

## **An Automatic Model Transformation Methodology Based on Semantic and Syntactic Comparisons and the Granularity Issue Involved**

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**Abstract :** Model transformation, as a pivotal aspect of Model-driven engineering, attracts more and more attentions both from researchers and practitioners. Many domains (enterprise engineering, software engineering, knowledge engineering, etc.) use model transformation principles and practices to serve to their domain specific problems; furthermore, model transformation could also be used to fulfill the gap between different domains: by sharing and exchanging knowledge. Since model transformation has been widely used, there comes new requirement on it: effectively and efficiently define the transformation process and reduce manual effort that involved in. This paper presents an automatic model transformation methodology based on semantic and syntactic comparisons, and focuses particularly on granularity issue that existed in transformation process. Comparing to the traditional model transformation methodologies, this methodology serves to a general purpose: cross-domain methodology. Semantic and syntactic checking measurements are combined into a refined transformation process, which solves the granularity issue. Moreover, semantic and syntactic comparisons are supported by software tool; manual effort is replaced in this way.

**Keywords :** automatic model transformation, granularity issue, model-driven engineering, semantic and syntactic comparisons

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