

Workshop: Advanced Modeling and Simulation of Power Electronic Systems

National Cheng Kung University, November 22, 2011
Chung Yuan Christian University, November 23, 2011



Speaker

Orhan Toker, Plexim GmbH

Eric Carroll, EIC Consultancy / ABB Switzerland Ltd.

9:00 Beginning Workshop: Welcome and Introduction

Introduction into PLECS

- General use of PLECS
- Instantaneous switching
- Variable and fixed step operation

Thermal modeling of power electronic systems

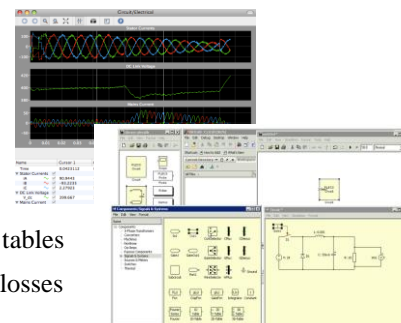
- Combined electrical thermal simulation using lookup tables
- Thermal loss descriptions of conduction & switching losses
- Electrical feedback of thermal losses

Numerical Simulation of Dynamic Systems

- Stiff vs. non-stiff solvers, stability domains
- Accuracy considerations, step-size control
- Proper handling of discontinuities, zero-crossing detection

Advanced features of PLECS

- AC sweep and impulse response analysis
- Advanced modeling techniques for increasing simulation speed
- Implementing of custom components
- The Pitfalls of Zero-Crossing Detection



< 11/22 only >

Power semiconductors from ABB / IGBTs

- IGBT Principles (features, SSCM, advantages, ...)
- IGBT Products (HiPak, BIGT, FCE)
- Reliability, Markets



Power and productivity
for a better world™

Power semiconductors from ABB / Bipolar

- PCTs/BCTs/diodes and Fast Diodes
- IGCT Principles (features, advantages)
- IGCTs (Products : RC, RB, Asym., 4.5kV, 5.5 kV, 6.5kV, 10kV)
- Major Applications, Summary

17:00 End of Workshop

Venue

National Cheng Kung University, Chung Yuan Christian University

The workshop contains hands on exercises. Please bring your own computer with you.
PLECS Standalone licenses can be obtained at the workshop.

主辦單位:

翹慧事業股份有限公司
瑞士 Plexim GmbH
瑞士 ABB Switzerland Ltd.
國立成功大學, 中原大學

研討會地點:

11/22 國立成功大學 (台南市東區大學路 1 號/自強校區)
PLECS 研討會(9:00-17:00)-電機大樓四樓電腦教室 B
ABB 研討會(14:00-17:00)-電機大樓七樓,俊銘紀念講堂 92712
11/23 中原大學(9:00-17:00)
桃園縣中壢市中北路 200 號(篤信大樓 355 室)

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報名資訊

1. 報名方式：請將報名表填妥後於 2011 年 11 月 15 日前將報名表 E-mail 回傳至翹慧公司。
請有意參加研討會者儘速報名，實機操作，教室電腦數量有限。
 2. 報名費用：免費，現場提供上課講義。
 3. 報名聯絡人：翹慧 高子淳 ✉sales.1@industrade.com.tw；電話: (02)2809-1251 ext. 113；
傳真: (02)2808-4990
- ※ 凡報名參加且實際操作者，活動當天提供午餐及精美小禮物乙份。

2011 Workshop: Advanced Modeling and Simulation of Power Electronic Systems				
場次	<input type="checkbox"/> 11/22 國立成功大學 <input type="checkbox"/> 11/23 中原大學			
公司全銜/ 學校				
聯絡地址	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		聯絡人	
			聯絡電話	
參加者姓名	職稱/ 指導老師	電話	E-mail	午餐 葷/素