

COMPUTER SIMULATION TECHNOLOGY ACADEMIC PROGRAM



Electromagnetic and multiphysics simulation have numerous advantages in the academic world, both for teaching and for research. The CST® academic program offers academic and research institutions a range of highly discounted educational and research options, allowing students and academics access to the same cutting-edge simulation tools used in leading labs and companies.

Of particular interest to universities are the classroom and educational versions of our simulation tools CST STUDIO SUITE® and Antenna Magus® which are primarily intended for teaching and training purposes and are offered at a much reduced rate. For research purposes, an extended educational or a research license may offer more flexibility. In addition, for learning purposes, students themselves may download and use the free CST STUDIO SUITE – Student Edition in a personal capacity.

A general description of the license types available as part of the CST academic plan is shown below. Licenses (excluding the CST STUDIO SUITE – Student Edition) have to be applied for by an authorized university staff member, and can only be used at academic institutions.

tutorials or other practical exercises to be performed by a group of students.

Classroom License

This type of seat based license supports 50 frontends/25 processes. It is ideal for use in a classroom environment, where the license is administered centrally. It can be granted as a free add-on to other university licenses on request. This license has some restrictions but extra modules can be added on.

Educational University License

Educational licenses are seat based (see below), and most of the missing options can be added to a seat for a discounted extra charge. The setup is through a LAN license. Assuming that research results obtained with the software are non-confidential (see “Usage restrictions” for more details) and the project is not externally funded, this license can be used for research purposes.

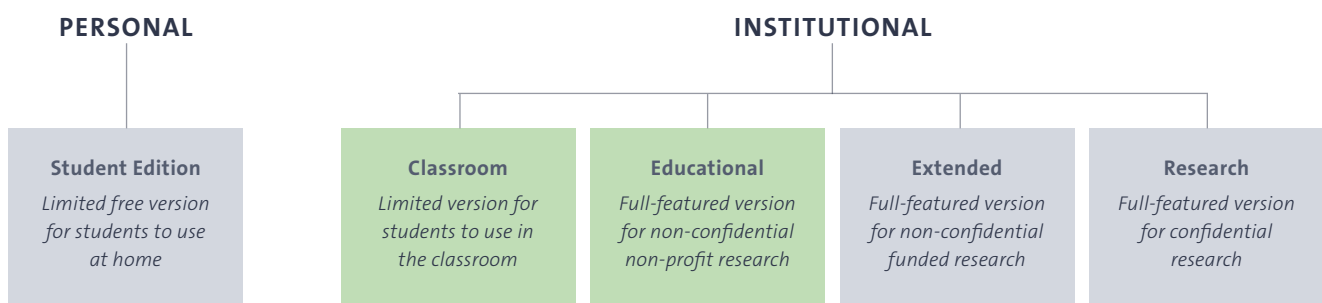
PRODUCTS AND LICENCES

LICENSES USED PRIMARILY FOR EDUCATION AT UNIVERSITIES

The primary purpose of this group of licenses is to assist with the learning process of students and to introduce them to industry-standard simulation tools without the cost normally associated with the software. Academic staff can obtain classroom licenses for teaching purposes such as

LICENSES TO SUPPORT RESEARCH ACTIVITIES AT UNIVERSITIES

If your main goal is to do research that goes beyond what’s allowed by an educational license and you are part of an educational institution, then this is the right group for you. Note that all license types can only be issued if the usage will be exclusively at an academic institution. Conditions



The range of academic licences. The highlighted licences are of particular interest to universities.

apply to these licenses. Your CST sales contact can assist you in determining which of these licenses is suitable for your research purposes.

Extended University License

The Extended University license allows a flexible feature setup through a LAN License without any restrictions regarding the feature selection. The Extended University license can be used on research projects that are externally funded, as long as research results obtained with the software are non-confidential (see “Usage restrictions” for more details).

Research License

The only academic license type which can be used if research results are confidential* (see “Usage restrictions” for more details). It allows for a flexible feature setup.

“Electromagnetics is just so much easier to learn and understand with pictures. CST has been a great tool for my students.”

