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Complex space-time systems and their striking differences from complex time systems

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The butterfly paradigm might have been too much successful since it is often believed to be universal for complex systems. Similarly chaos is often understood as emerging from only deterministic systems and furthermore those having a low-dimensional attractor. This situation could be related to the fact that whereas there is an abundant pedagocical literature, as well as numerous simple interactive softwares, to explore the complexity of time systems, there is not the equivalent for space-time systems.

We will open a discussion on how to obtain a better balance for complex space-time systems with the help of a few examples: (deterministic) cascade of scaling gyroscopes, multifractal simulations, fractional diffusions.