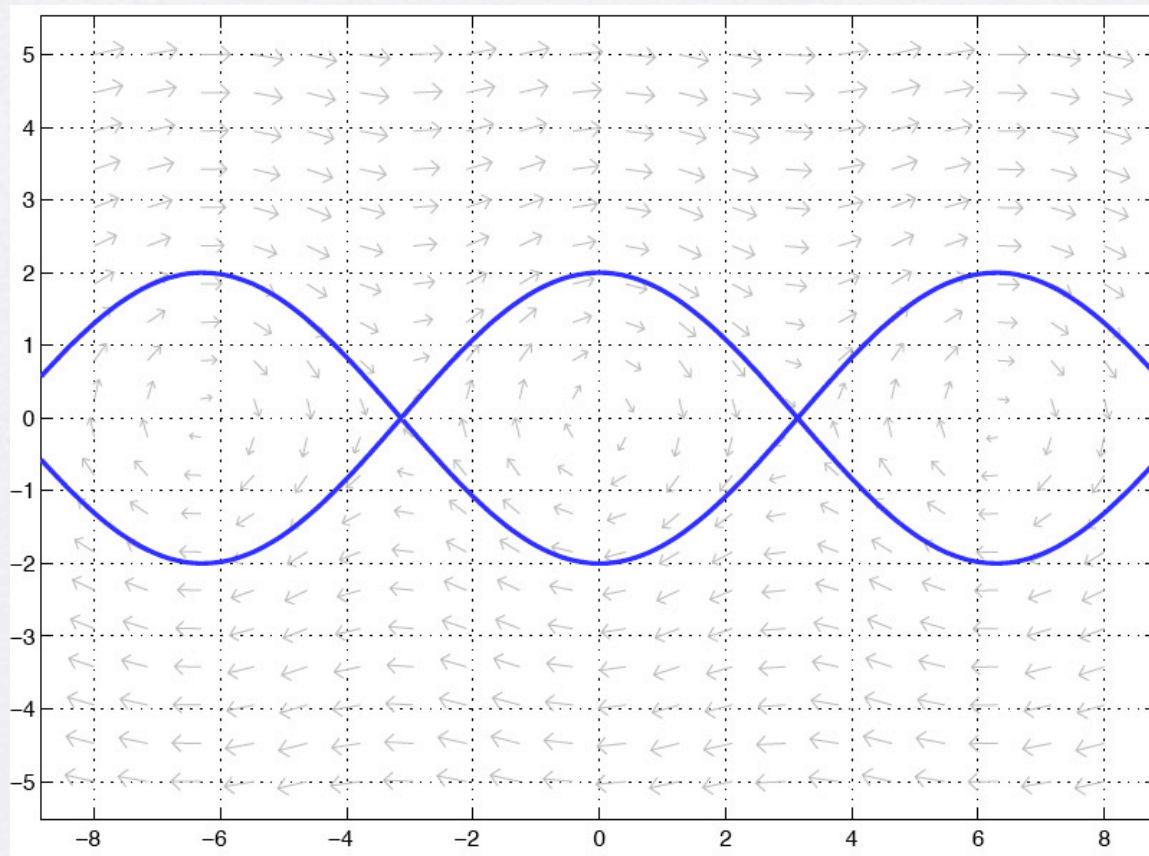
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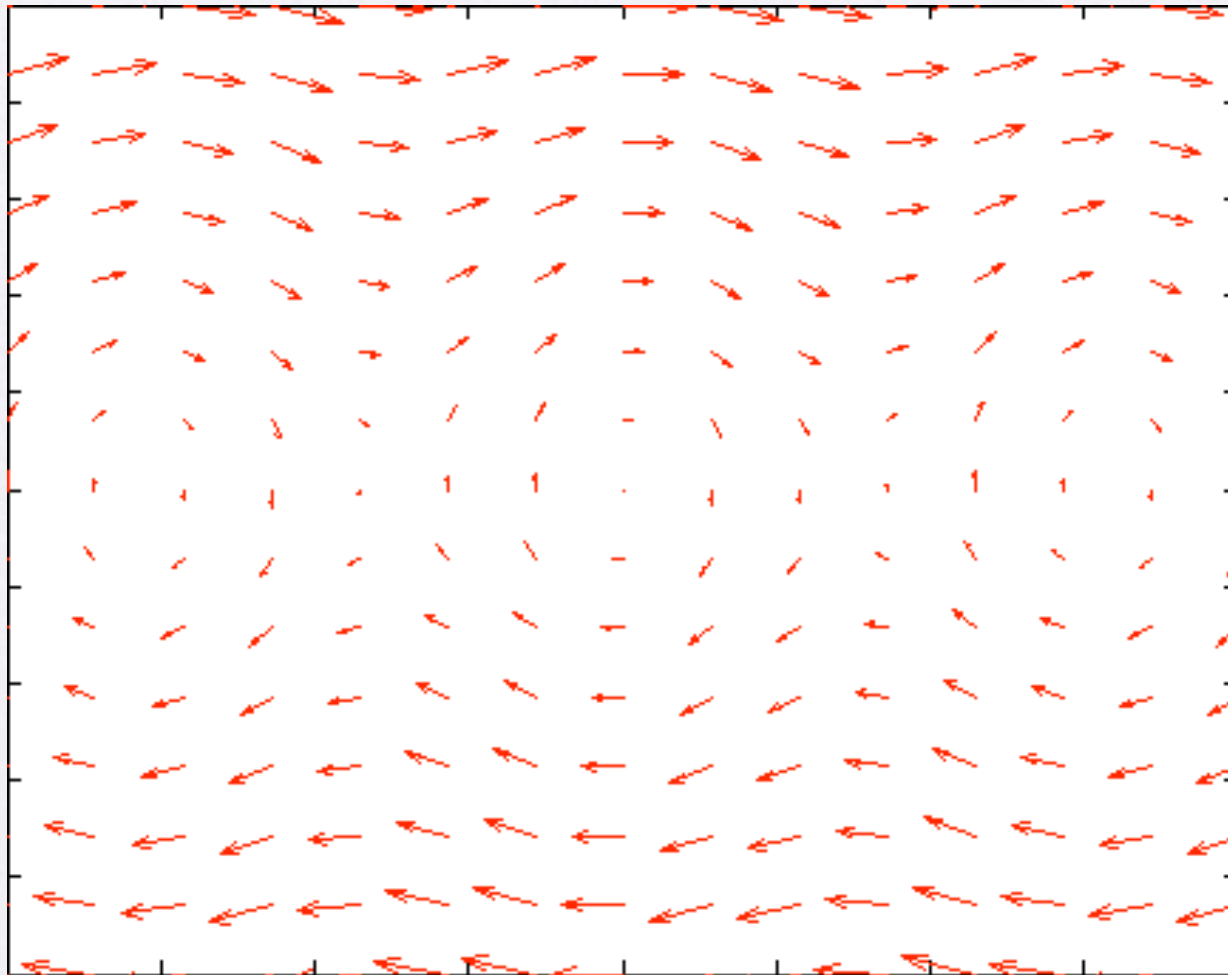


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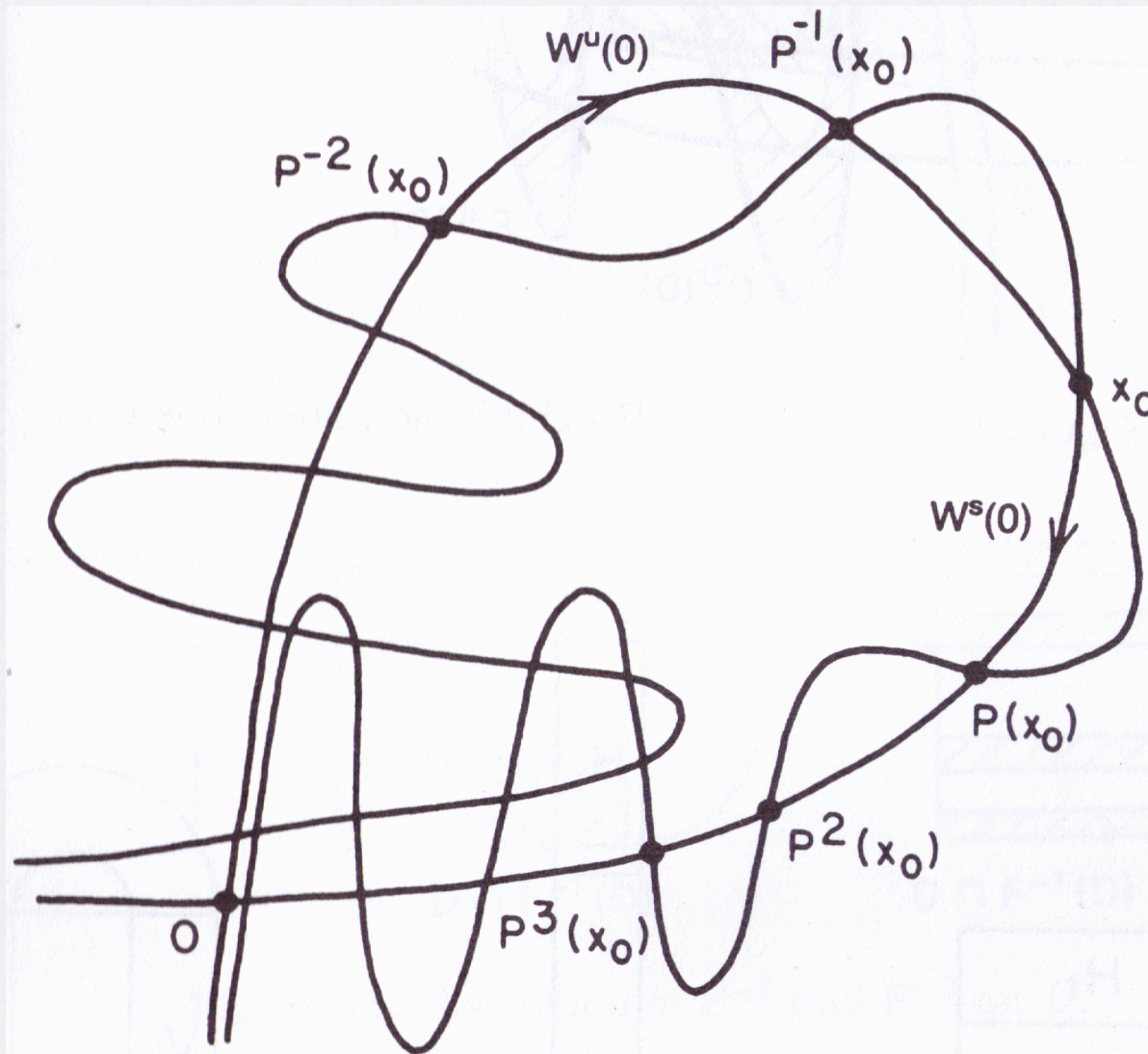


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- First, a bit more about the tangle



