Material Production Process Modeling with Automated Modelica Models from IBM Rational Rhapsody

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This paper describes a method to author dynamic simulation models in Modelica from a manufacturing architectural model structure in SysML.

Modelica models are generated from IBM Rational Rhapsody and simulated using Modelon Impact.

Following a brief overview of the overall modeling approach and tool coupling, the Modelica modeling is detailed for computing process throughput and processing time.

Following the model overview, a sample application for the production of the pharmaceutical ingredient atropine is demonstrated.