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RELEASE NOTES

Altair® PSIM™ 2025.0

Release Notes Altair PSIM 2025.0

These Release Notes include new features and resolved simulation and code generation issues for Altair PSIM 2025.0

New Features

New Feature	Description
Flux/FluxMotor LuT in SynRM motor model	New Flux/FluxMotor LuT based SynRM motor model is added
Stepper motor models (both Center-tap and Unipolar)	New 2-phase Hybrid Stepper motor models (both Center-tap and Unipolar) are added
New Capacitance Matrix Block	Capacitance matrix blocks are added to define self-capacitances and mutual capacitances of a network
New element “Math Function (16-input)”	It supports 16-input MathBlock functions
Supporting 4D tables in thermal XML files	Supports 4D tables in thermal XML files
Modify Menu (Simview)	Modify menu has the following two operations in Simview: • Reset Time Step: To provide uniformly sampled data from an original ununiformally sampled data. • Sort Based on X-values: To sort and organize the data along the X-axis for better clarity and analysis.
Examples	New examples are added for the following new features: • Flux/FluxMotor LuT based SynRM motor model • Stepper motor models (both Center-tap and Unipolar) • Capacitance matrix blocks • 16-Input MathBlock functions
Tutorials	The following tutorials are updated: • How to Generate LuTs for PMSM (Flux and FluxMotor) Models • Induction Motor and PMSM Models with High-Frequency Effect • Lithium-Ion Battery Model • How to Use the FMI Module
Help/Documentation	New documentation Help files are added for the following new features: • Flux/FluxMotor LuT based SynRM motor model • Stepper motor models (both Center-tap and Unipolar) • Capacitance matrix blocks • 16-Input MathBlock functions • Modify Menu (Simview)

Special Note: Please note that this will be the last PSIM release that the MagCoupler feature will be included. Starting from the next release (PSIM 2025.1), the MagCoupler feature will be removed from PSIM.

Resolved Issues

- Error occurs when trying to run a PSIM simulation with an empty parameter file.
- Thyristor model does not include dynamic resistance.
- Simview does not perform FFT on 2nd curve.
- Simulations with Monostable Multivibrator circuit do not run in PSIM/HyperSpice.
- Power losses do not match between the scripted version and GUI simulation.
- Parameters in IGBT Thermal can’t be changed/saved.
- Simulation Time Step changes strangely.
- "Load .mat File" option in the speed control Flux MCDS example leads to quite different Ld, Lq, Ke, J.
- PcdEditor "Formulas" is not saved in the thermal module XML.
- 2-phase PWM of 2837x giving error.
- Error in SPICE netlist for square wave source.
- Frequency Parameter affecting Current in Thermal MOSFET.
- PSIM battery simulations do not allow HyperStudy analysis.
- Issue in simulating a circuit with subcircuit in SPICE.
- HperStudy Connector error when using MathBlock with operator ">" function.
- When an AC sweep block is disabled, the time domain simulation results are saved in .fra file (which loads really slow) instead of .smv file.
- Model Script Issues for Infineon Part.
- FMU Parameter function not returning values.
- Supporting the statement .save(n1,n2) in HyperSpice.
- Results not Matching in Tutorial with Simulation.
- Issues with Thermal IGBT (No anti-parallel Diode) module creation.
- Different results for the same schematic when run with PSIM 2023.1 vs PSIM 2024.
- SimCoder C block is excluded from simulation if not coupled to active code gen components.

