

ONE AND TWO-PHASE CELL CYCLE MODELS

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In the lecture we present deterministic and stochastic one and two-phase models of the cell cycle. The deterministic models are given by partial differential equations of the first order with time delay and space variable retardation. The stochastic models are given by stochastic iterations or by piecewise deterministic Markov processes. We study asymptotic stability and sweeping of stochastic semigroups which describe the evolution of densities of these processes [?]. We also present some results concerning chaotic behaviour of models and relations between different types of models.

REFERENCE

- [1] K. Pichór and R. Rudnicki, Applications of stochastic semigroups to cell cycle models, *Discrete Contin. Dyn. Syst. B* **24** 2365–2381.