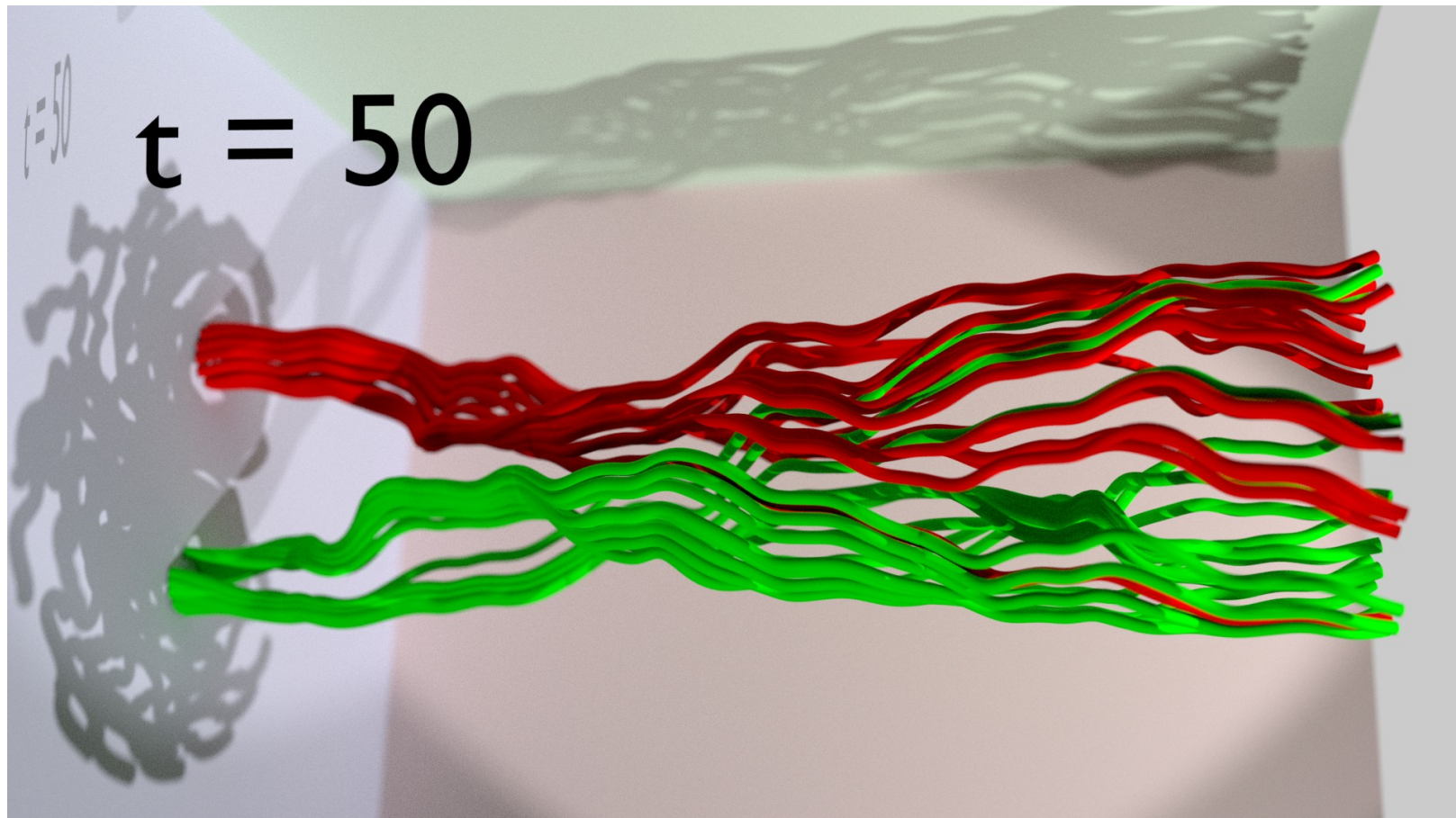
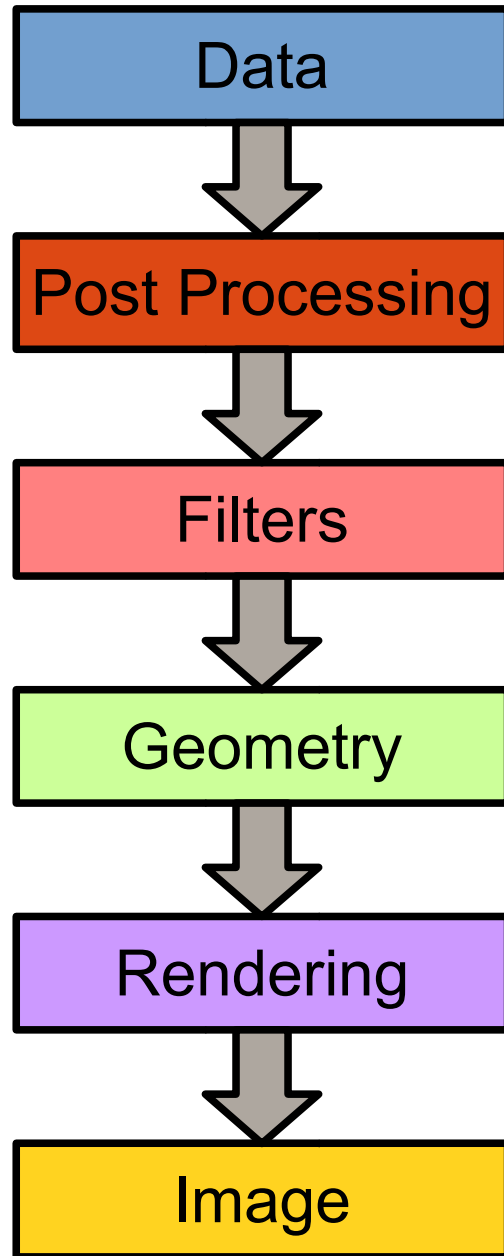


