Abstract:
Currently there are hundreds of known modeling methods that are applied to countless problems in engineering. A purposeful selection of the right modeling method is crucial for successful problem solving. However, it lacks of adequate procedures for the problem-specific selection of most suitable modeling methods. The selection of less suitable modeling methods often leads to increasing costs, development time, and inferior design of products. Based on a review on existing procedures, a concept for an assessment procedure for the problem-specific selection of most suitable modeling methods is developed and implemented. Main steps for the procedure are identified, the concept of classification domain trees is developed and the vector space principle is used for the selection of the most suitable modeling methods. The evaluation study shows that the developed concept is applicable and that appropriate problem-specific modeling methods can be reliably identified by using the implemented concept.

Stichworte:
assessment, classification, complexity, engineering systems, modeling, modeling methods

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