Cynthia M. Furse (PhD), Professor, Elect & Computer

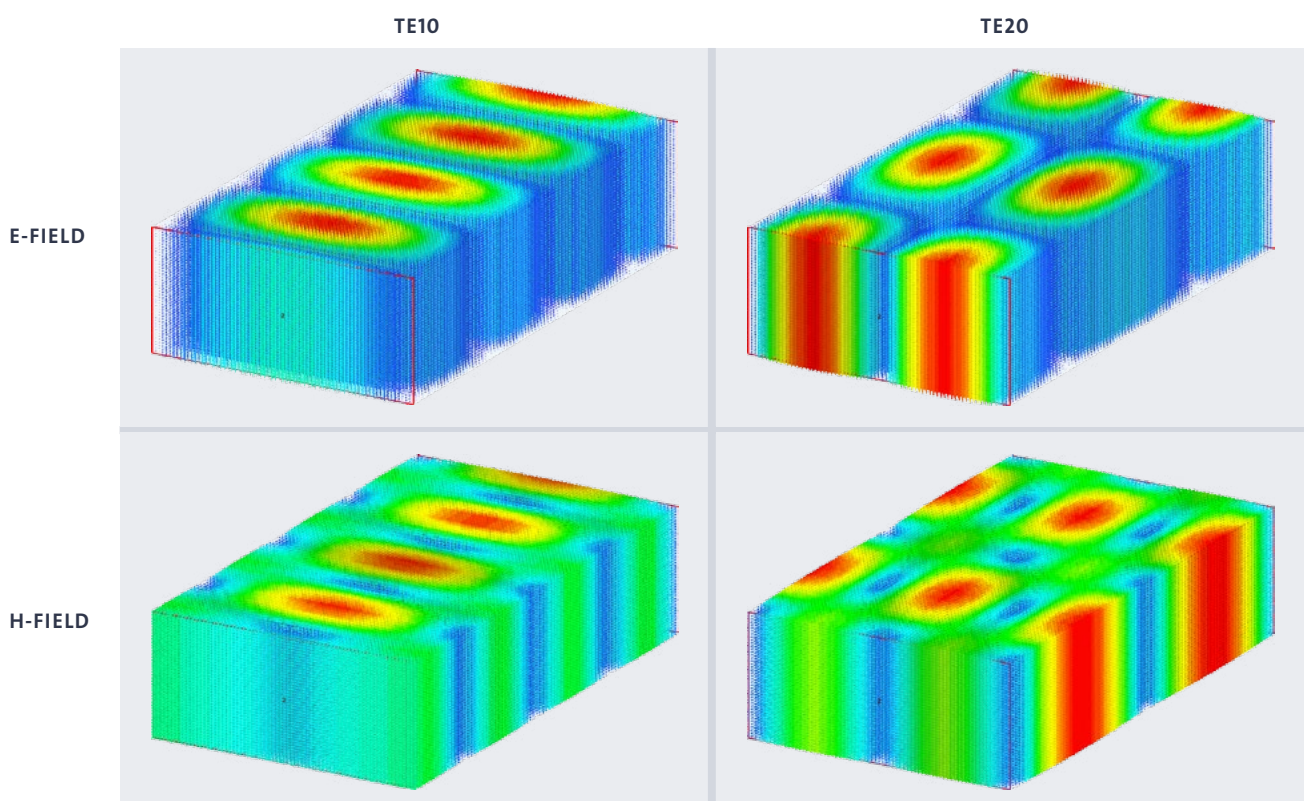
ANTENNA MAGUS

Antenna Magus is an antenna design and knowledge management tool, which can export antenna models suitable for simulation with CST STUDIO SUITE. CST offers three different types of Antenna Magus licenses for use at educational institutions. All versions of Antenna Magus will include two antenna types that are readable by the CST STUDIO SUITE – Student Edition.

The Classroom license of Antenna Magus offers 20 antennas, all of which are typical of antennas used in a classroom environment. Educational University and Extended University licenses are also available for Antenna Magus.

