Asia Pacific International Symposium on EMC in Beijing,
12 to 15 April 2010
Tutorials & Workshops Program
Venue: Beijing
http://www.emc-zurich.org

Track 4 - Semiconductor EMC
Room 4 09:00am-05:30pm
An Introduction to the modeling and simulation of electromagnetic compatibility of integrated circuits

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Binhong Li, Mikael Deobarro

INSA Toulouse, France

2010 Asia Pacific Symposium on EMC
Beijing China, 12 – 16 April 2010

Topic An Introduction to the modeling and simulation of electromagnetic compatibility of integrated circuits

Abstract Integrated circuits (IC) constitute the source as well as the victim of electromagnetic interferences in electronic systems. Thus, circuits must respond to specific EMC specifications to ensure EMC compliance at system level. Specific modelling techniques and simulation at IC level are required to predict emission and susceptibility levels before IC fabrication to test the EMC compliance and choose appropriated EMC countermeasures.
The proposed tutorial aims at presenting the basic concepts of emission and susceptibility modelling and simulation at IC level. The tutorial is not a lecture but a lab with a set of problems associated to the major issues of EMC of ICs. The lab is based on IC-EMC, software entirely dedicated to EMC of ICs and developed by the speaker of the tutorial for research and training purposes (more information on IC-EMC at www.ic-emc.org).
The covered topics proposed during this tutorial are: conducted and radiated emission modelling at IC level, use of IBIS for EMC purpose, PCB and package effects on EMC, susceptibility modelling at IC level, EMC oriented design guidelines. During the inscription, the subscribers to the tutorial will indicate their preferred topics to orient the speakers about the content of the lab.

Organizers' Information

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For more information about the training content, please contact Alexandre Boyer (alexandre.boyer@insa-toulouse.fr)

Proposed Speakers

Alexandre Boyer, Sonia Ben Dhia, Binhong Li, and Mikael Deobarro

Presentation formation

Tutorial given as a lab (personal Labtop is required to install the freeware IC-Emc).
Morning: introduction & common general exercises
Afternoon: advanced exercises, each participant choose one of the following topics:

☐ **Simulation of conducted and radiated emission from I/O switching**

☐ **Simulation of signal integrity**

☐ **Construction of an emission model of a digital circuit**

☐ **Evaluation of power integrity issues using ICEM model**

☐ **Construction of a virtual test bench to test IC immunity**

Duration 1 day (2 three hours session)

Number of participants 24 persons maximum

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