USim
BASIC SIMULATIONS

A great solution for learning about fluid dynamics.

TECH-X
SIMULATIONS EMPOWERING
YOUR INNOVATIONS

Learn about how Mach number influences the Kelvin-Helmholtz instability. Understand how magnetization affects the Rayleigh-Taylor instability. Examine shock formation in multi-dimensions over a step. USim for Basic Simulations allows you to do all this and more!

Density for Plasma Z-Pinch

Fluid Dynamics Simulations in One Convenient GUI

With its easy to use interface that allows users to change physical conditions, fluid solvers and dimensionality at the touch of a button, you can use USim to explore the physics of fluid plasmas quickly and easily. With its built in multidimensional visualization capabilities, you'll be able to see the results of your simulations in one convenient GUI at an affordable price.

USim supports massively parallel computing and scales to tens of thousands of processor cores, enabling solutions to problems that were previously unsolvable.

Choose the Right Package for Your Needs

Want to go further into hypersonic flight or high energy density plasmas? USim for Basic Simulation can be upgraded to any other USim package to get the right amount of physics you need with the pricing flexibility you desire.

Choose customized solutions for Hypersonics or High Energy Density Physics, or get all the USim packages.

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Features

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|---|
| Works in all dimensionalities |
| Distributed memory parallelism |
| Periodic boundaries |
| Open source data format with visualization annotations |
| Structured meshes |
| Adaptable meshes |
| Unstructured meshes |
| Cylindrical coordinates |
| Spherical coordinates |
| Single temperature compressible flow |
| Ideal magnetohydrodynamics |
| Ideal gas equation of state |
| Affordable pricing |
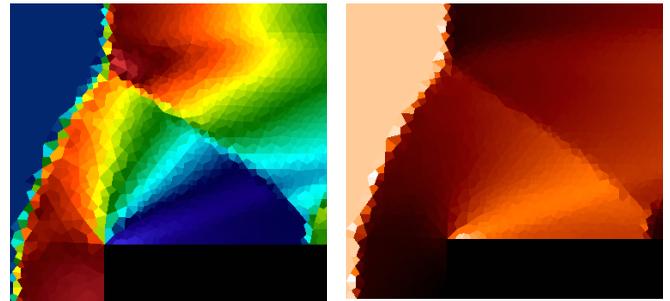
Gas Density and Flow mach number for simulation of compressible, supersonic flow over forward facing step.
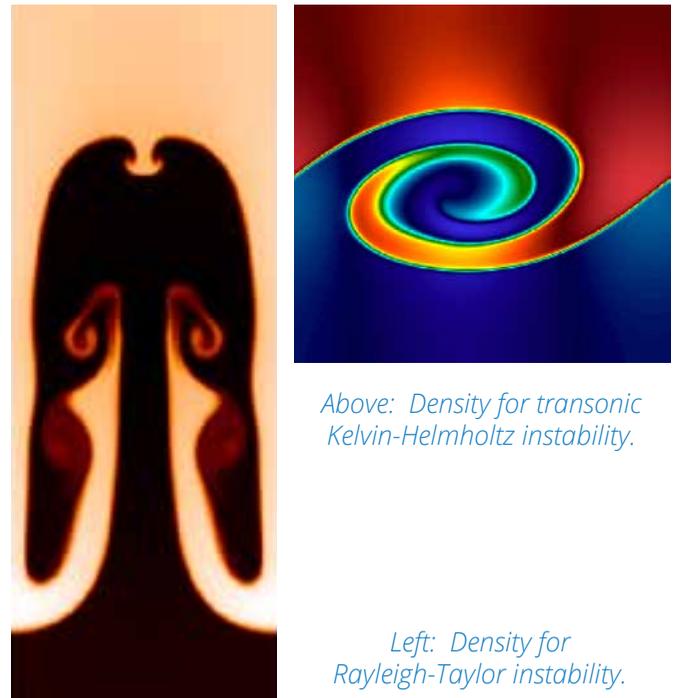
Above: Density for transonic Kelvin-Helmholtz instability.

Left: Density for Rayleigh-Taylor instability.

About Tech-X Corporation

Tech-X Corporation is committed to technical excellence and innovation. Our scientists and software engineers work together to deliver quantifiable results. We combine academic research with a commercial software company sensibility to deliver high-quality, cutting-edge software that takes advantage of the latest hardware and software advances.

Consulting Services

Tech-X offers consulting and training services for all of its simulation software. In addition to the free support that comes with every purchase of a USim product, we have our experts ready to help you use USim to its full extent possible to solve your most challenging problems.

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