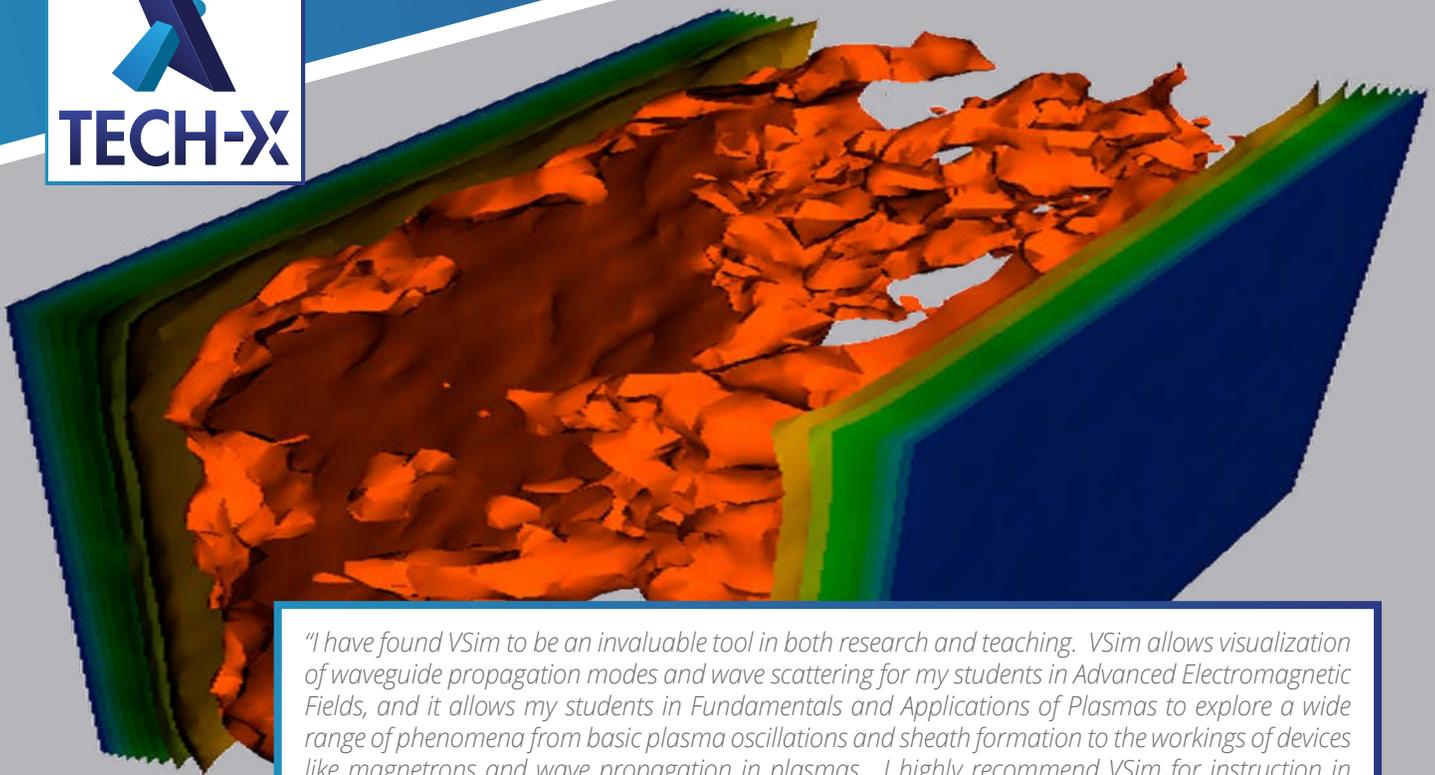


An Excellent Tool for Learning Physics Fundamentals

Simulate electromagnetics, electrostatics, and charged particles in slab and cylindrical geometries.

Learn how pure electromagnetic waves and plasma waves propagate.



"I have found VSim to be an invaluable tool in both research and teaching. VSim allows visualization of waveguide propagation modes and wave scattering for my students in Advanced Electromagnetic Fields, and it allows my students in Fundamentals and Applications of Plasmas to explore a wide range of phenomena from basic plasma oscillations and sheath formation to the workings of devices like magnetrons and wave propagation in plasmas. I highly recommend VSim for instruction in electrical engineering or physics at the advanced undergraduate and graduate level."

—Prof. Mark Golkowski, Electrical Engineering, University of Colorado, Denver

VSim for Basic Simulations (VSimBase) provides basic electromagnetics, electrostatics, and self-consistent plasma modeling capability in slab geometries, including with periodic boundary conditions. With VSimBase, solve for electrostatic potentials with Dirichlet or Neumann boundary conditions on the simulation boundaries, or solve electromagnetics with conducting boundaries and current sources.

