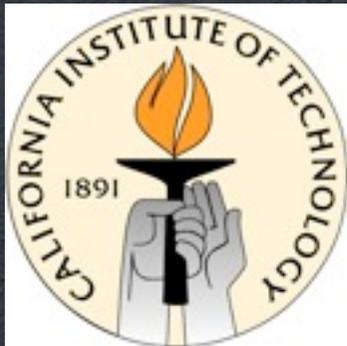


Chaos in the forced pendulum—an easy case of Lagrangian Coherent Structures

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CDS, Caltech

C A L T E C H
Control & Dynamical Systems



March 15, 2007



Invariant Manifolds: Standard View

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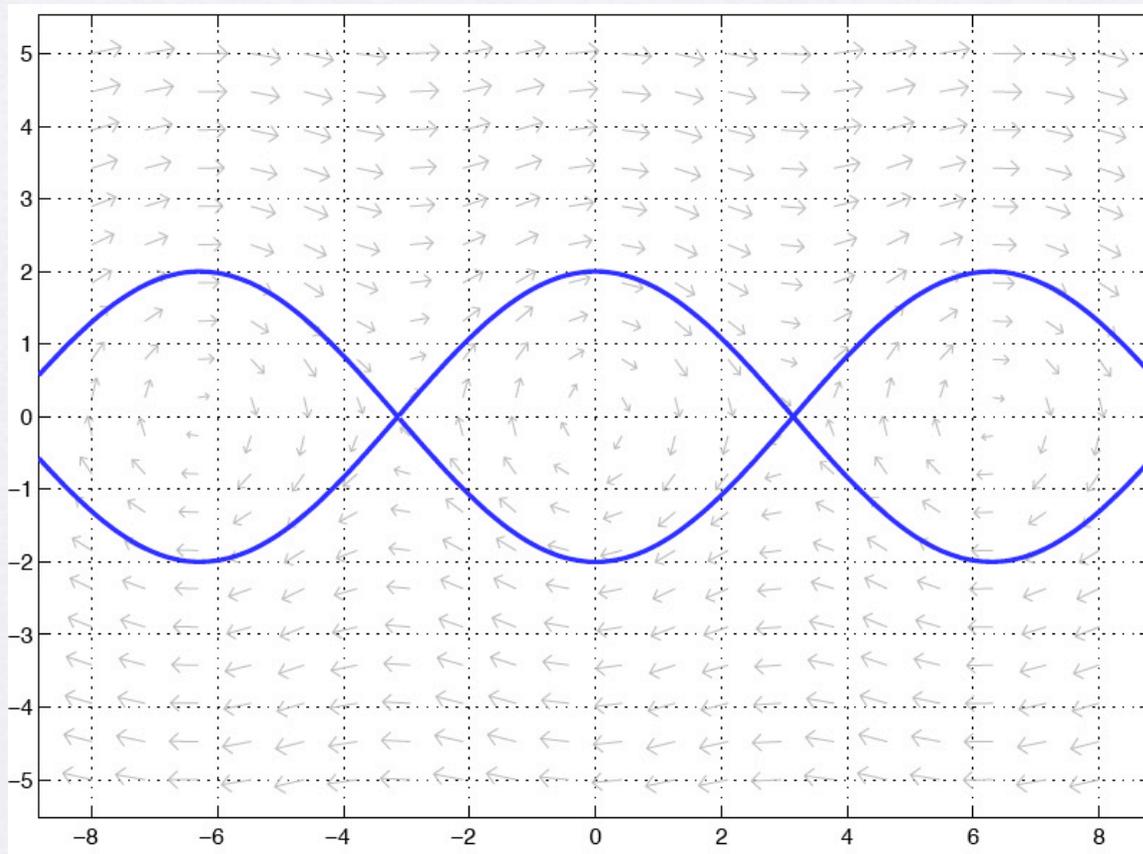
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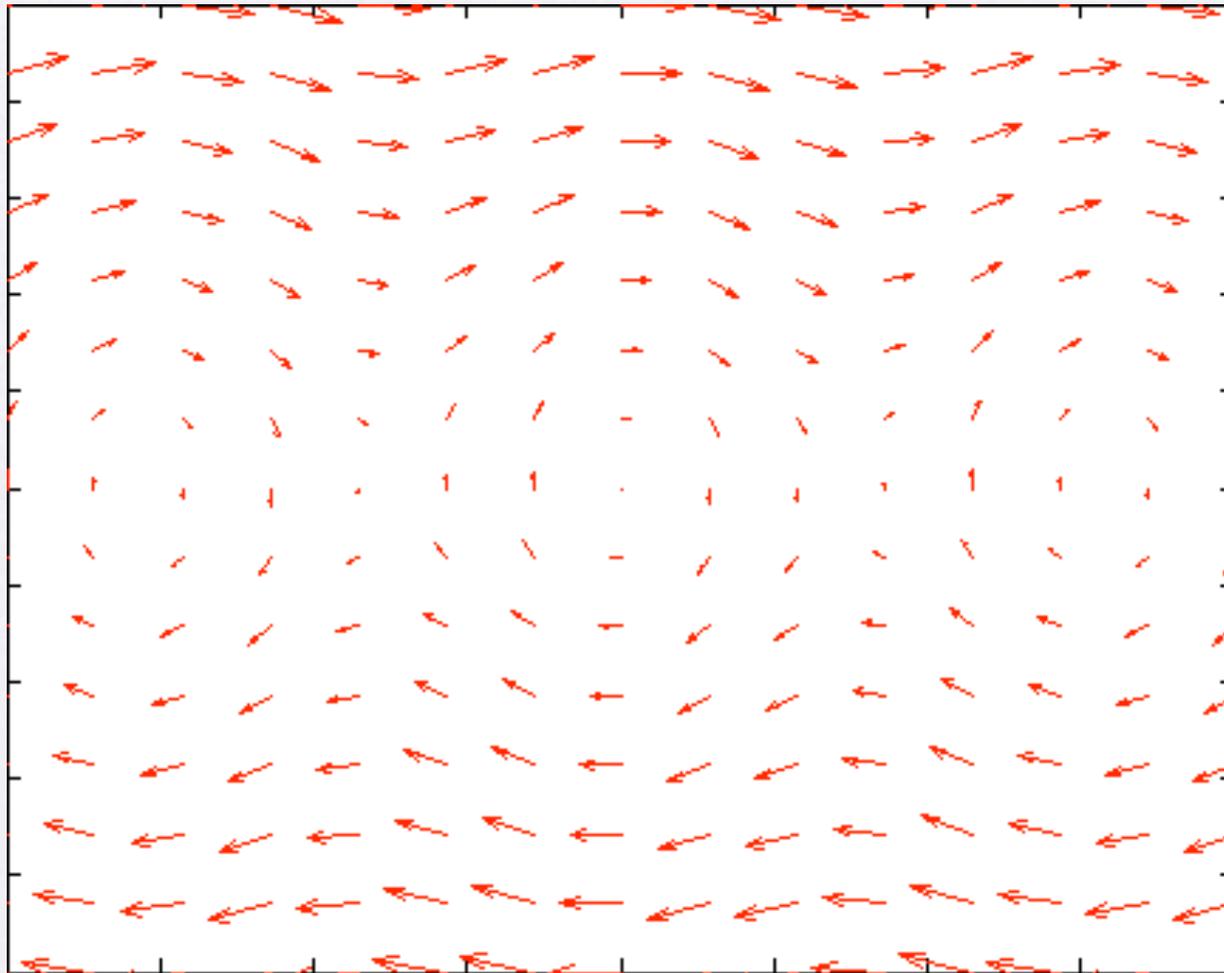
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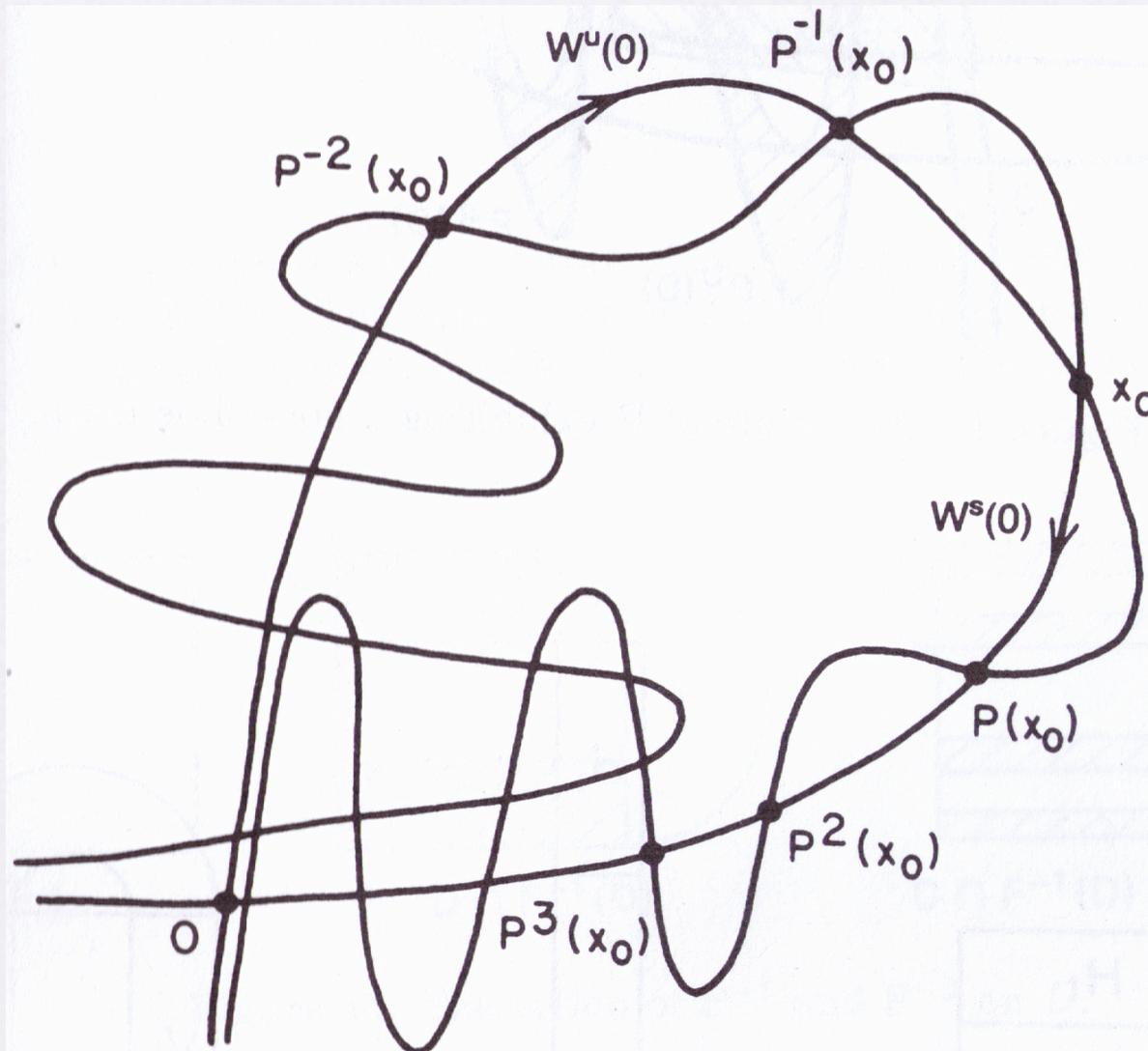
