

PLECS WORKSHOP

Advanced Modeling and Simulation of Power Electronic Systems
University of Warwick, March 4th, 2013

08:30	Registration
09:00	Introduction into PLECS <ul style="list-style-type: none">▶ General use of PLECS Blockset and PLECS Standalone▶ Instantaneous switching▶ Variable and fixed step operation Exercise: Modelling of a forward converter
10:00	Coffee break
10:30	Solver Settings <ul style="list-style-type: none">▶ Definition of stiff and non-stiff Systems▶ Explicit and non-explicit solvers▶ Stability domain▶ Accuracy considerations, step-size control▶ Proper handling of discontinuities, zero-crossing detection Exercise: Solver Settings
12:00	Lunch
13:00	Introduction to Thermal & Magnetic Modelling & Simulation <ul style="list-style-type: none">▶ Switching & conduction loss descriptions▶ Combined electrical-thermal simulation▶ Permeance Capacitance Analogy Model Exercise: Thermal modelling of a buck converter
14:30	Coffee break
15:00	Overview of PLECS tools <ul style="list-style-type: none">▶ AC sweep and impulse response analysis▶ Steady-state analysis▶ Implementing custom components Exercise: Creating a custom PV string model
16:00	End of day
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