# Smale Horseshoe

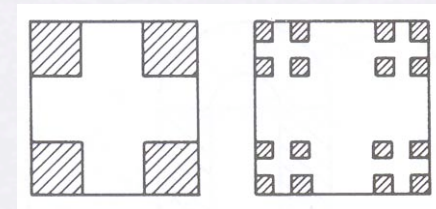
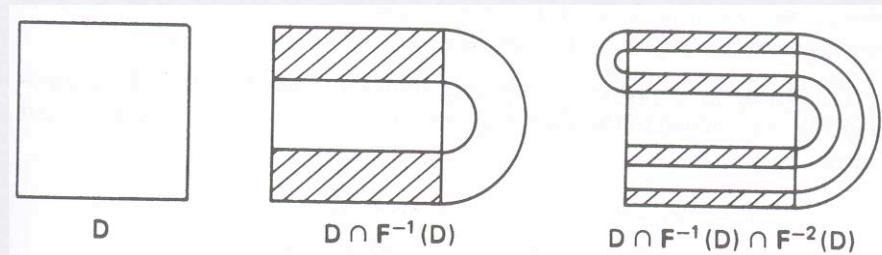
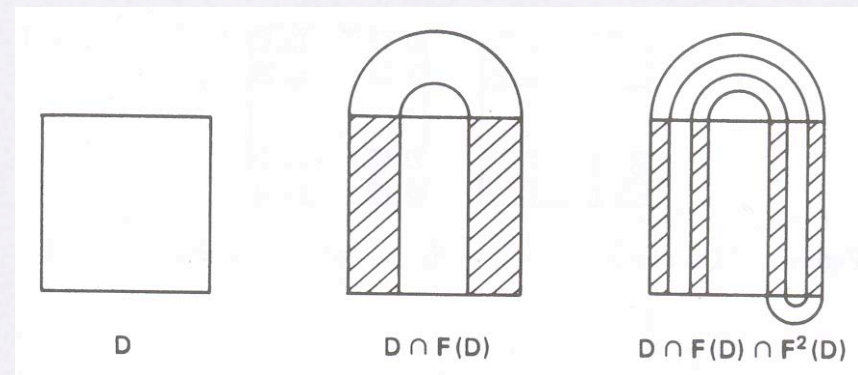
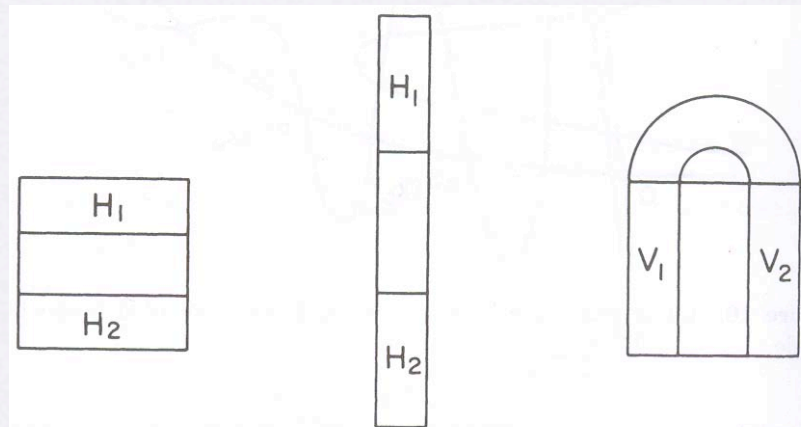
# Smale Horseshoe

- Smale abstracted what was going on in the tangle



