



Embracing the Chaos

Sensitivity Analysis on Chaotic Dynamical Systems by
NILSS

Uriel A. Aceves R.

`uriel.aceves@rwth-aachen.de`

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Supervisor: Johannes Lotz (LuFG Informatik 12: STCE,
RWTH Aachen)

Outline

Introduction

Chaos as a way of living

Predictability in chaos?

So what about butterflies?

I have seen this before

Oh no... Nevermind

Should we give up?

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Wrap-up

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Should the world behave nicely?

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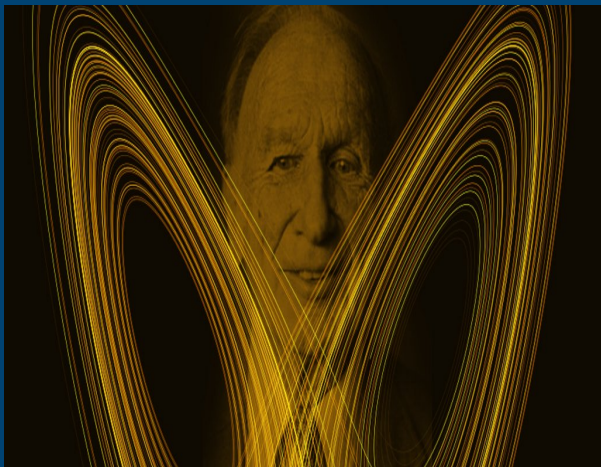
three

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Wrap-up

References

*“Chaos was the law of nature; Order was the dream of man.”
— Henry Adams*



Taken from <https://pbs.twimg.com/media/C75sWjvW0AA8Mfc.jpg>

Getting Closer

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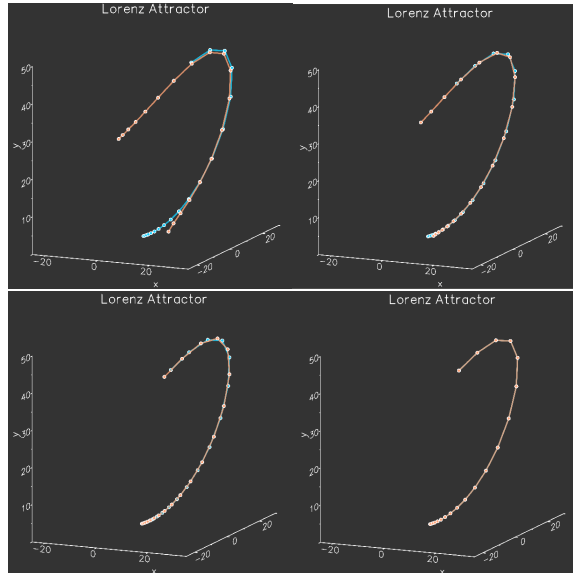
two

three

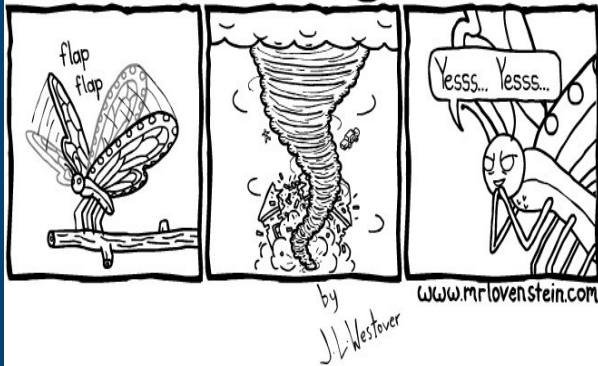
four

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The Butterfly Effect.



Taken from <http://www.mrlovenstein.com/comic/50>

Let's Focus

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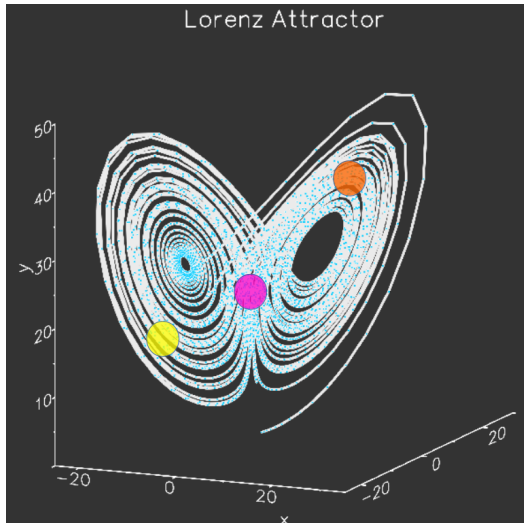
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Three highlighted zones zones

There is hope after all

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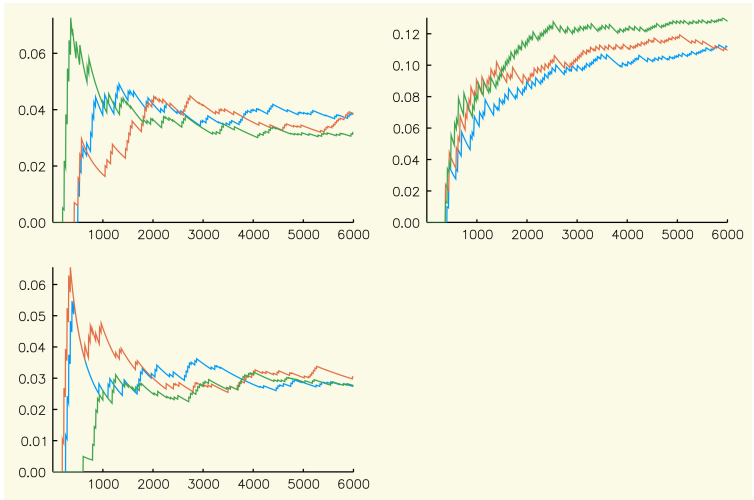
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Time spent on average around this zones

More to know

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References

- 1 Ni A., Wang Q., (2017), *Sensitivity analysis on chaotic dynamical systems by Non-Intrusive Least Squares Shadowing (NILSS)* , Journal of Computational Physics, **347**, 56-77.
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