BlenDaViz

Simon Candelaresi



Data to Image

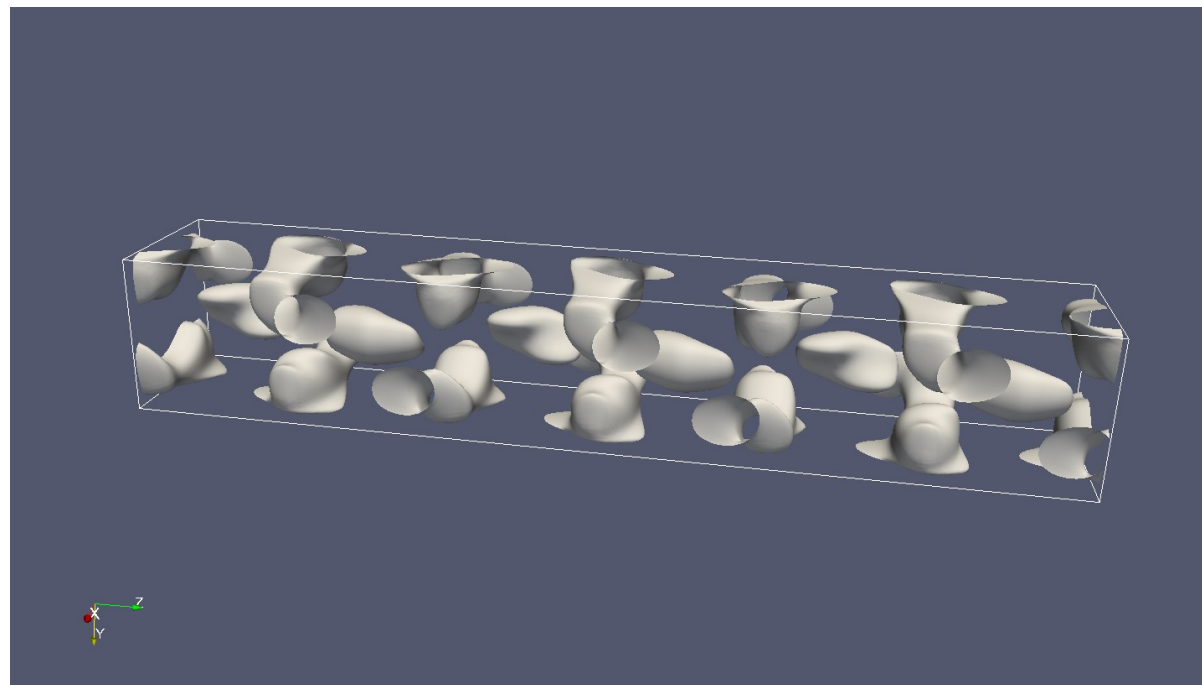


01110001110101001101

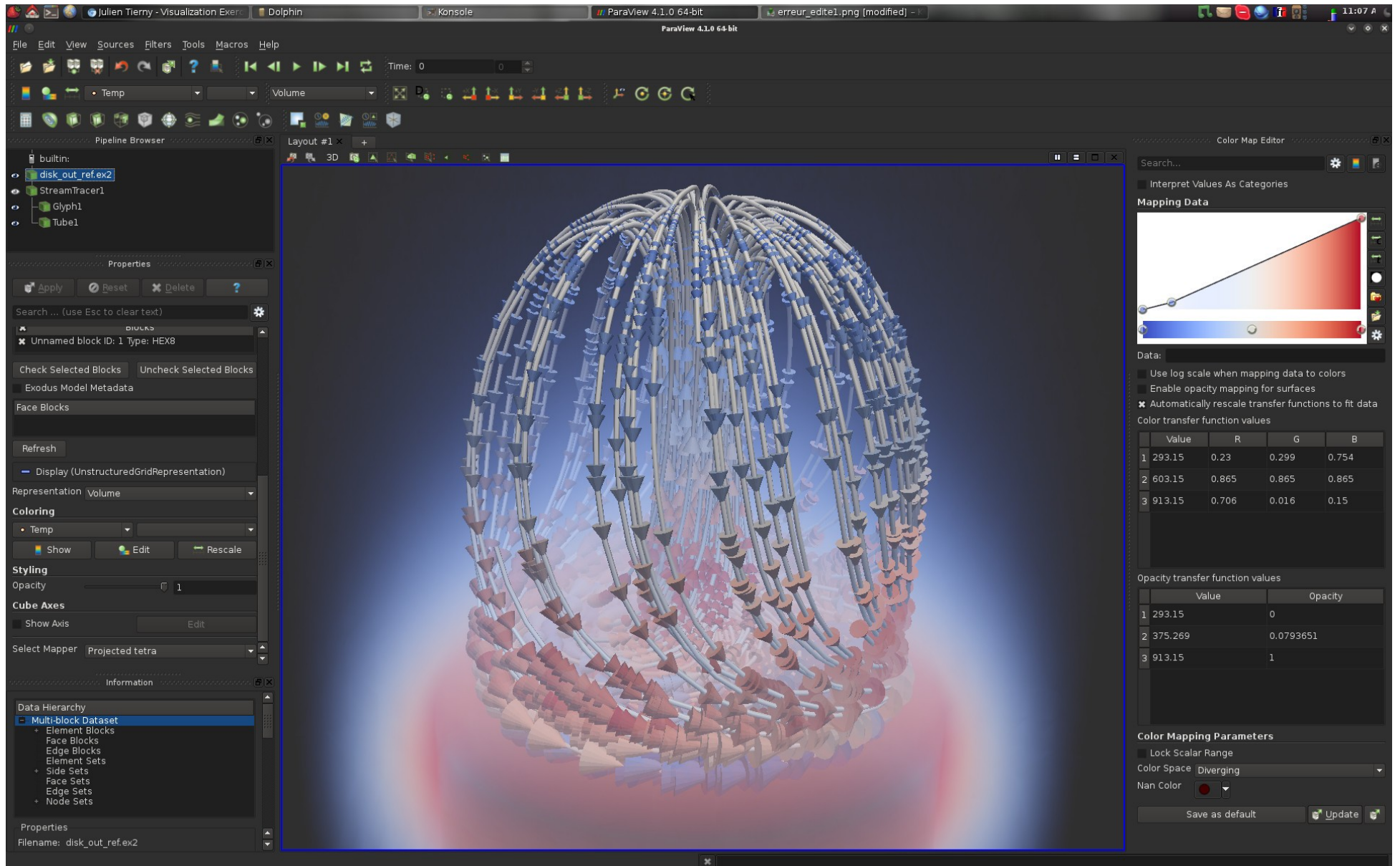
(bfield.vtk)