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- First, a bit more about the tangle

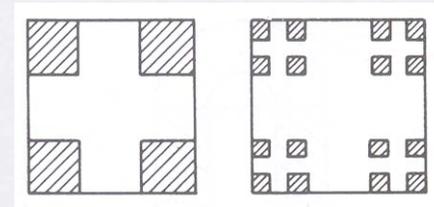
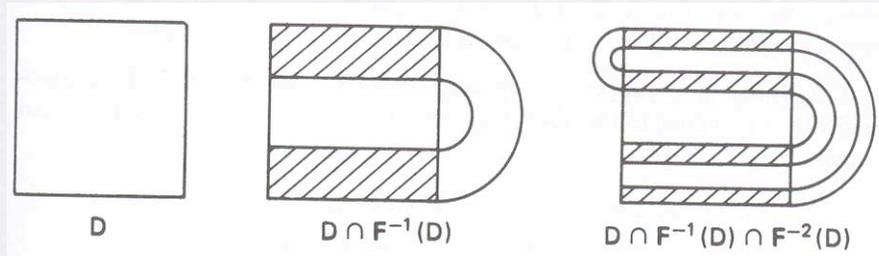
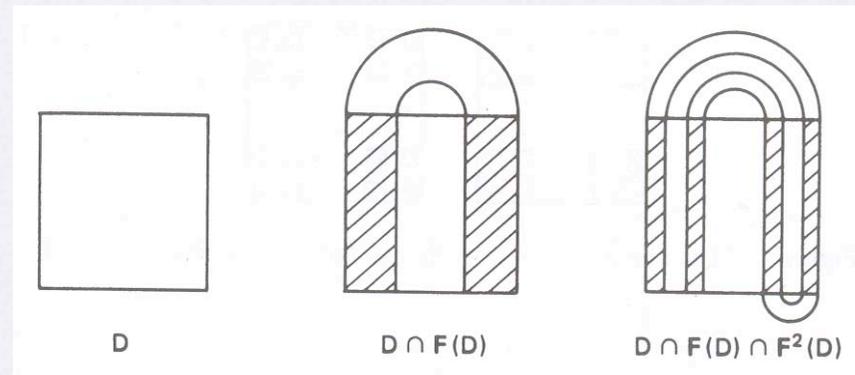
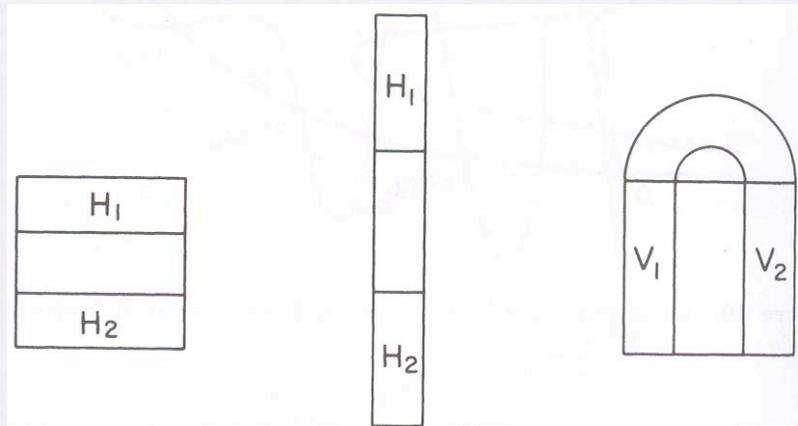
Smale Horseshoe

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- Smale