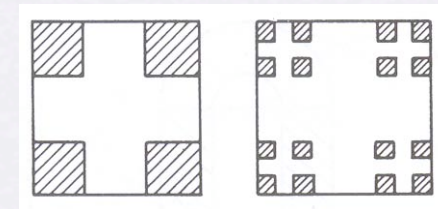
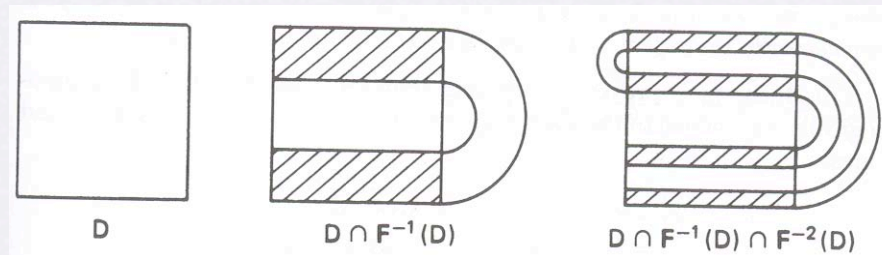
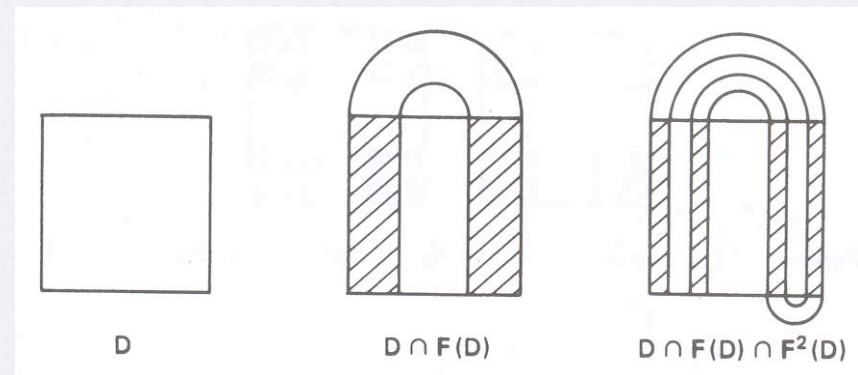
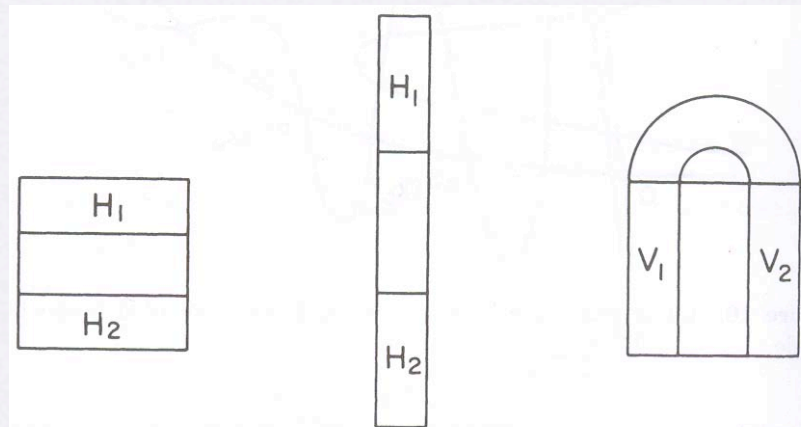
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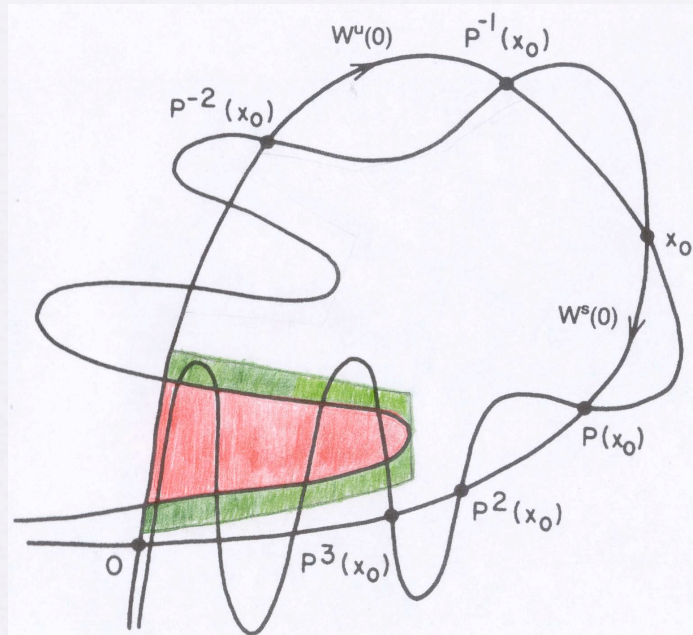


- Proved lots of nice things—eg, an invariant Cantor set.