$$B^2 = \vec{B} \cdot \vec{B}$$

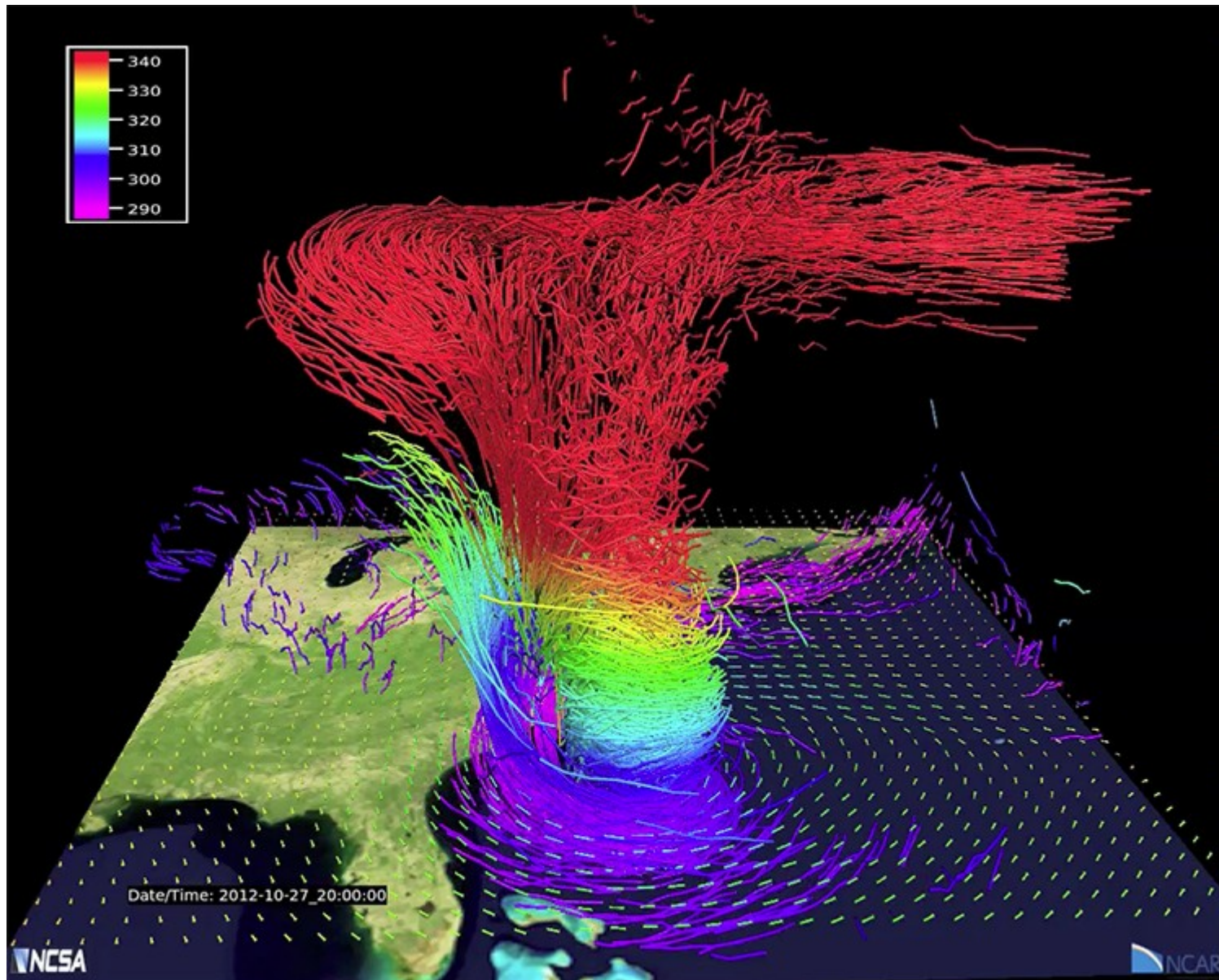
$$B^2 = [0.1, 0.2, 0.3]$$



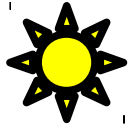
Paraview



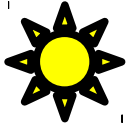
Vapor



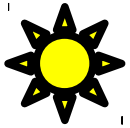
Pros and Cons



Read many data formats.



Read geometry data.



Most common filters.



Limited and slow post-processing.



Poor animation options.



Unrealistic look.



Very limited light/shading options.

What Makes a Realistic Look?

