



EINLADUNG

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ZIH - KOLLOQUIUM

Title: Modelling cellular systems with cellular automata: the robustness point of view

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Zeit: Mittwoch, den 23. Januar 2008, 11:00 Uhr

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Abstract:

Cellular automata are widely used to model various real-world phenomena such as biological organisms. Classically, the model is run with perfect updating: a central clock sends a message that triggers all the transitions. The objective of my talk is to examine what happens when this hypothesis is no longer true: to which extent may a cellular automaton "resist" to the changes of its updating policy?

I will in a first step focus on simple binary cellular automata in one or two dimensions. I intend to present both experimental and analytical results. In particular, I will show that some systems are subject to phase transitions found in the universality class of directed percolation. To conclude, I will see how these results may apply in the more general context of bio-inspired modelling.

gez. Prof. Dr. Wolfgang E. Nagel