

DOLPHIN

DESIGN

New Features

**SMASH 7.5.0 - SCROOGE 4.5.0 -
SHAKER 7.5.0**

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Preamble

As always for new releases, we would like to thank those customers who take the time to report problems and/or to suggest improvements (please remember that the best way to do so is by sending an email to support@dolphin.fr with an accurate description of your problem or suggestion, together with the relevant files if any). As you will see in the new features, we do our best to take remarks into account. And even if your suggestion does not appear this time, don't think it was lost or disregarded. Simply, it means that its implementation could not fit into the development plan for this particular release, but be assured that we will try to take it into account in a future release.

Web Site

Our web site www.dolphin-design.fr is a source of information on our EDA solutions. Aside from evaluation kits for our products, a number of application notes, courses or upgrades are available for download.

Supported Platforms

Microsoft Windows

SMASH is designed to run on Microsoft Windows Vista / 7 / 8 / 10 on x86_64 platforms.

Linux on Intel x64 platform

SMASH is designed to run under X-Window on RedHat Enterprise Linux 6 (RHEL6) and supports compatible Linux distributions on x86_64 platforms.

Credits & Copyrights

wxWidgets: A free C++ framework for cross-platform programming

<http://www.wxwidgets.org>

wxWindows Library License, Version 3

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Trio: portable and extendable printf and string functions

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Gear-Brayton Integration Method

The new formulation of the Gear-Brayton integration method included in SMASH was perfected and implemented at Supélec - Service des Mesures.

EKV3 Compact MOSFET Model Documentation

A. Bazigos, M. Bucher, F. Krummenacher, J.-M. Sallese, A.-S. Roy, C. Enz, "*EKV3 Compact MOSFET Model Documentation, Model Version 301.01*", Technical Report, Technical University of Crete, November 23, 2007.

VDA / FAT Open Source Library

The open source library of VHDL-AMS components created by the VDA / FAT working group is delivered with SMASH.

The VDA / FAT Working Group AK 30 "Simulation of Mixed Systems with VHDL-AMS" is organized within the Association for Research in Automobile Technology (FAT - Forschungsvereinigung Automobiltechnik) of the German Association of the Automotive Industry (VDA - Verband der Automobilindustrie). It promotes the relationship between car manufactures and their suppliers concerning simulation of mixed systems and model exchange.

The working group promotes the development of VHDL-AMS models that are integrated in different libraries.

FUNDAMENTALS_VDA

Public library with general VHDL-AMS models like time sources, converters between different domains, table-lookup models, relays, switches...

SPICE2VHD

VHDL-AMS models with nearly the same terminal behavior like Spice models of basic electrical elements like resistor, capacitor, inductor, and level1 models of semiconductor devices.

AUTOMOTIVE_VDA

Library under development with special parameterized models like wires, fuses, bulbs, EMC test signals...

New Features

SMASH - Documentation

Enhancements

- Documented aging html results file generated for TMI aging simulations (DDIsa13598 - SMASH 7.5.0)

SMASH - Kernel

Enhancements

- Improved transient statistic information details displayed in output log file (DDIsa13587 - SMASH 7.5.0)
- Modified report loading file for models defined in subckt (DDIsa13594 - SMASH 7.5.0)
- Improved the multi-thread performance by applying it on more SPICE devices (DDIsa13630 - SMASH 7.5.0)

Bug fixing

- Corrected the CPU consumption when the multi-thread is activated (DDIsa13596 - SMASH 7.5.0)
- Corrected the evaluation of resistors that are below 'RESMIN' value and shorted by .CONNECT directive (DDIsa13643 - SMASH 7.5.0)

SMASH - Models

Enhancements

- Improved the performance of SPICE devices with dynamic formula (DDIsa13739 - SMASH 7.5.0)
- Implemented additional AC transfer functions on voltage controlled sources (DDIsa13779 - SMASH 7.5.0)

SMASH - SPICE

Enhancements

- Improved ALLGMIN OP stepping algorithm and implemented GSHDC stepping (DDIsa10308 - SMASH 7.5.0)
- Implemented a formula function for 2D interpolation from waveforms (DDIsa13780 - SMASH 7.5.0)

Bug fixing

- Corrected the sort of pwl / table values within SPICE formulas (DDIsa13723 - SMASH 7.5.0)

SMASH - Verilog-AMS**Bug fixing**

- Corrected an elaboration error when a Verilog-AMS voltage source is shorted to the ground (DDIsa13649 - SMASH 7.5.0)

SMASH - Viewer**Enhancements**

- Improved use of the evaluation option license by opening the Dolphin Solutions download page at startup (DDIsa13809 - SMASH 7.5.0)

Bug fixing

- Corrected the behavior of keyboard usage when editing a bookmark name (DDIsa13515 - SMASH 7.5.0)
- Corrected a crash on VCD file displayed with logic real signal (DDIsa13785 - SMASH 7.5.0)