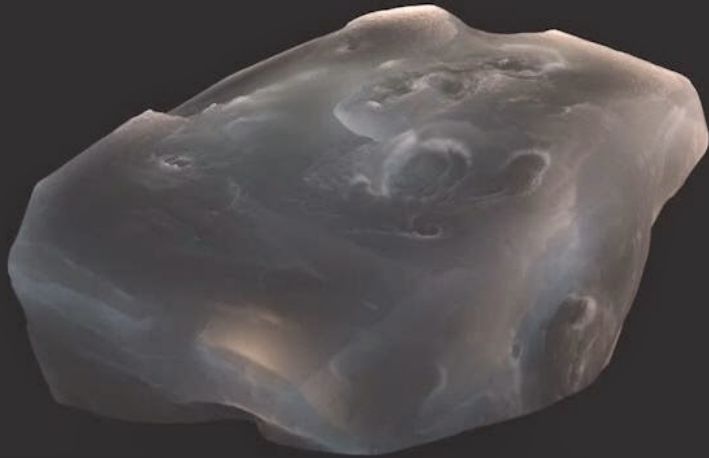


Blender

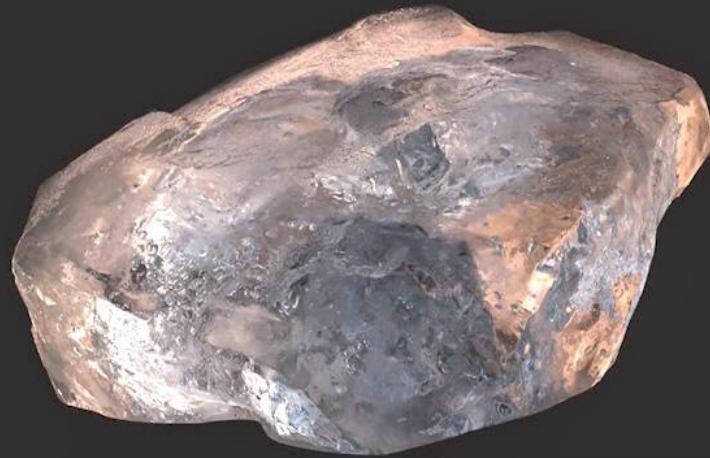


Blender

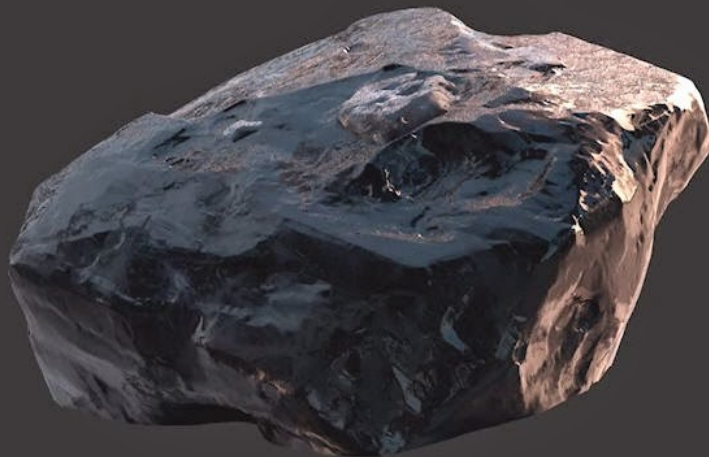
SUB-SURFACE SCATTERING



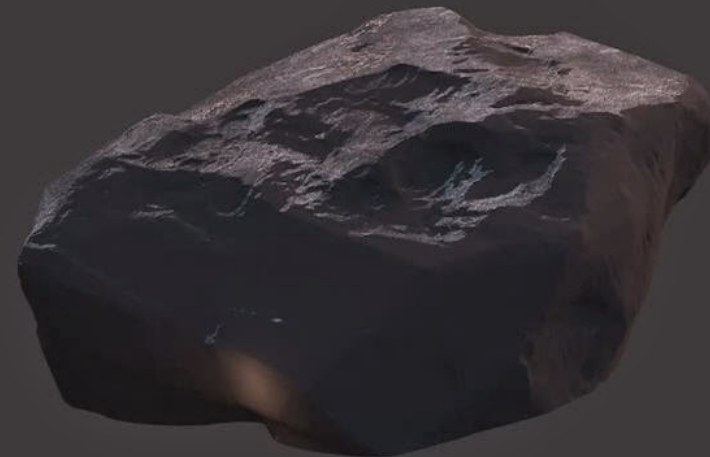
REFRACTION



DIRECT REFLECTION



DIFFUSE REFLECTION



Blender



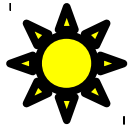
GraphicsLearning.com

Rendered