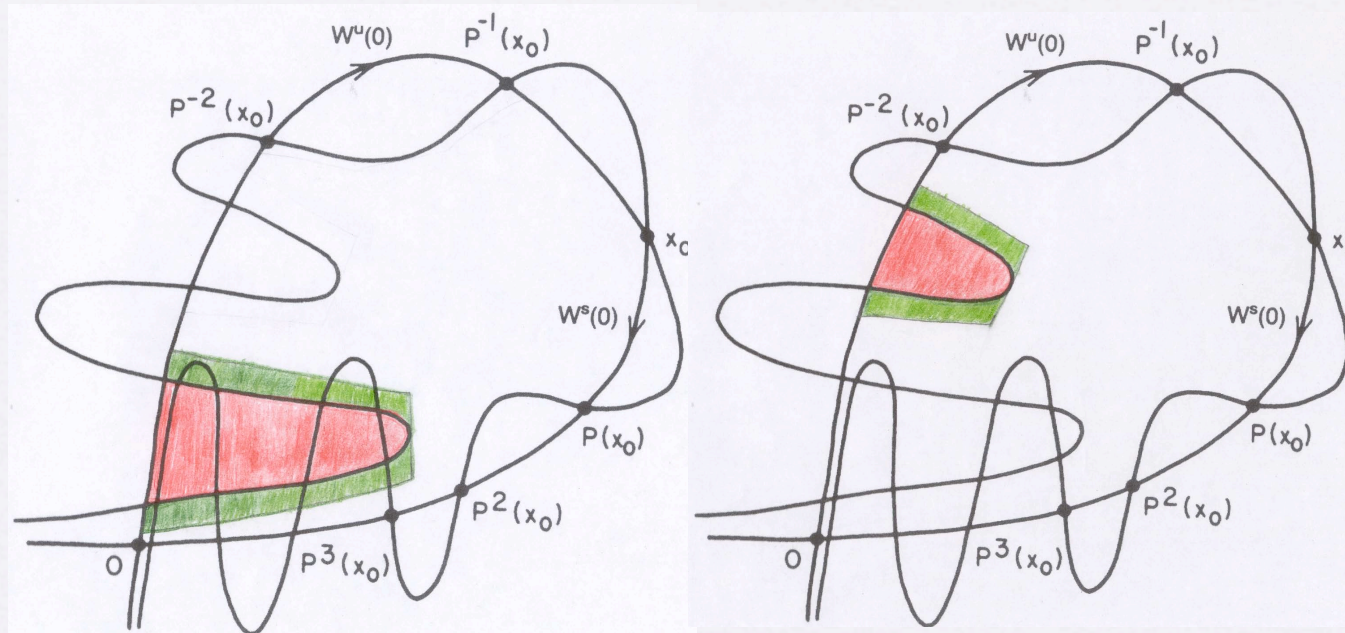
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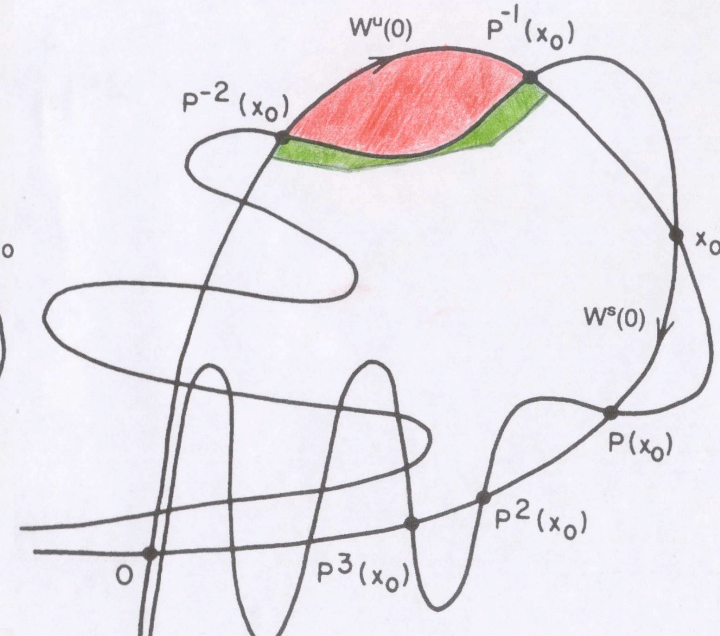
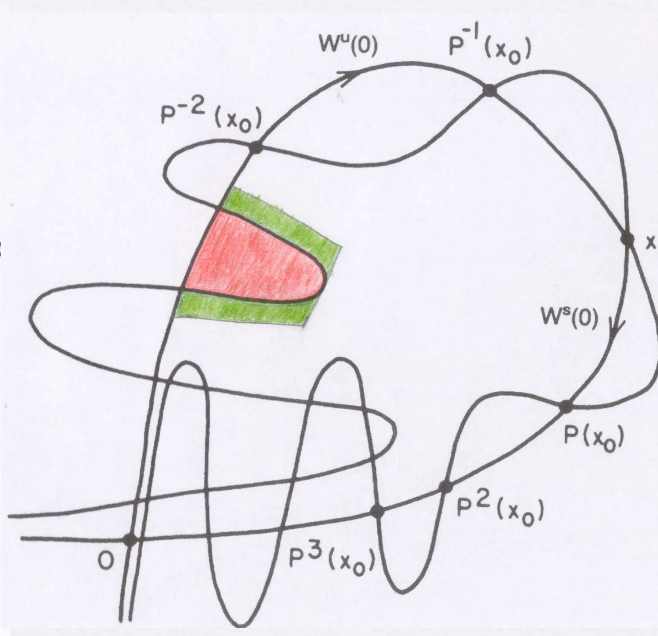
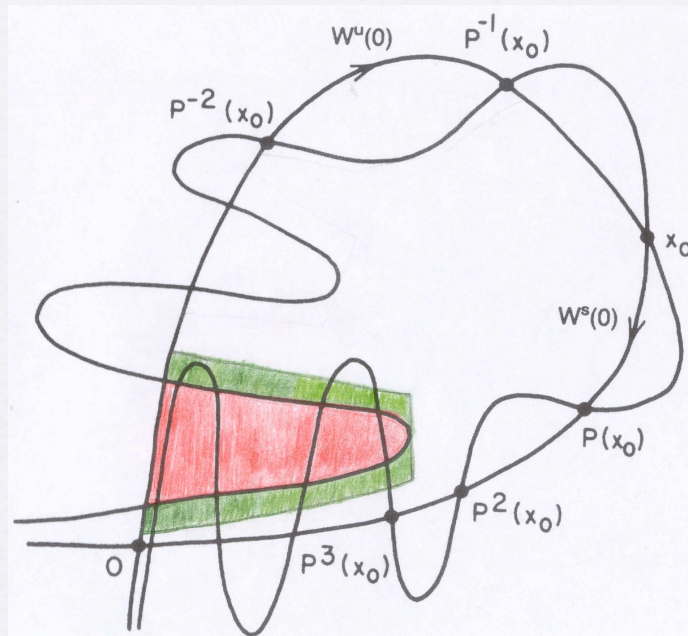