Web based academic examples

We have prepared several small academic examples, which are suitable for undergraduate students who are getting acquainted with the theory of electromagnetics. These examples show detailed instructions on how to set up a model properly, and videos discuss the construction of the models. The completed models can be downloaded and are ready for further investigations. The models are provided in a format suitable for the Student Edition as well as for the full version of the CST STUDIO SUITE. You can find the academic examples at this link: <http://www.cst.com/academia/Examples>. Below is an extract from the example on waveguides, which can be found on our website. This picture shows the E and H field patterns of the first 2 modes in a standard waveguide.



LICENSE FUNCTIONALITY

In this chapter we will highlight the features of the Classroom, Educational, Extended and Research licenses and explain the main differences between them.

Setup

Classroom and Educational licenses are available as CST STUDIO SUITE seats. The solver set-up of Extended university and Research licenses can be flexibly configured.

CST STUDIO SUITE Seat consists of

<i>T</i> = Time Domain	<i>FD3D</i> = Filter Designer (3D)
<i>F</i> = Frequency Domain	<i>FD2D</i> = Filter Designer (2D)
<i>E</i> = Eigenmode	<i>TH</i> = Thermal
<i>I</i> = Integral Equation	<i>SM</i> = Structural Mechanics
<i>CBL</i> = Cable Harness	<i>DS</i> = Circuit Simulator
<i>PCB</i> = Printed Circuit Board	<i>WAK</i> = Wakefield Solver
<i>S</i> = Static Solver	<i>3D Token</i> = 3D Import Token
<i>LF</i> = Low Frequency	<i>EDA Token</i> = EDA Import Token
<i>TRK</i> = Tracking	<i>RCK</i> = Rule Check

Add-ons to the CST STUDIO SUITE seat

Possible Add-ons on to the CST STUDIO SUITE seat are: Acceleration Token, Asymptotic Solver, Multilayer Solver, Chip Interface, Particle-in-Cell, CST BIO Models, Multi Platform.

Manuals

With each installation of the CST STUDIO SUITE software, documentation is supplied. For all institutional licences, printed versions of the documents are also supplied.

Network

All institutional academic licenses are LAN based, meaning that a central license manager controls the usage of the software in a networked environment. The Student Edition is a node-locked license which can be downloaded directly from <https://www.cst.com/academia>.

Technical Support

All valid institutional licenses include access to the support area on our website: <https://www.cst.com/support>.

This site contains FAQs, application notes and other information helpful to users of the software. Limited individual technical support is available to the authorized technical representative of the CST licenses at your institution. This support is given via a ticketing system.

Usage restrictions

One significant difference between the university licenses are the usage restrictions. Of the full-featured licenses, the Educational license may be used for non-confidential, non-profit research, the Extended licenses may be used for non-confidential externally-funded research, and the Research licence can be used for confidential research. “Non-confidential” here means that the results can be shared at any time with CST employees.

The classroom license is intended solely for educational purposes, and additionally has a mesh cell restriction of 300 000 hexahedrons or 40 000 tetrahedrons, and 1000 2D mesh elements.

Volume Discounts

Discounts are usually possible for most of our academic license types. Please contact your CST Sales contact for further information.

CST also offers campus-wide licenses. Please contact CST for further information.

The described options and licensing policy are subject to change, and are correct as of January, 2017.

Our standard terms & conditions are available at:

<https://www.cst.com/terms.aspx>

Terms & conditions relating to the CST STUDIO SUITE – Student Edition are available at:

<https://www.cst.com/SE-Terms>

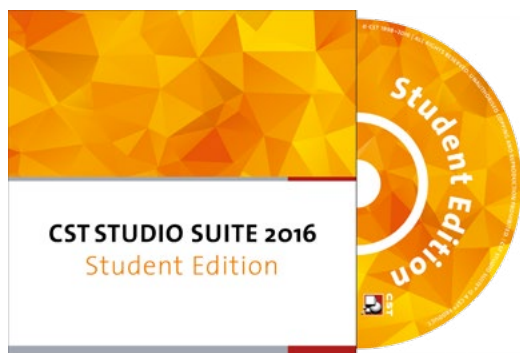
CST University Publication Award

In acknowledgement of the importance of university research and the impact of groundbreaking publications on the reputation of both author and tool used for the research, CST runs the CST University Publication Award. Contributions making reference to simulations made with one of the CST STUDIO SUITE software tools are eligible for consideration. Three papers and one short paper (4 pages or less) will be selected from the qualified transmittals and the respective university institutes will be equipped with an upgraded license for one year. For more information, see <https://www.cst.com/academia/university-award>.

