

PLECS WORKSHOP

Advanced Modeling and Simulation of Power Electronic Systems

Warsaw University of Technology, May 16, 2018

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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 | 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 | Overview and Introduction to RT Box Workflow using PLECS <ul style="list-style-type: none">▶ PLECS overview▶ Ideal switch concept▶ From PLECS offline models to RCP and HIL▶ Code Generation |
| 13:30 | Real-time Simulation of a Voltage Source Inverter (VSI) <ul style="list-style-type: none">▶ PLECS model creation using the target blocks library▶ Deployment on the RT Box |
| 14:30 | Model Optimization <ul style="list-style-type: none">▶ Sub-cycle averaging and power modules▶ Model separation |
| 16:00 | End of day |
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| Location | Institute of Control and Industrial Electronics, Warsaw University of Technology, Koszykowa 75 St., Room GE 018 (Faculty of Electrical Engineering), 00-662 Warsaw, Poland |