Computer-aided modeling framework – a generic modeling template

This work focuses on the development of a computer-aided modeling framework. The framework is a knowledge-based system that is built on a generic modeling language and structured on workflows for different modeling tasks. The overall objective is to support model developers and users to generate and test models systematically, efficiently and reliably. In this way, development of products and processes can be made faster, cheaper and more efficient. In this contribution, as part of the framework, a generic modeling template for the systematic derivation of problem specific models is presented. The application of the modeling template is highlighted with a case study related to the modeling of a catalytic membrane reactor coupling dehydrogenation of ethylbenzene with hydrogenation of nitrobenzene.