“The CST EM simulation software provides an outstanding platform for numerical study of intricate wave interaction with structures such as metamaterials. In my group, we have been using the CST MICROWAVE STUDIO for the past several years, and we have been very happy with its capabilities and functionalities. The CST software has become an important tool in our research efforts.”

Nader Engheta (PhD), H. Nedwill Ramsey Professor, University of Pennsylvania

CST STUDIO SUITE STUDENT EDITION

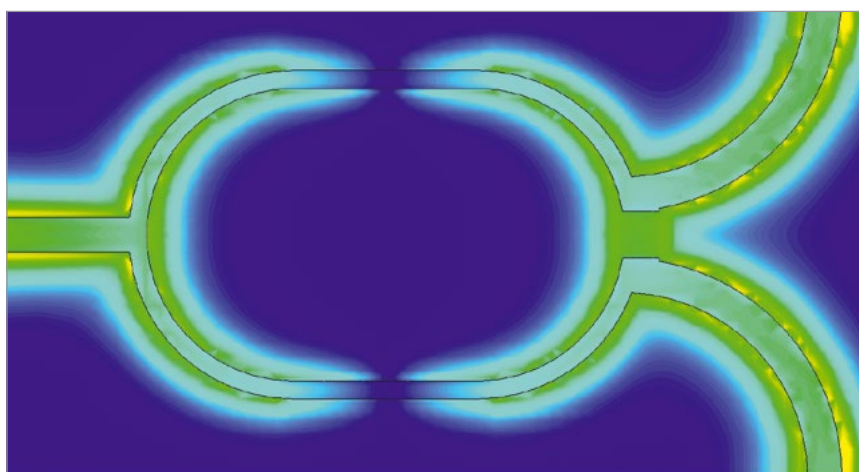


The CST STUDIO SUITE – Student Edition is intended for private use by a student. This type of license is available as a personal node-locked license to any student who is registered at an educational institution and is free of charge. It requires a user-based online registration and is restricted both in terms of mesh cells and features – currently simulation models with up to 30000 hexahedrons or 10000 tetrahedrons are supported.

“For over 10 years, I've used CST simulation tools to get students acquainted with EM field in lectures and in hands-on exercises. I very much appreciate the userfriendly modelling workflow and visualization possibilities. Sometimes, a field plot supports the students' understanding better than any experiment. The students start to further explore the model, and they start to learn from themselves and from each other.”

Herbert De Gersem (PhD), Professor, Technische Universität Darmstadt

The software can be downloaded by the student from our website. An internet connection is required in order to register the software installation. The Student Edition has its own file format, which is only readable in the Student Edition. The transferring of files between a regular version and the student edition is not supported. Please see the <http://www.cst.com/academia/student-edition/download> for a detailed description of the features (and functional restrictions) of CST STUDIO SUITE – Student Edition.



The Wilkinson Power Divider is one of several worked examples included available from www.cst.com/academia.

Trademarks

CST, CST STUDIO SUITE, CST MICROWAVE STUDIO (CST MWS), CST EM STUDIO, CST PARTICLE STUDIO, CST CABLE STUDIO, CST PCB STUDIO, CST MPHYSICS STUDIO, MPHYSICS, CST MICROSTRIPES, CST DESIGN STUDIO, CST EMC STUDIO, CST BOARDCHECK, PERFECT BOUNDARY APPROXIMATION (PBA), and the CST logo are commercial trademarks or registered trademarks of Dassault Systèmes, a French “société européenne” (Versailles Commercial Register # B 322 306 440), or its affiliates in United-States and/or other countries. All other trademarks are owned by their respective owners. Use of any Dassault Systèmes or its subsidiaries trademarks is subject to their express written approval.

CST STUDIO SUITE® is a CST® product.

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