abstracted what was going on in the tangle

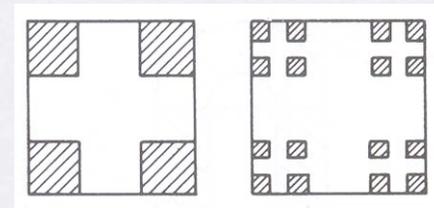
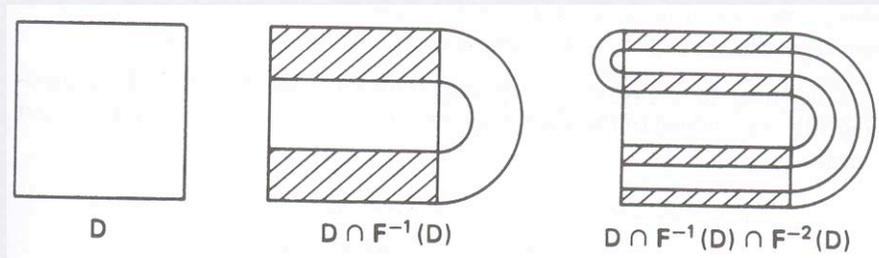
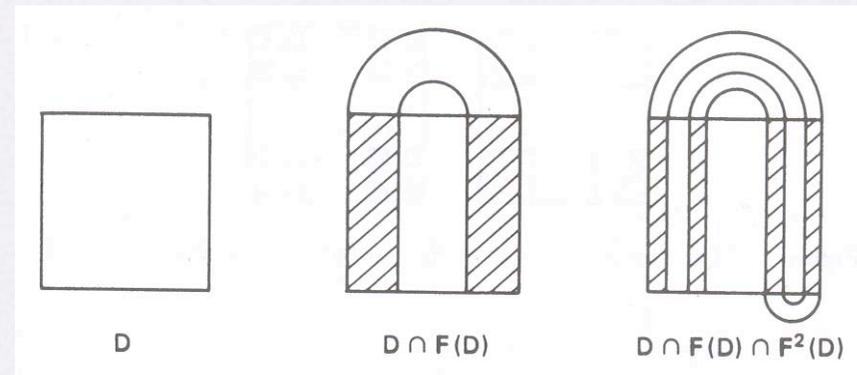
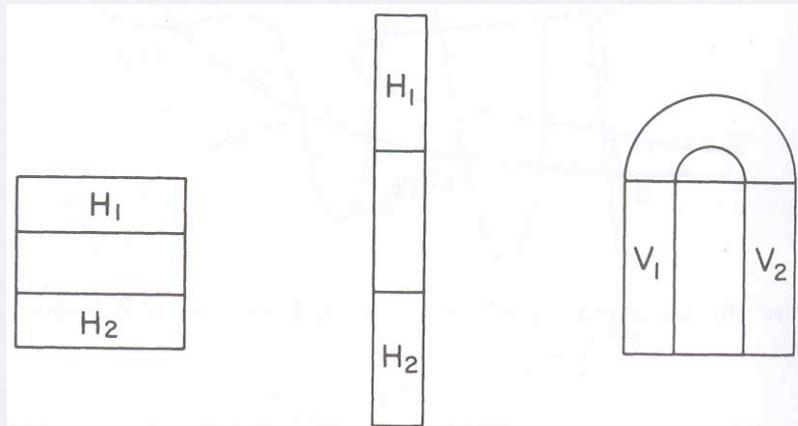
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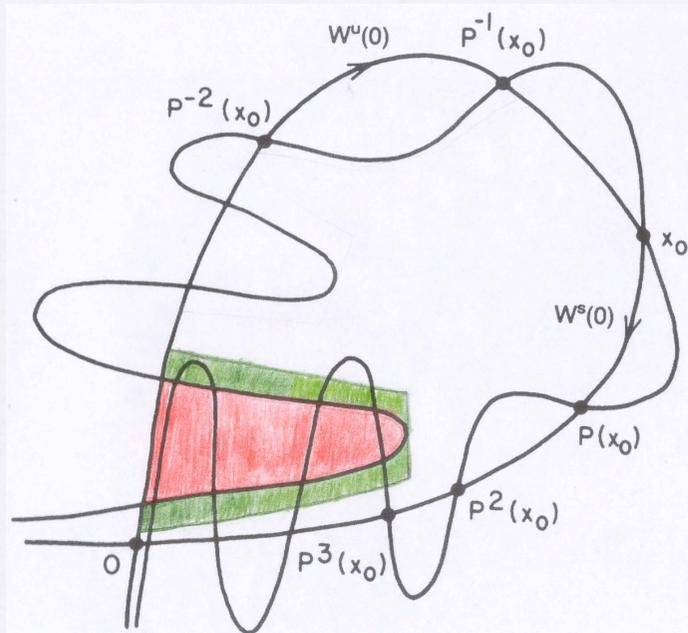