using



Blender 2.68 Cycles

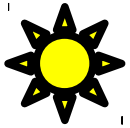
Pros and Cons



Great and realistic graphics.



Realistic shaders, materials and lighting.



Easy and powerful animations.



No data import (except geometry and lights and materials).

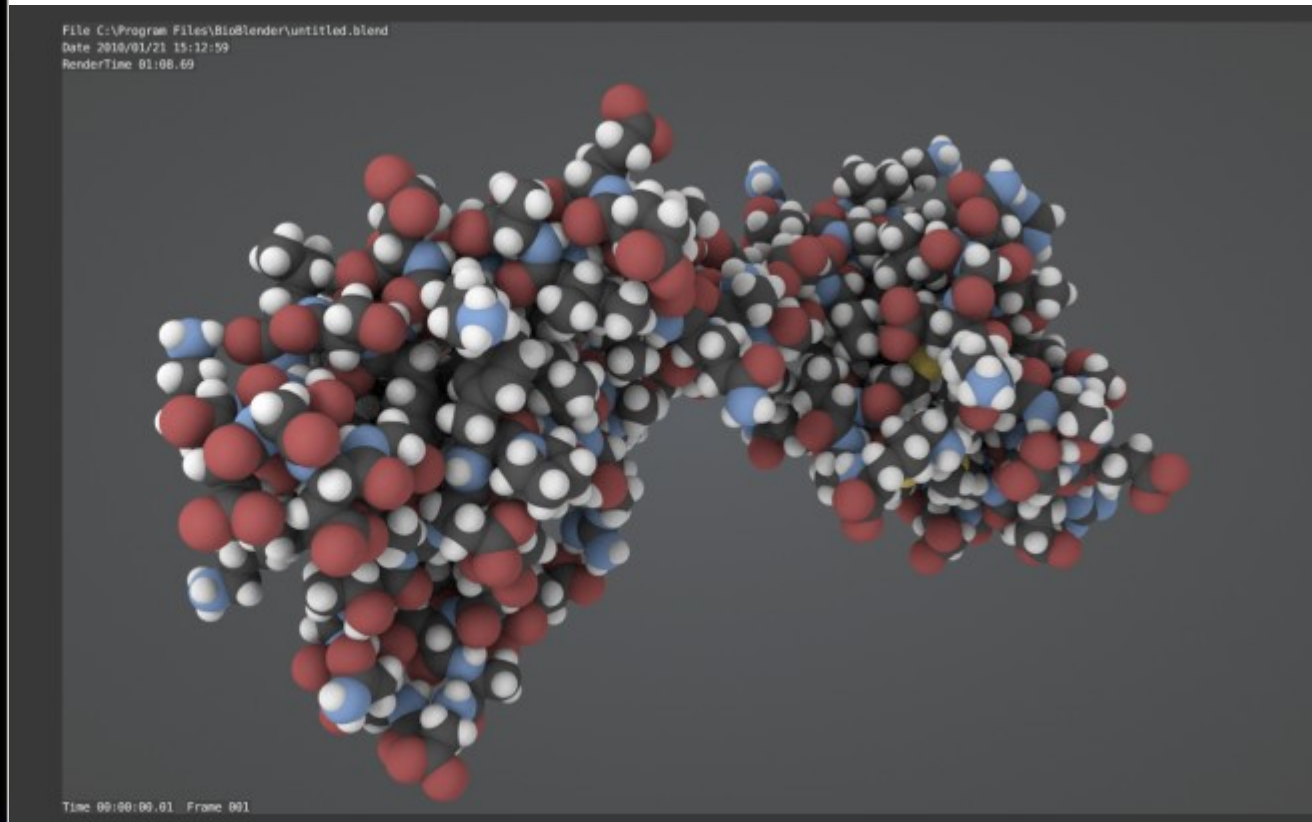
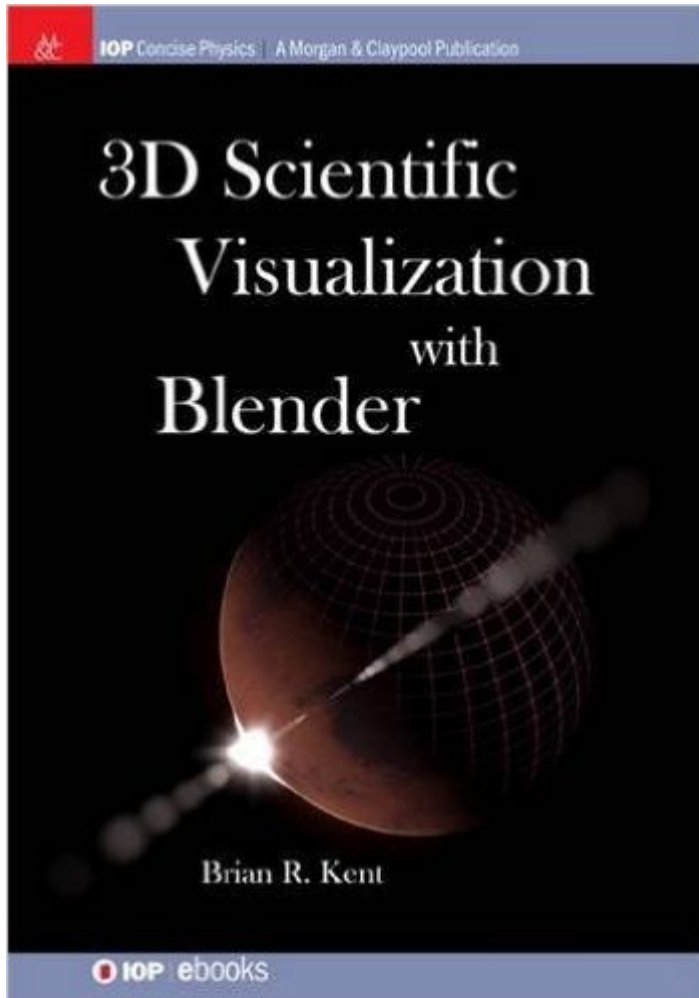