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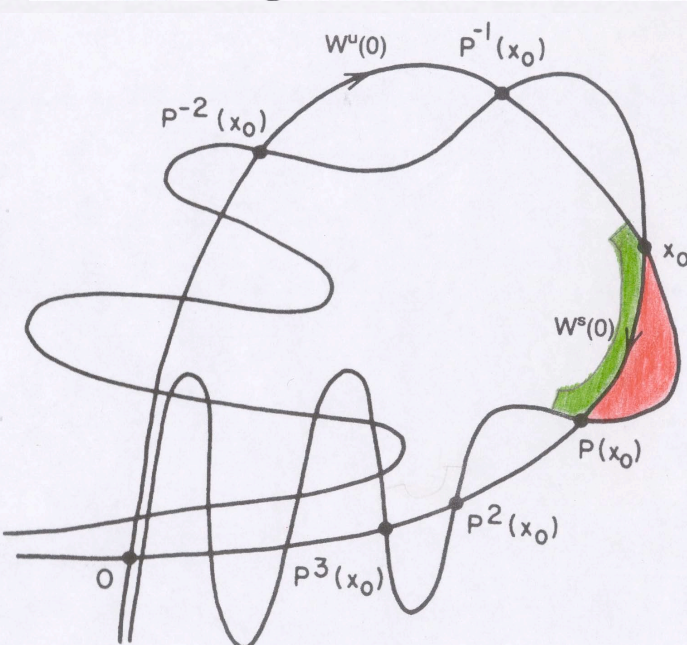
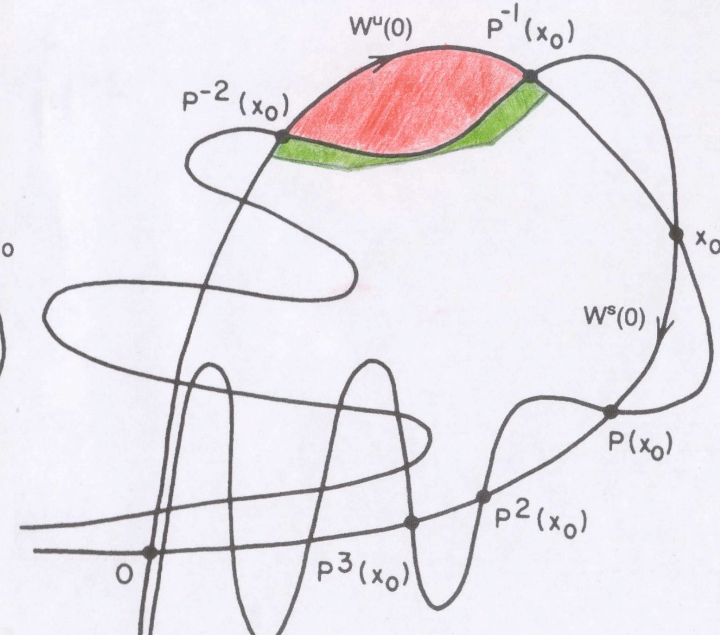
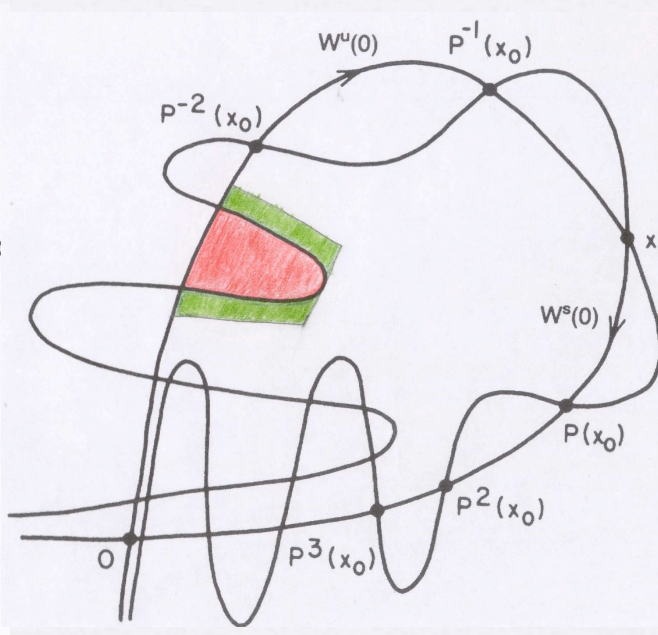
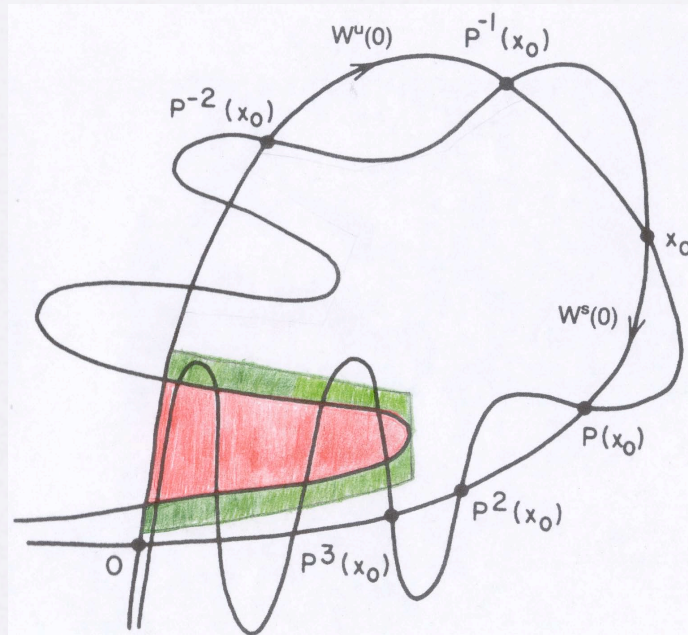


