Combining structural complexity management and hybrid dynamical system modelling

This paper presents an approach, which combines structural and dynamical models to form a unified system model. Thereby, both dynamical and structural complexity can be analysed simultaneously. First, a short review on current research in structural and dynamical modelling is presented. Major interfaces between structural and dynamical modelling are shown and used to generate a new modelling process. A new hybrid modelling paradigm is introduced. Finally, a simple example is shown, in order to highlight the approach and thus the potential of combining structural and dynamical modelling.

Stichworte:
structural complexity management; hybrid dynamical systems; design structure matrix; complex system analysis

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