PLECS WORKSHOP

Advanced Modeling and Simulation of Power Electronic Systems
Technical University of Denmark, April 13, 2016

08:30	Registration
09:00	Introduction to PLECS ▶| General use of PLECS Blockset and PLECS Standalone ▶| Instantaneous switching ▶| Variable and fixed-step operation Exercise: Modeling a switched-mode power supply
10:00	Break
10:30	Solver Settings ▶| Definition of stiff and non-stiff systems ▶| Explicit and non-explicit solvers ▶| Stability domains ▶| Accuracy considerations, step size control ▶| Proper handling of discontinuities, zero-crossing detection Exercise: Solver accuracy and settings
11:45	Lunch
12:45	Introduction to Thermal & Magnetic Modeling & Simulation ▶| Switching & conduction loss descriptions ▶| Combined electrical-thermal simulation ▶| Permeance Capacitance Analogy Model Exercise: Thermal modeling of a buck converter
14:30	Break
15:00	Overview of PLECS Tools ▶| AC Sweep and Impulse Response Analysis Tools ▶| Steady State Analysis Tool ▶| Implementing custom components Exercise: Creating a custom PV string component
16:00	End of day
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