

# Missing EDA Links

## SMASH 5.20

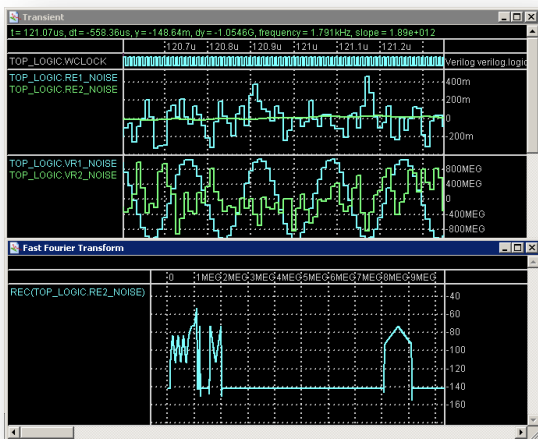
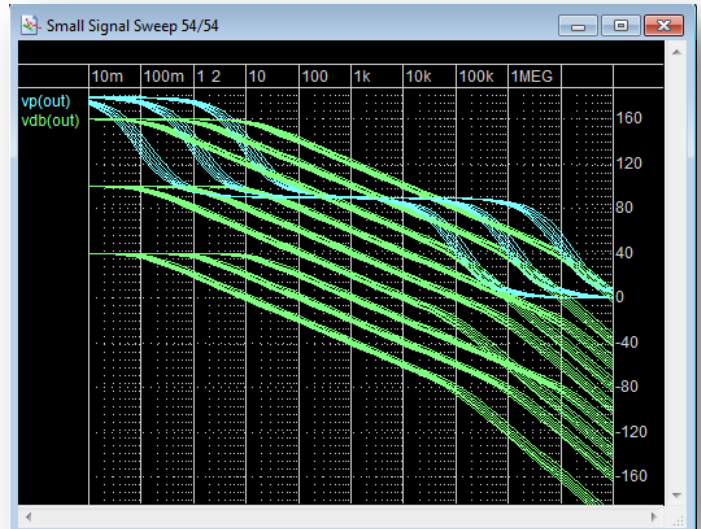
DOLPHIN INTEGRATION

## Improved Capabilities for Analog Design

SMASH 5.20 provides enhanced features and improvements to ease analog design, optimization and debug, including mixed-signal behavioral modeling. SMASH also enhances state-of-the-art logic design by enabling the verification of the impact of noise on logic signals using dedicated noise sources, previously only available for analog designers.

### Key Enhancements of SMASH 5.20

- ✓ Integrated standard BSIM CMG compact model for the class of common multi-gate FETs
- ✓ Extended Sweep analysis for multiple parameters
- ✓ Enhanced modeling in Verilog-AMS with support of generate constructs
- ✓ Increased transient simulation speed of analog designs with optimized time step prediction
- ✓ Implemented noise sources for digital designs
- ✓ Enhanced extraction of CCS timing and power characterization curves
- ✓ Implemented optimizer to efficiently boost the analog design process as well as model calibration
- ✓ Extended coverage analysis on Verilog “?:” expressions and VHDL “when” conditions of concurrent signal assignments



### Noise sources to check noise resilience

SMASH provides generic models of voltage, current and digital noise sources that can be easily configured for different noise profiles. Parameters can be extracted from a simulation or set manually.

Noise can be injected both on analog and logic signals to check their resilience to noise and verify the robustness of the design to performance degradations.

Examples provided to discover this feature:

- Multi-level/Digital Noise
- SPICE/Primitives/vnoise

### Optimizer for analog design

The optimizer in SMASH provides the means to set one or more goals for the optimization and to specify which parameters can vary to achieve these goals. It can be used during the analog design process as well as for model calibration purposes.

Designers can also define some criteria, such as tolerance, number of tries and maximum simulation time, to achieve the goal(s).

Examples provided to discover this feature: SPICE/Directives/Optimize

 SMASH is available identically under Linux and Windows