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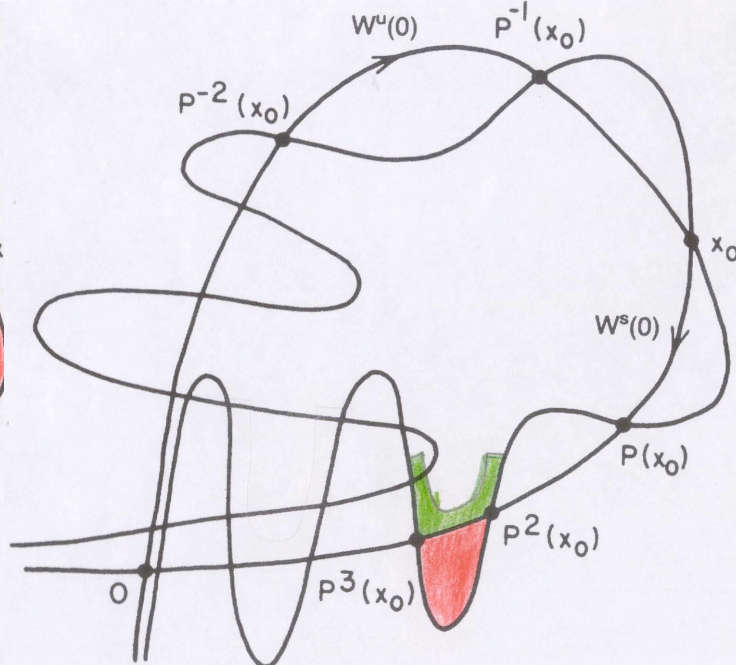
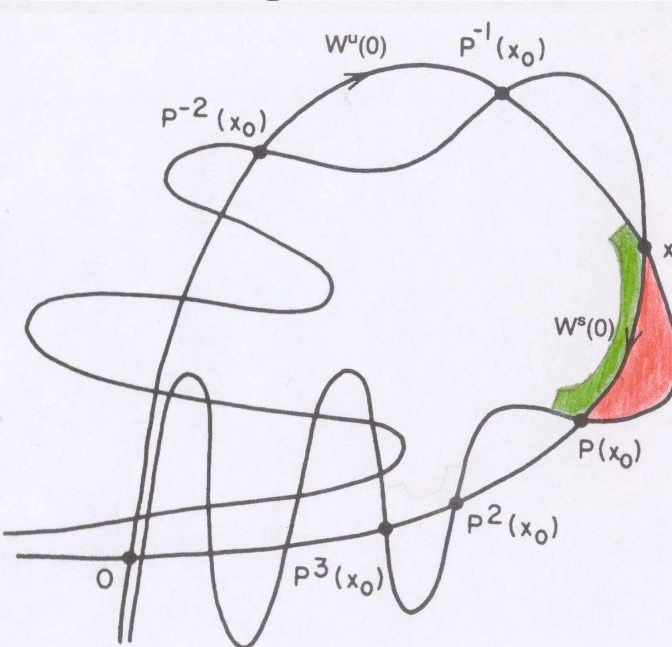
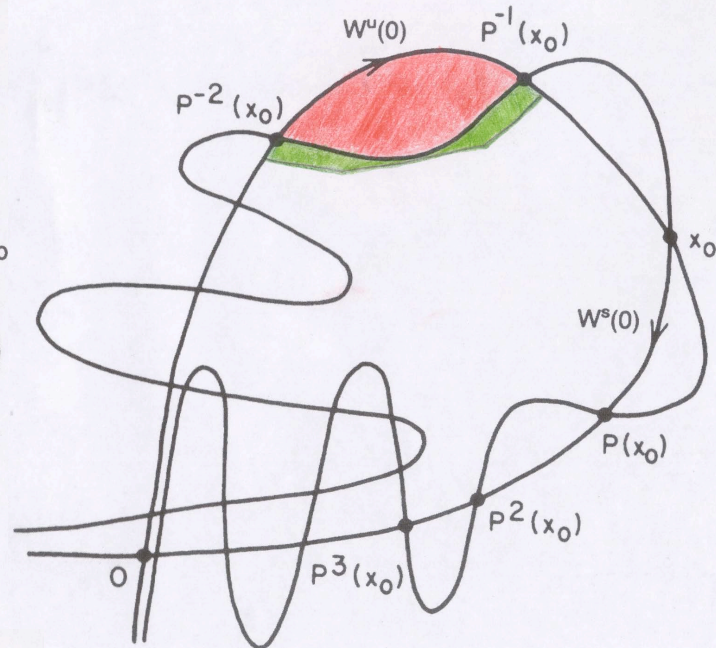
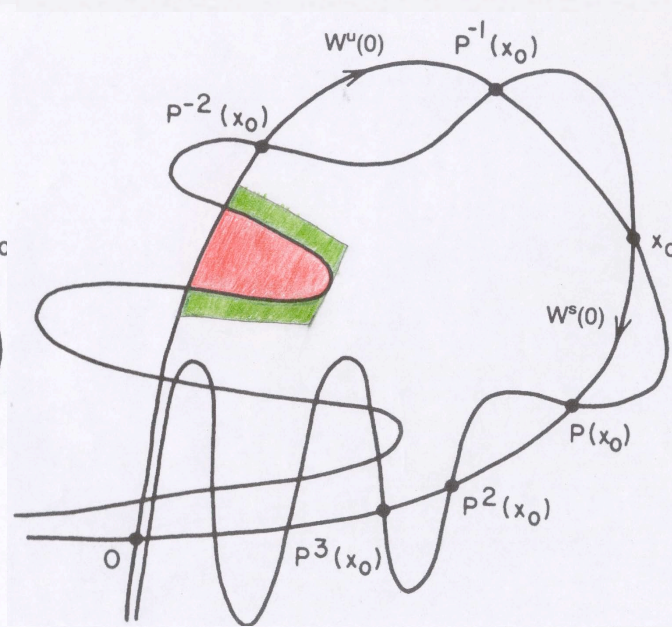
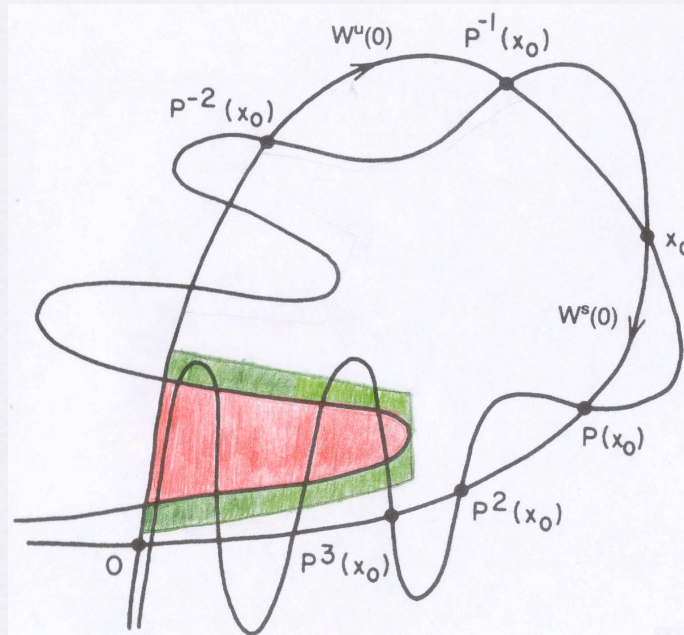


