



**Skalenkaskaden in komplexen Systemen**

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**Eigenvalues of diffusions and rare exits from molecular conformations**

Abstract:

This talk will give a self-contained introduction to the analysis of stochastic metastable diffusions using eigenvalues. These eigenvalues can be the eigenvalues of the stationary covariance matrix of the process, its infinitesimal generator, or a related quantity, but they all encode information about the intrinsic time scales of the dynamics. I will discuss the relevance of spectral information for the analysis of metastable molecular systems, and, if time allows, I will sketch how numerical continuation can be used to track information about metastable conformations under variation of the system parameters.