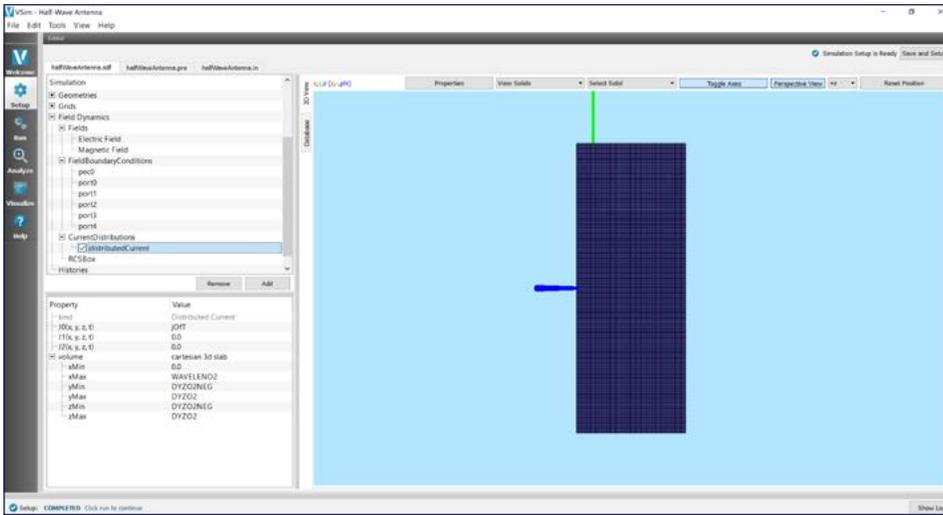
VSimBase is an excellent product for learning how waves propagate, whether pure electromagnetic or plasma waves. Students can determine the dispersion relations of Langmuir, upper-hybrid, and many other waves. Students can also see plasma sheath formation and collisionless

Applications:

- » Wave propagation: electromagnetic and plasma
- » Simple antennas
- » Simple electrostatics: flat and cylindrical capacitors

plasma relaxation processes, including instability growth and saturation.

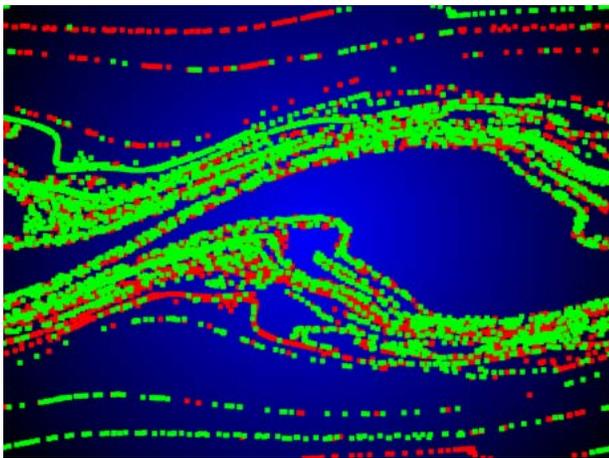
VSimBase examples guide the user through the process of learning the problem, making VSimBase an excellent tool for students, scientists, and engineers to learn physics fundamentals.



Upgrading Upgrade VSimBase to any other package for CAD import and complex shapes. Add VSimEM for advanced electromagnetic algorithms, VSimMD for secondary emission processes, or VSimPD for a broad array of collisional processes.

Consulting Services

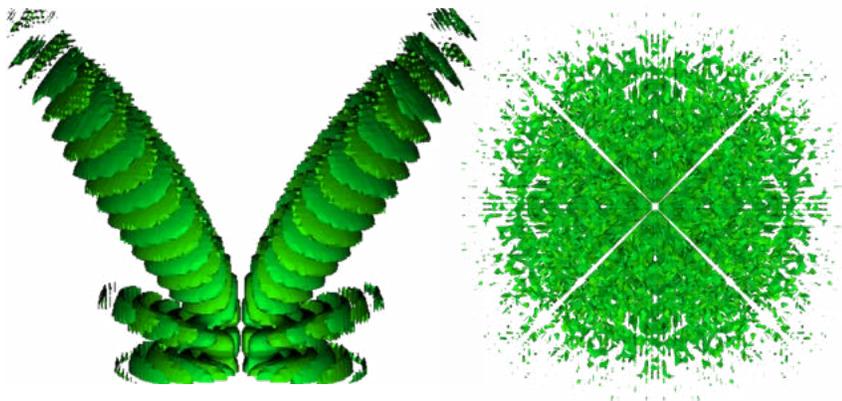
Tech-X offers consulting and training services for all its simulation software. In addition to the support that comes with every VSim purchase, we have experts ready to help you use VSim to solve your most challenging problems.



Left: Particle trapping in the two-stream instability.

Below, left: Dipole above conducting plane.

Below, right: Radiation pattern from half-wavelength antenna.



Sample VSimBase Features

- » 1D, 2D, 3D simulations
- » Electrostatics with Dirichlet, Neumann, or periodic boundary conditions
- » Self-consistent charged particles, both relativistic and non relativistic
- » Variably weighted particles
- » Menu driven setup
- » Absorbing and reflecting particle boundaries
- » Pluggable data analyzer architecture
- » Distributed memory parallelism
- » Electromagnetics with conducting wall or periodic boundary conditions
- » Charge and current sources
- » Prescribed fields
- » Histories: time series data
- » Multiple data analyzers, such as particle binning
- » 1D, 2D, 3D visualization



ABOUT TECH-X

TECH-X is committed to technical excellence and innovation. We combine academic research with a commercial software company sensibility to deliver high quality, cutting-edge software that takes advantage of the latest hardware.

CONTACT US

TECH-X CORPORATION
 5621 Arapahoe Avenue, Suite A
 Boulder, Colorado 80303 USA
 Tel: +1 303 448 0727
 Email: sales@txcorp.com

SIMULATIONS EMPOWERING YOUR INNOVATIONS

www.txcorp.com