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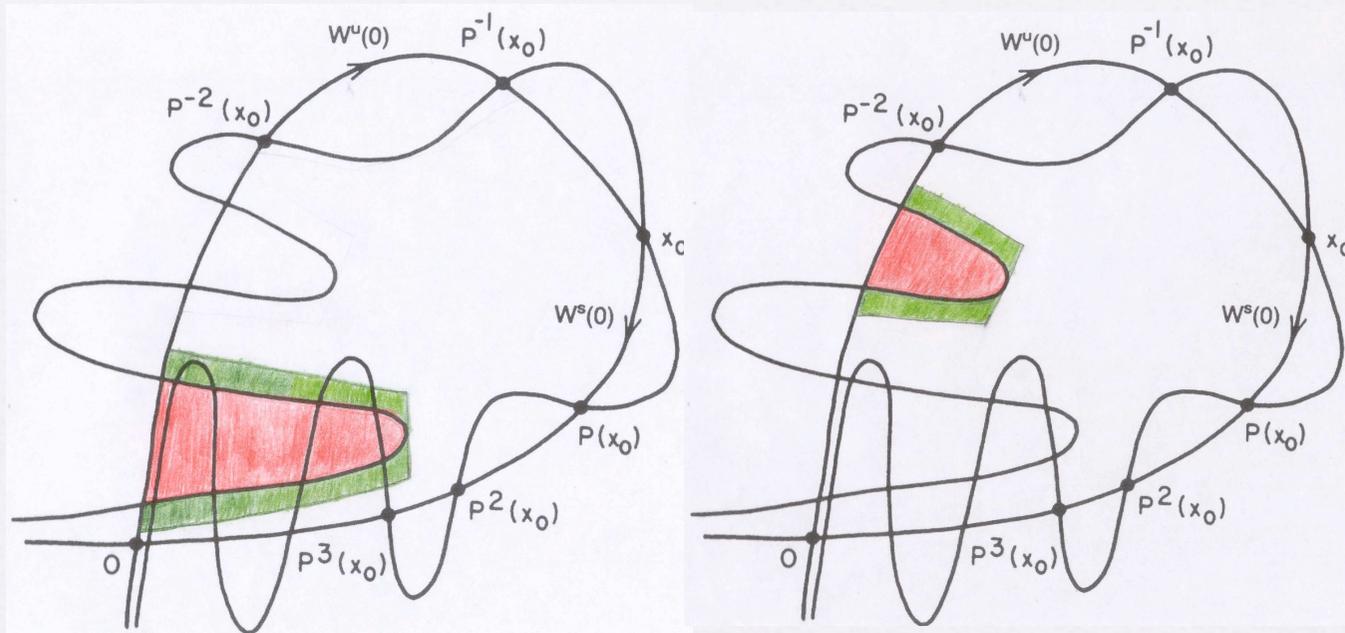
- Proved lots of nice things—eg, an invariant Cantor set.

Smale Horseshoe in the Tangle

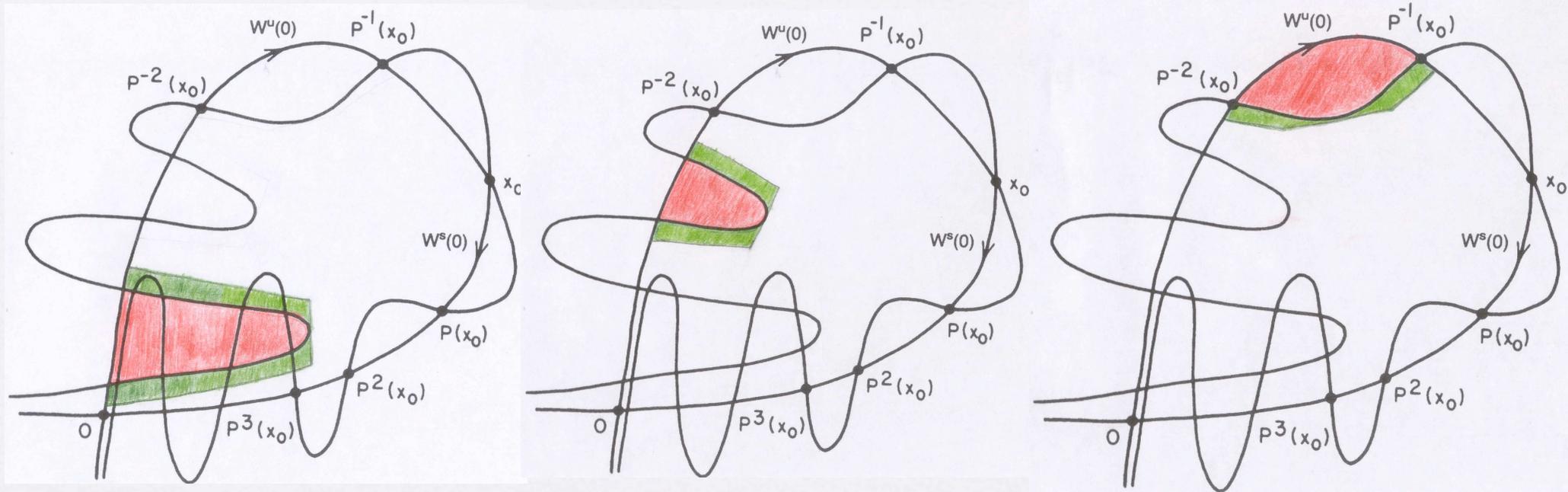
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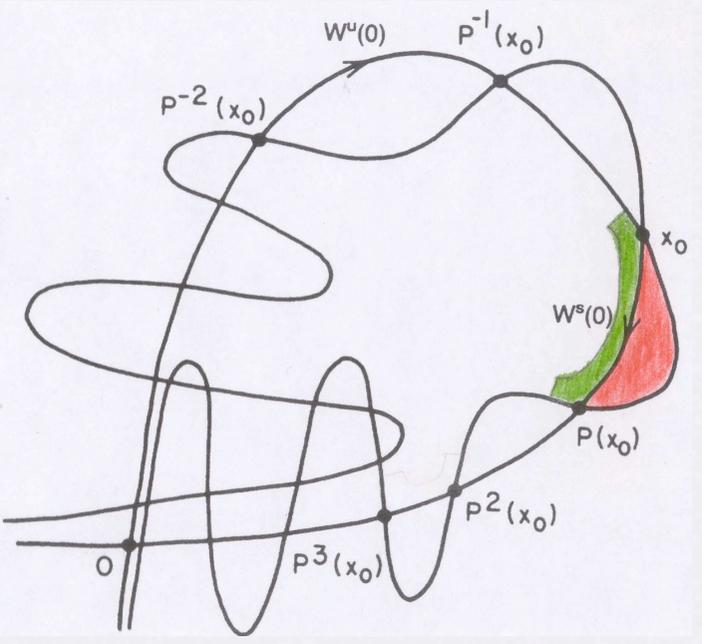