No filters.

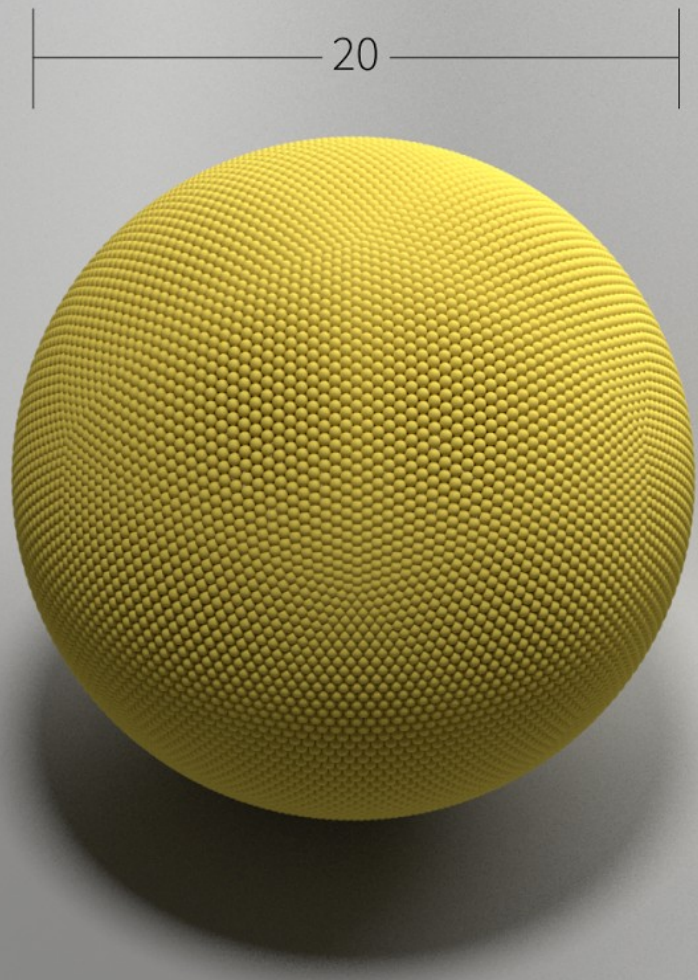


No postprocessing.

