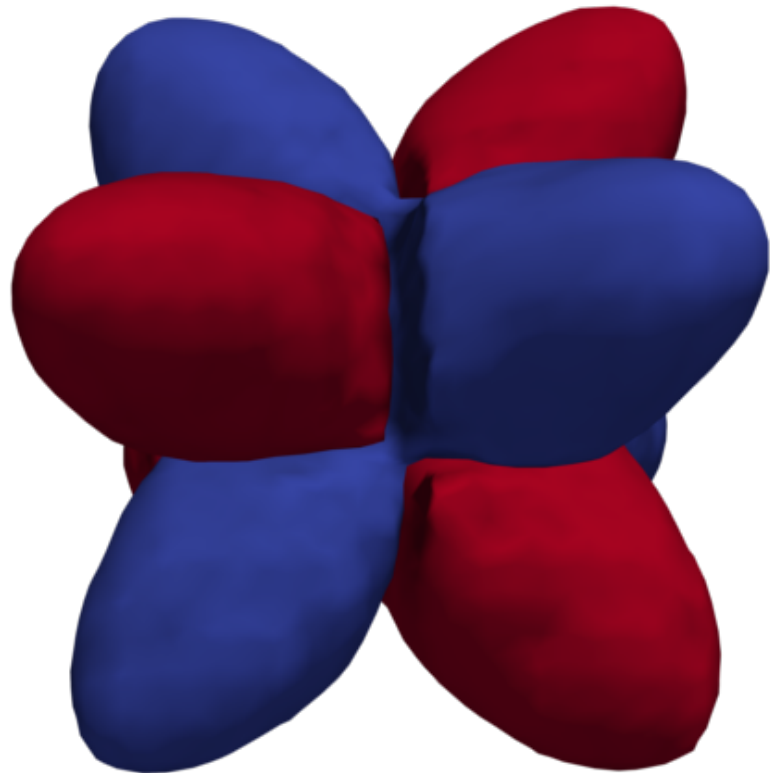




XienceSim manual

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Preface

The XienceSim environment is a Finite element software package designed to solve complex physical problems. It is capable to handle 1,2 and 3 dimensional structures, with various analysis types: stationary, periodic, time dependent, eigenvalue.

In this tutorial we are going to cover up the basic features from geometry building to automated variable sweeping. The example projects are mostly taken from the semiconductor physics toolbox, to present its capabilities in the field of optical device simulation.

We hope that you are going to find our software useful, comments are well appreciated:

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1 Installation

The software can be downloaded from the link:

<http://xiences.com/latestdownload.php>

Note: In the 64 bit package just 64 bit executables are compiled but all parts of the package is interchangeable with other executables from other 32 bit releases. In order to do that you have to copy the dynamic libraries connected to the executable.

1.1 Windows

Just click on the installer executable and follow the steps of the installations dialogs.

Note: It is better to install the package not in the "Program files folder", because you might need administrator rights in the future, which makes the usage of the software less comfortable.

After the installation finished you need to activate the product in order to use it. After the installation dialog has been closed the activation dialog should open. If not just run the "XienceSimLicenseActivator" on your computer. ("LicenseActivatorClient.exe")

1.2 Linux

The installation package has been packed, and you just need to extract it. If you need extra dynamical libraries, because they can not be found on your distribution just write an e-mail.

1.3 About the package

Parts of the Installation package:

- **./examples/** Simple example projects are included.
- **./fem/** The Finite Element solver and its parts. **InputReader.exe** is the Command Line interface.
- **./gui/** Graphical User interface library. **MZXProcessor.exe** starts the Gui , and **LicenseActivatorClient.exe** creates the activation of the product.
- **./materials/** Material library path
- **./mesher/** The folder of the three command line meshers.
- **./csg/** Folder of the geometry builder/finalizer.

- `./sweep/` Consists the SweepController.exe which controls the different sweeps, and collects back the exported results.

1.4 Activation

After the installation you need to activate our products. If the activator dialog is not open yet just open the **LicenseActivatorClient.exe** in the folder of the graphical user interface.

Figure 1. License activator GUI

The screenshot shows a window titled "LicenseActivatorClient" with a "Request License" section. It contains several input fields and buttons:

- User section:**
 - Name:
 - E-mail:
 - Institute:
 - Create User File:
- E-mail section:**
 - Operator e-mail:
- Server section:**
 - Server Address:
 - Server Port:
- Bottom right:**

Type in your name, e-mail address and Institution, and choose from the following activation possibilities:

- **Online Activation** Click on the "Request" button and you shall receive the license files, which should be copied in the `./gui` folder.
- **Manual activation** Click on the "Create..." button, and it creates a user file corresponding to your computer. Send the created user files to the "license@xiences.com" address and you will receive the license files shortly.

After the activation the program is ready to use.

2 First steps

Simple Video tutorials, which describes how to use the software:

<https://www.youtube.com/channel/UCEf5DhUMbeagQazjUl8Opew>

Software documentation:

<http://www.xiences.com/dokuwiki/doku.php>