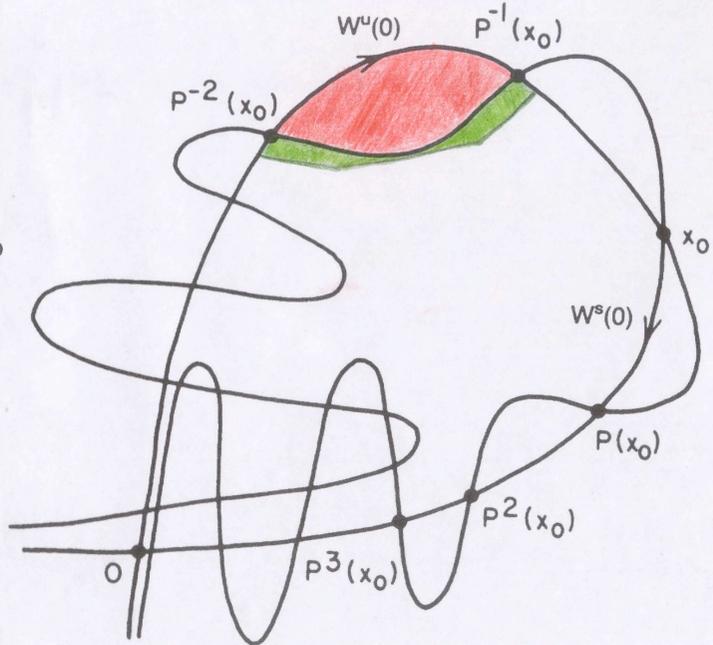
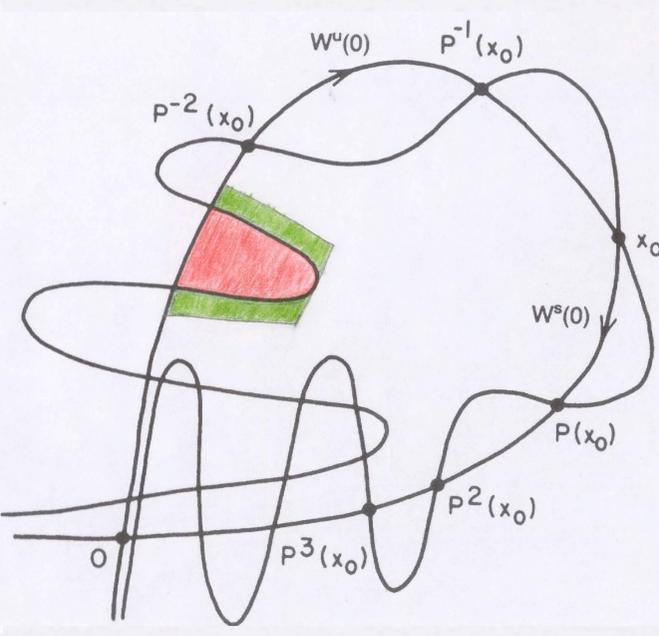
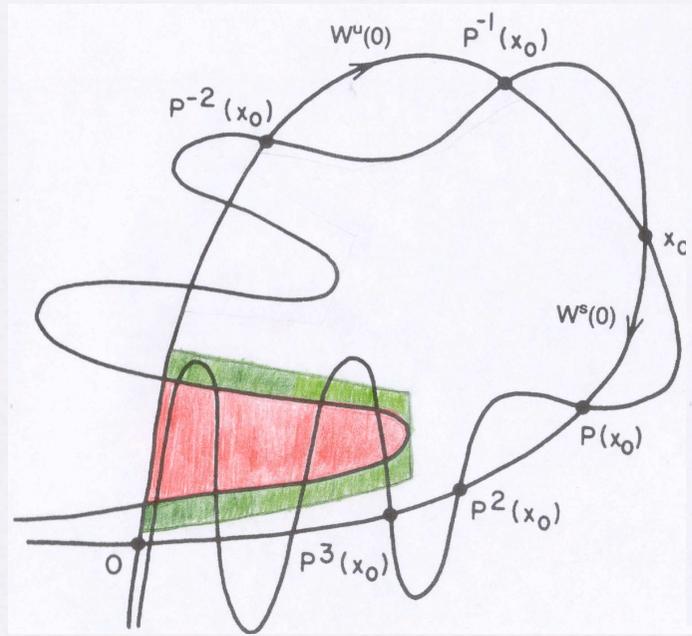
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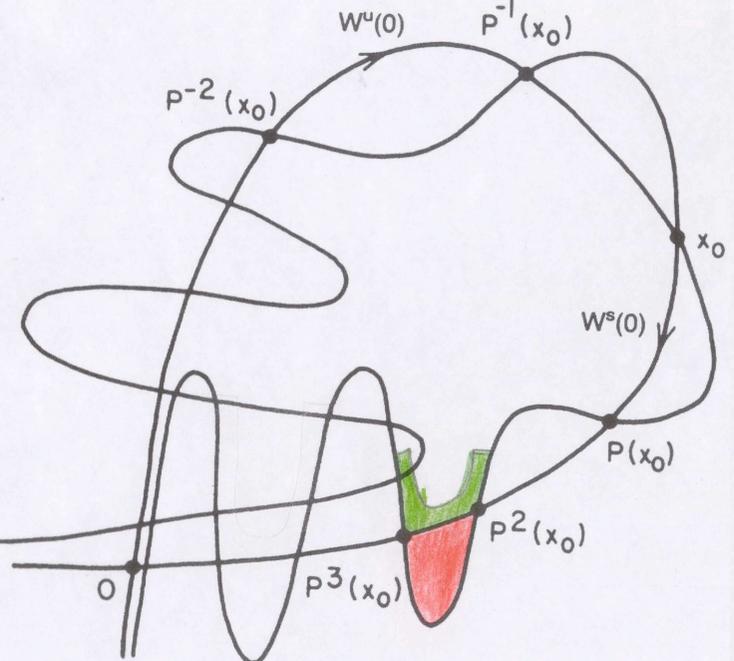
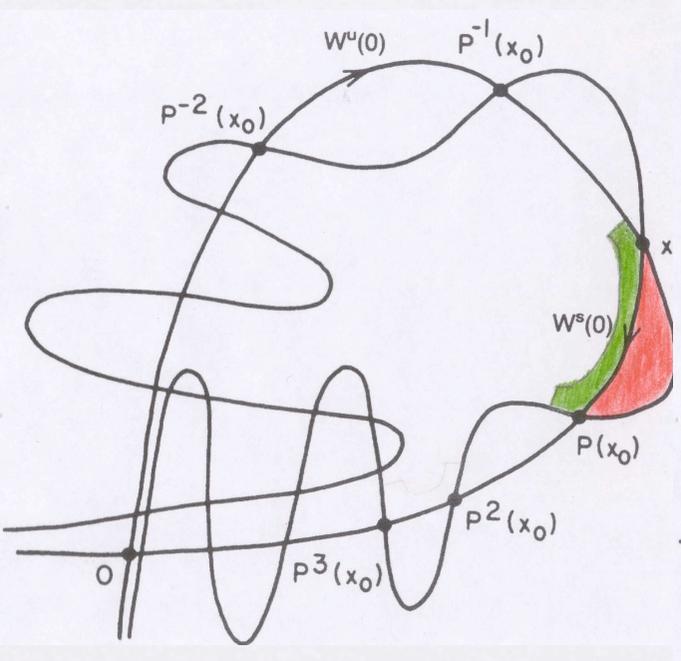
