Henning Schmidt:

Poster Title:

A New Method for Model Reduction Based on Time Scale Separation and Lumping

Abstract:

Recent advances in systems biology have led to an increased understanding of biochemical reaction systems and provided us with new means for investigating cellular processes in a systematic way. More and more detailed models are now constructed, which are used to explain complex phenomena observed in nature. Many of these systems are hard to analyze and there is sometimes a risk of overparameterization. Hence there is a need to develop model reduction techniques that are suitable for biochemical systems In this work we discuss a new method for model reduction of biochemical reaction systems based on time scale separation and lumping. The method is then applied to two models for the chlorophyll fluorescence emission in photosynthesis.