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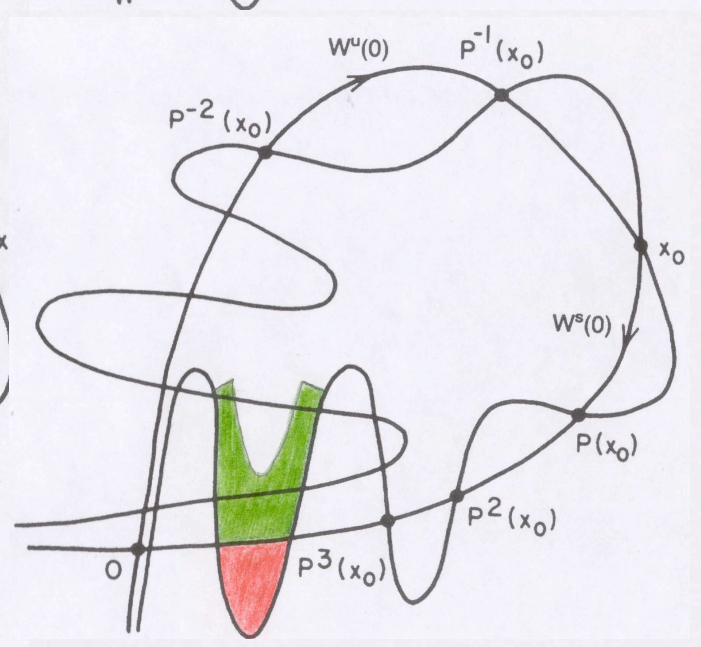
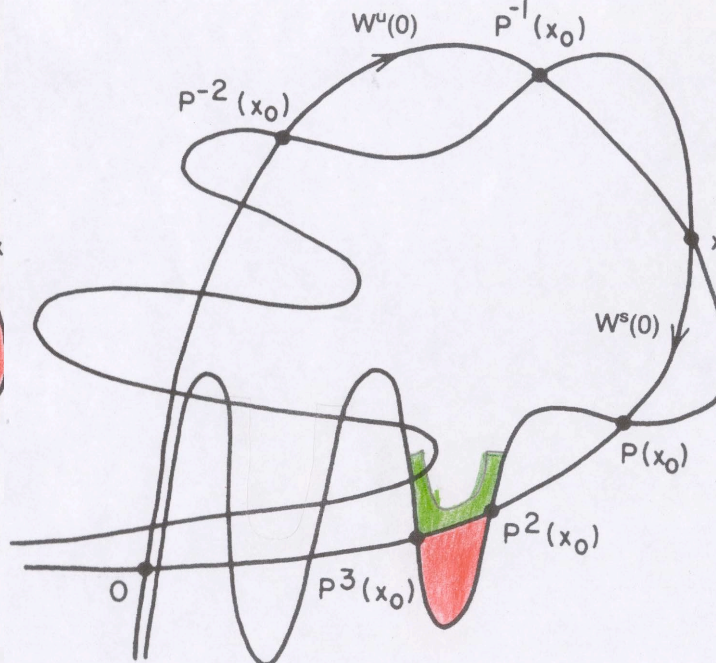
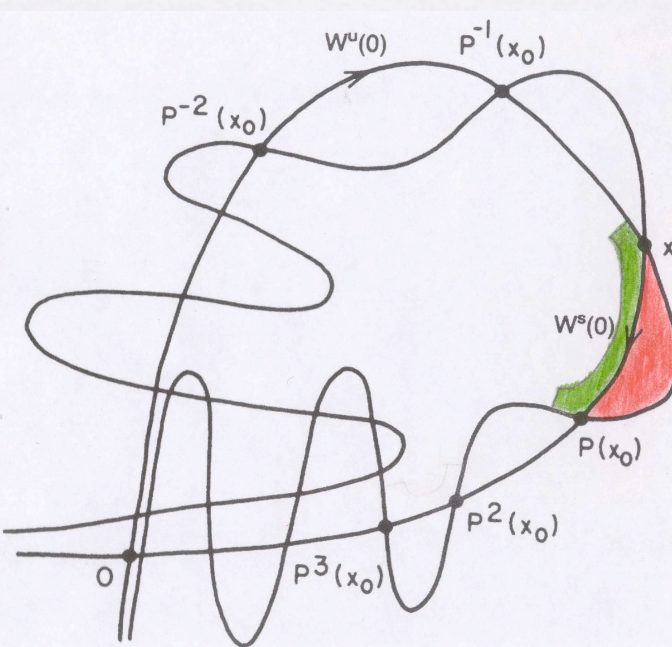
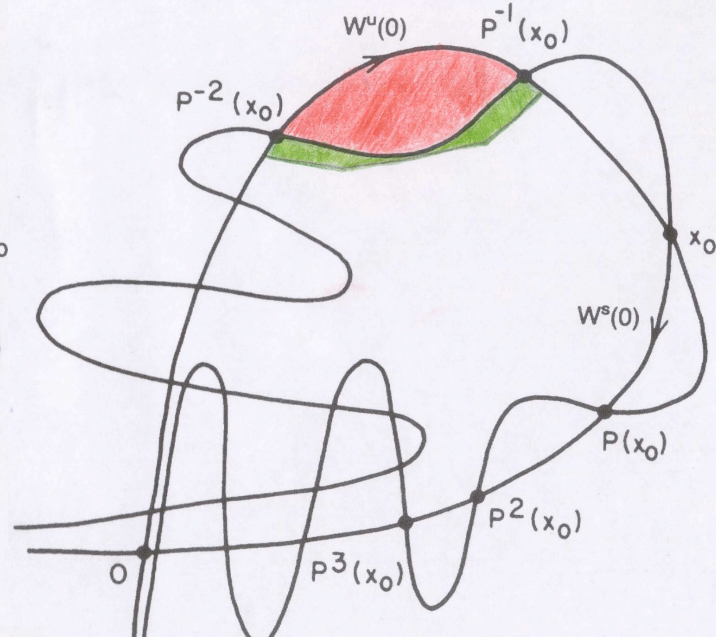
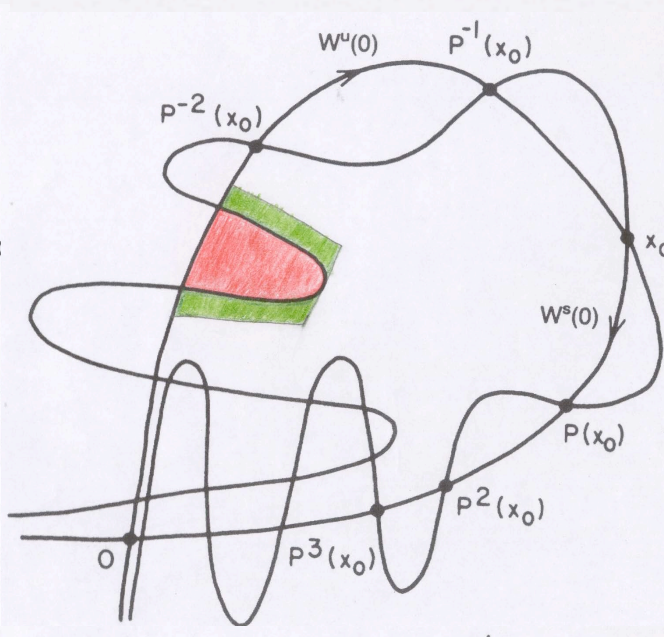