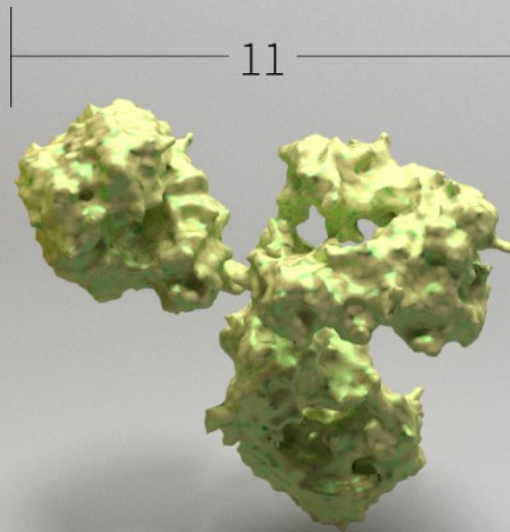
Blender and Visualization



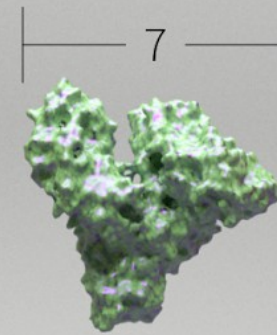
Blender and Visualization



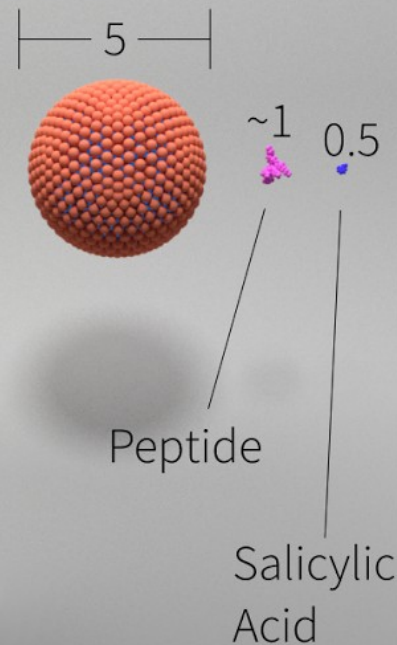
Gold Nanoparticle