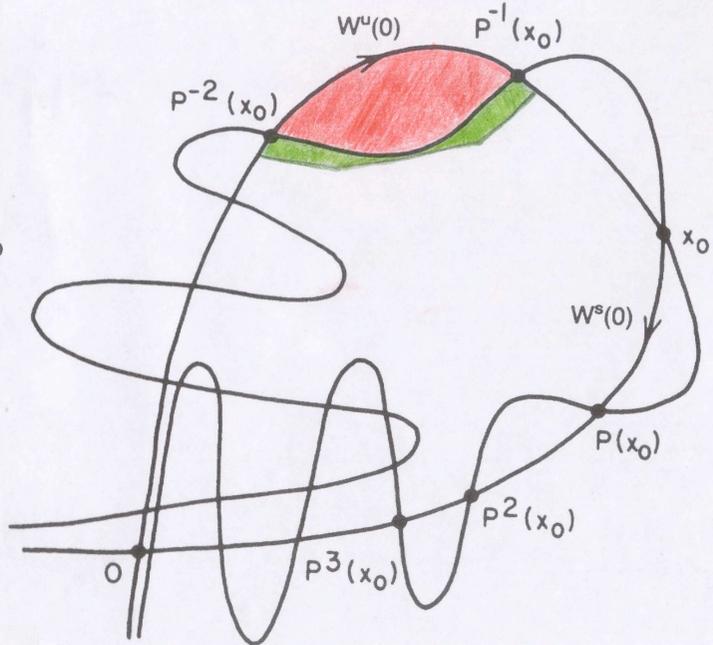
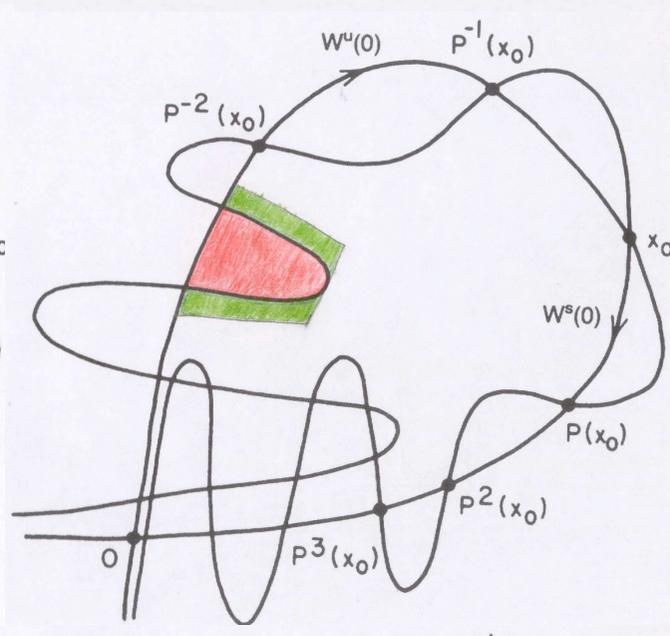
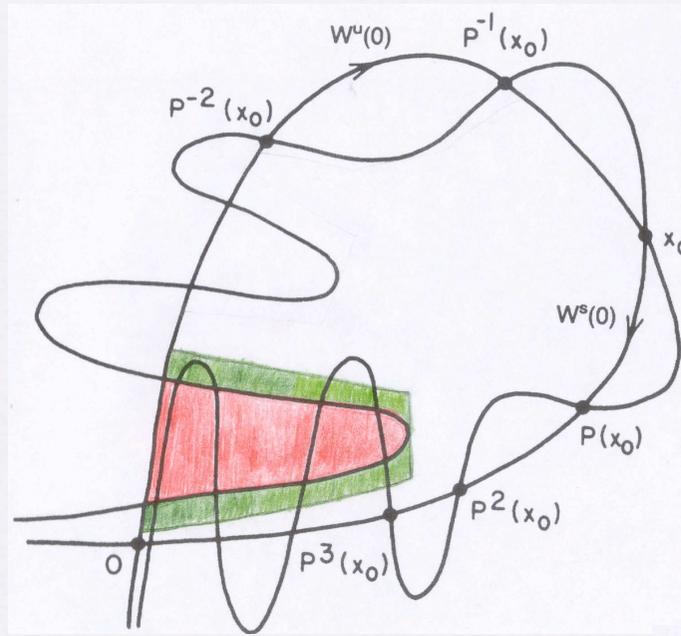
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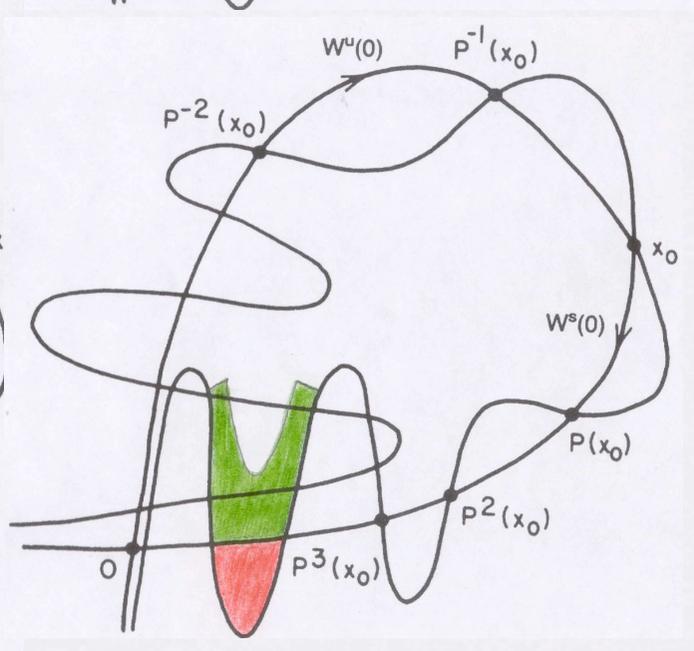
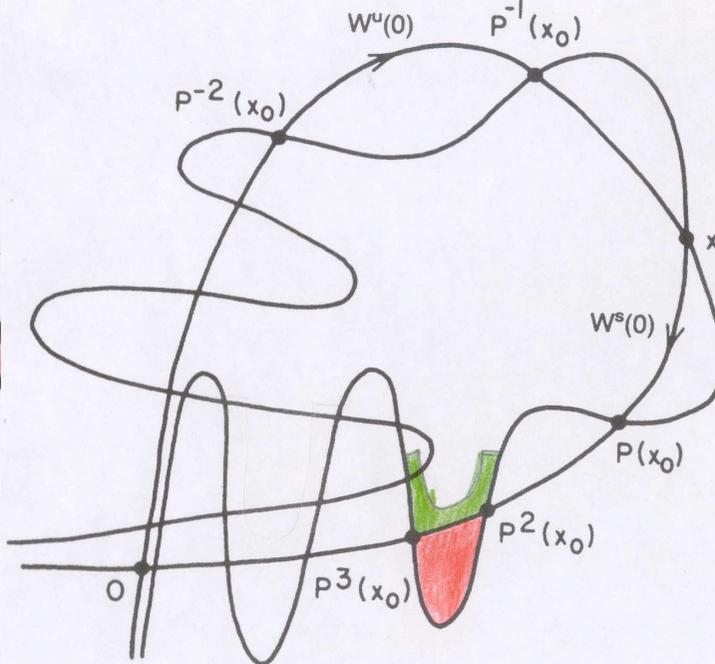
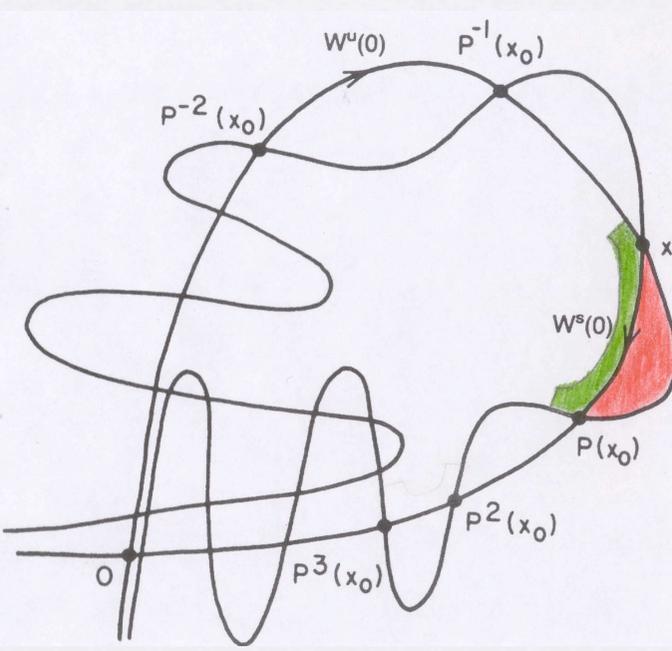