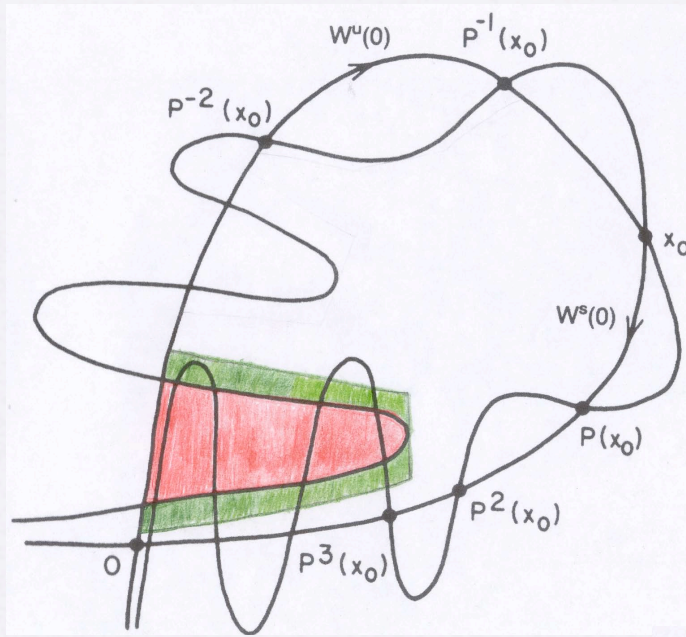


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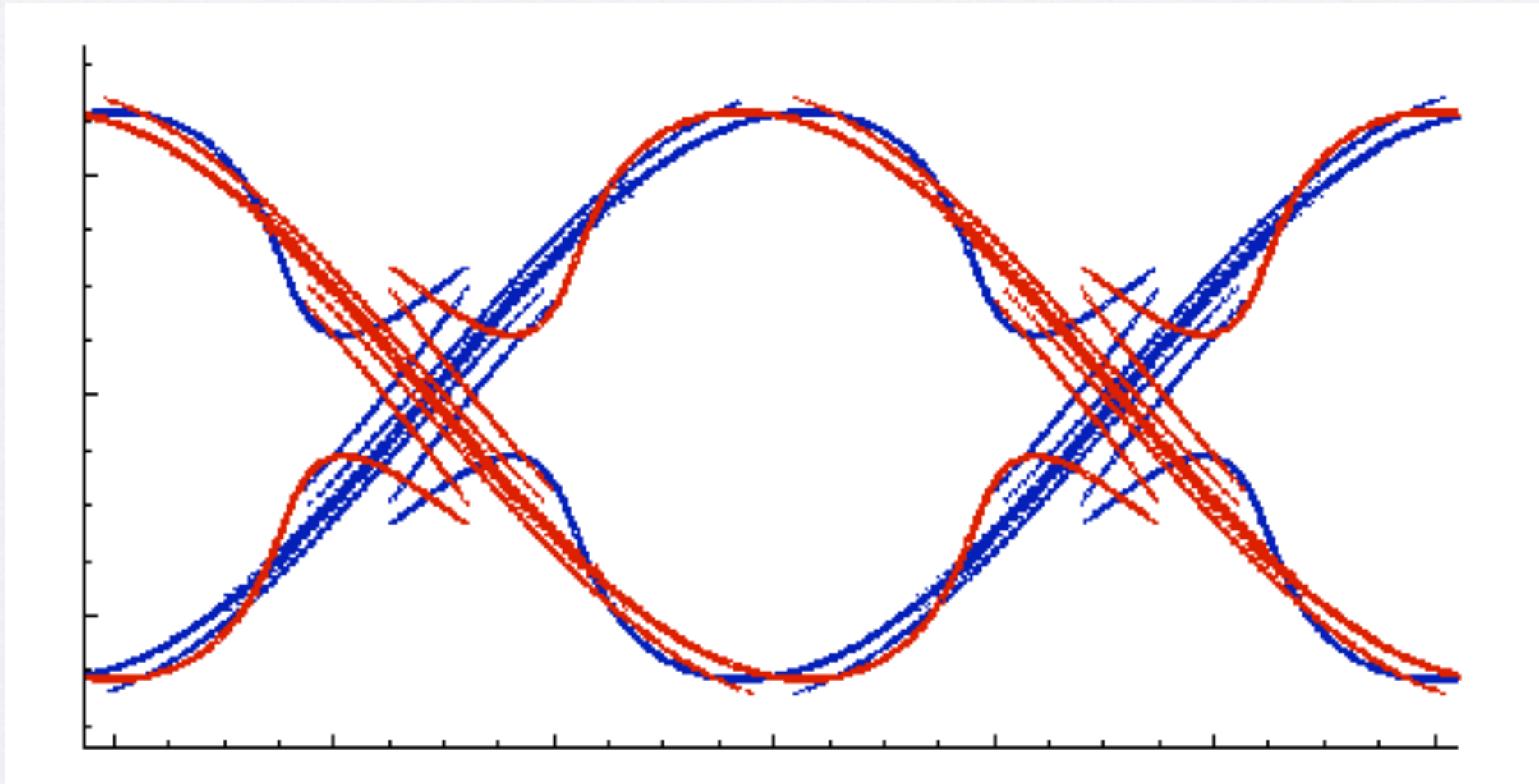
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# Look at lobes, mixing, dynamically

