Integrated Debugging of Equation-Based Models

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The high abstraction level of equation-based object-oriented languages (EOO) such as Modelica has the drawback that programming and modeling errors are often hard to find. In this paper we present the first integrated debugger for equation-based languages like Modelica, which can combine static and dynamic methods for run-time debugging of equation-based Modelica models during simulations. This builds on and extends previous results from a transformational static equation debugger and a dynamic debugger for the algorithmic subset of Modelica.