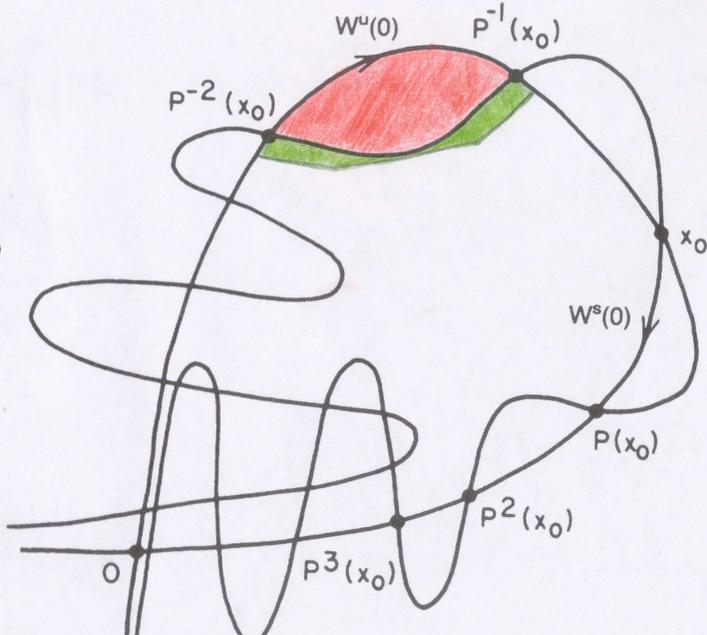
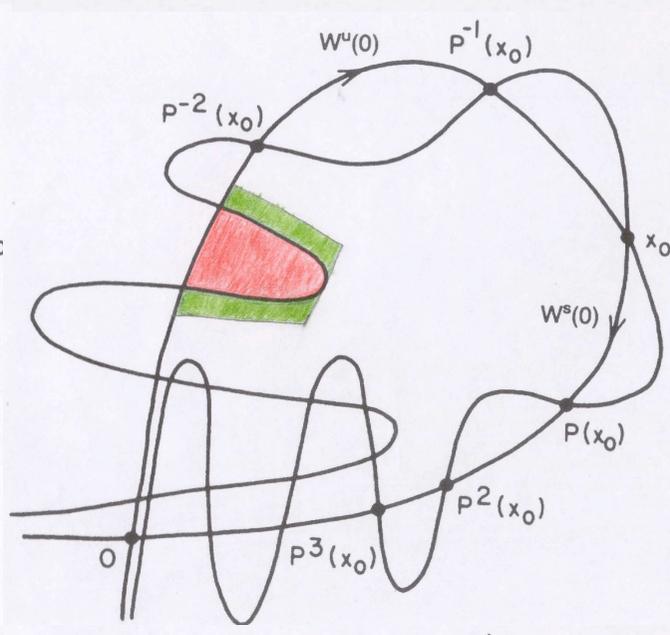
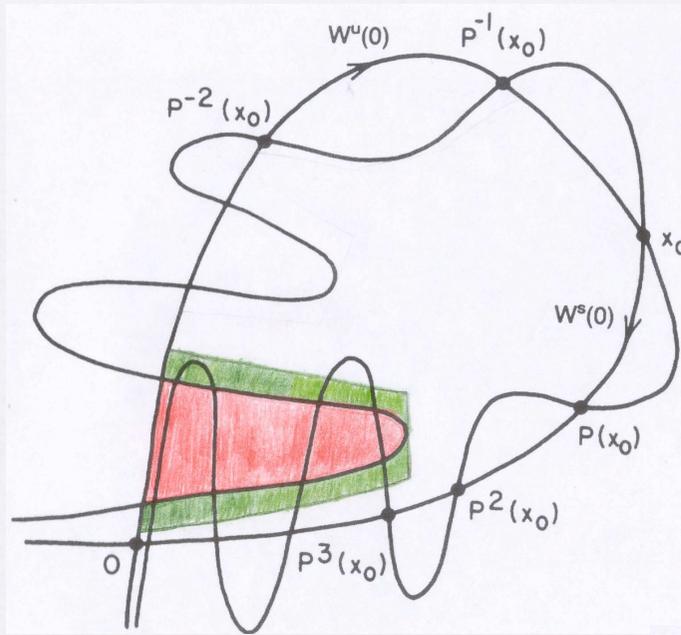
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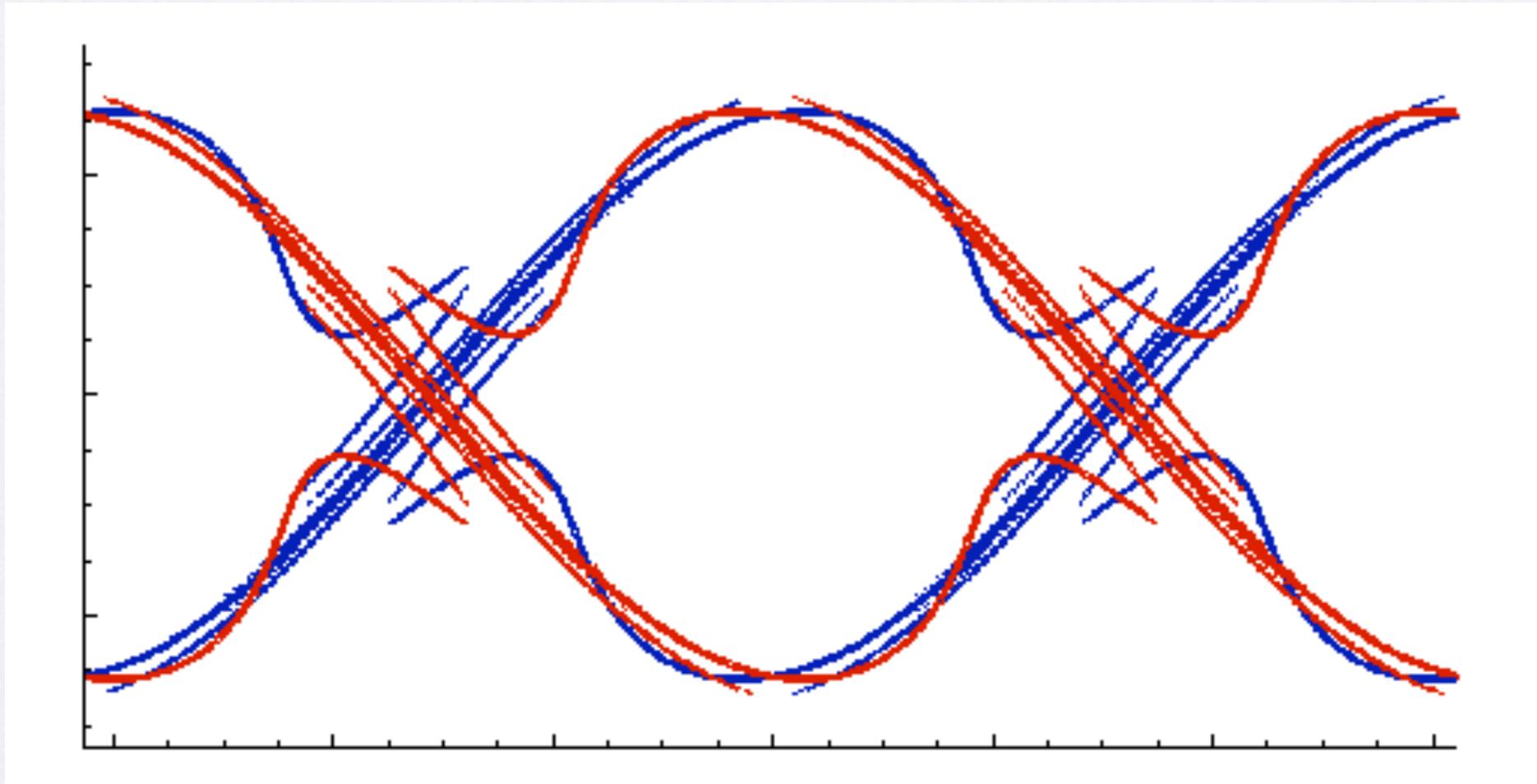
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Look at lobes, mixing, dynamically

