

PLECS WORKSHOP

Modeling and Simulation of Power Electronic Systems
University of Nottingham, October 10th, 2013

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| 08:30 | Registration |
| 09:00 | Introduction to PLECS <ul style="list-style-type: none">▶ General use of PLECS Blockset and PLECS Standalone▶ Instantaneous switching▶ Variable and fixed-step operation Exercise: Modeling a switched-mode power supply |
| 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 domains▶ Accuracy considerations, step size control▶ Proper handling of discontinuities, zero-crossing detection Exercise: Solver accuracy and settings |
| 12:00 | Lunch |
| 13:00 | Introduction to Thermal & Magnetic Modeling & Simulation <ul style="list-style-type: none">▶ Switching & conduction loss descriptions▶ Combined electrical-thermal simulation▶ Permeance Capacitance Analogy Model Exercise: Thermal modeling 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 Tools▶ Steady State Analysis Tool▶ Implementing custom components Exercise: Creating a custom PV string component |
| 16:00 | End of day |
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| Location | University of Nottingham, Tower Room 1115, School of Electrical and Electronic Eng., University Park, Nottingham NG7 2RD, United Kingdom |