

ADMS - a fully customizable Verilog-AMS compiler approach

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- **Abstract:**

This paper presents a fully customizable compiler approach for implementing compact models defined in Verilog-AMS into Spice3-like simulators. Recently, there has been an on-going debate over the best way to release the source code of compact models. Should the release be a set of behavioral equations rather than just Spice3 C code? Judicious choice of compiling techniques makes the question irrelevant. This paper introduces the latest version of the ADMS system. It discusses some general guidelines to build Spice3 device compilers using the ADMS system, with limited loss in speed performance and significant gain in code reliability and maintainability. We conclude with a case study: implementation of the BSIM3 model in Freescale's in-house circuit simulator Mica©, which gives the same results as the handcrafted version of the model and has only an 8% performance loss.

