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Centre for Electronics Design and Automation

Learning Objectives

This Introductory course is designed to provide new users of FloTHERM with a background sufficient for tackling a wide range of airflow problems.

The main goals are to make the user familiar with the operation of FloTHERM and to instill good engineering modeling practices, through the use of hands-on tutorial exercises.

Tutorial

Introduction to FloTHERM
Mechanical Analysis Division Philosophy
FloTHERM Basics, Overview of Model Creation

Basic Building Blocks and Introduction to SmartParts
FloTHERM Building Blocks
Introduction to SmartParts & Post-Processing
Project File Management

Using EDA Data
Introduction to FloEDABRIDGE
Direct EDA Interfaces
EDA File Manipulation

Using MCAD Data
Introduction to FloMCADBRIDGE
Supported File Formats
MCAD File Manipulation

Gridding & Grid Constraints
Localized Gridding
Gridding Advice

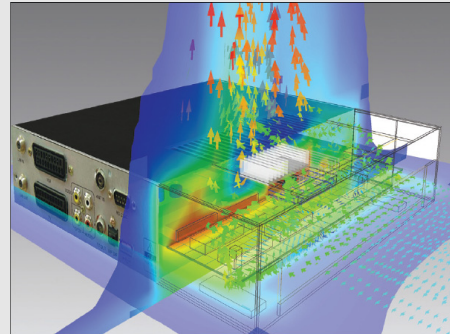
More SmartParts and Troubleshooting
Troubleshooting

Command Center
Introduction to Command Center
Sequential Optimization
Design of Experiments
Response Surface Optimization

Component Modeling
PCB SmartPart Components
Introduction to FloTHERMPACK
Compact Resistance Models

Miscellaneous Topics, and Tips and Tricks
Modeling Related Tools
Zoom-in Modeling
Recommended FloTHERM Work Flow

Tutorial Exercises



Create your own model – using the skills learned to set up and solve models of your own application.

1. **Tutorial 1 - Basic Operation of FloTHERM**
2. **Tutorial 2 - Build, Solve and Analyze a Simple Electronics Box**
3. **Tutorial 3 - Refine Model With Increased Printed Circuit Board Detail**
4. **Tutorial 4 - Add the Power Supply Utilizing FloMCAD Bridge**
5. **Tutorial 5 - Grid the Model and Expand the Solution Domain**
6. **Tutorial 6 - Addition of Heat Sink and Fan**
7. **Tutorial 7 - Response Surfaces and Optimization**
8. **Tutorial 8 - Using FloTHERM Pack to Create Thermal Models**

Courseware Includes

1. **FloTHERM Training Manual** - Hardcopy
 2. **FloTHERM Files** - Carry out the LAB exercise in FloTHERM to simulate the Results all in your PC
 3. **FloTHERM Software** - Complete FloTHERM software to carry out the simulations.
- ... All these comes bundled at a small price which will help you to clear many doubts and explore FloTHERM*