Antibody

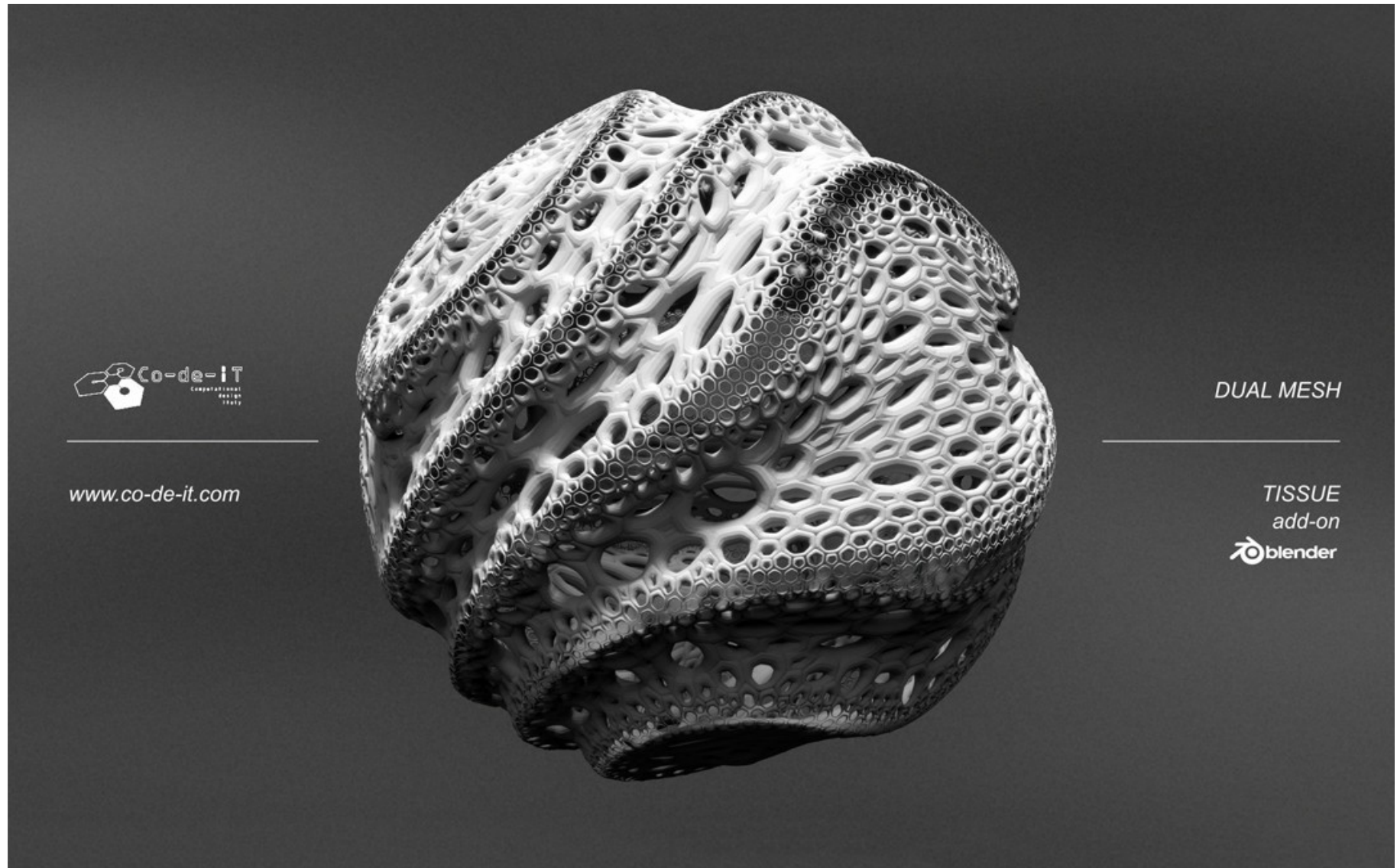


Albumin

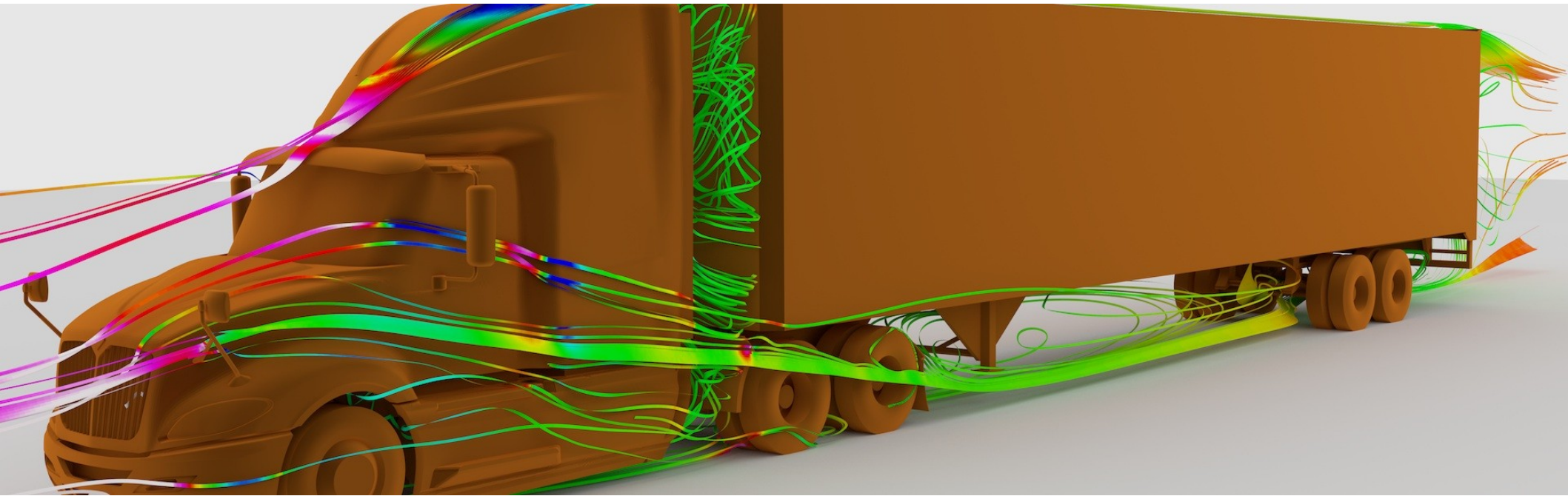


Iron Oxide Nanoparticle

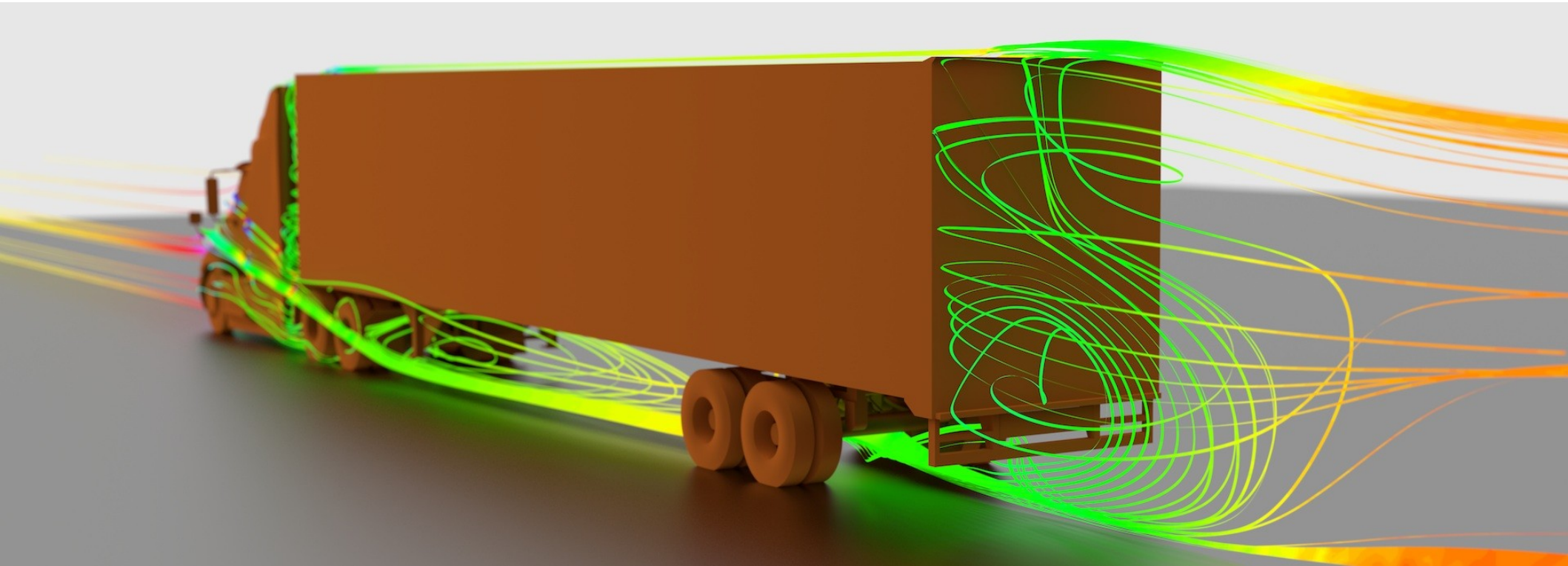
Blender and Visualization



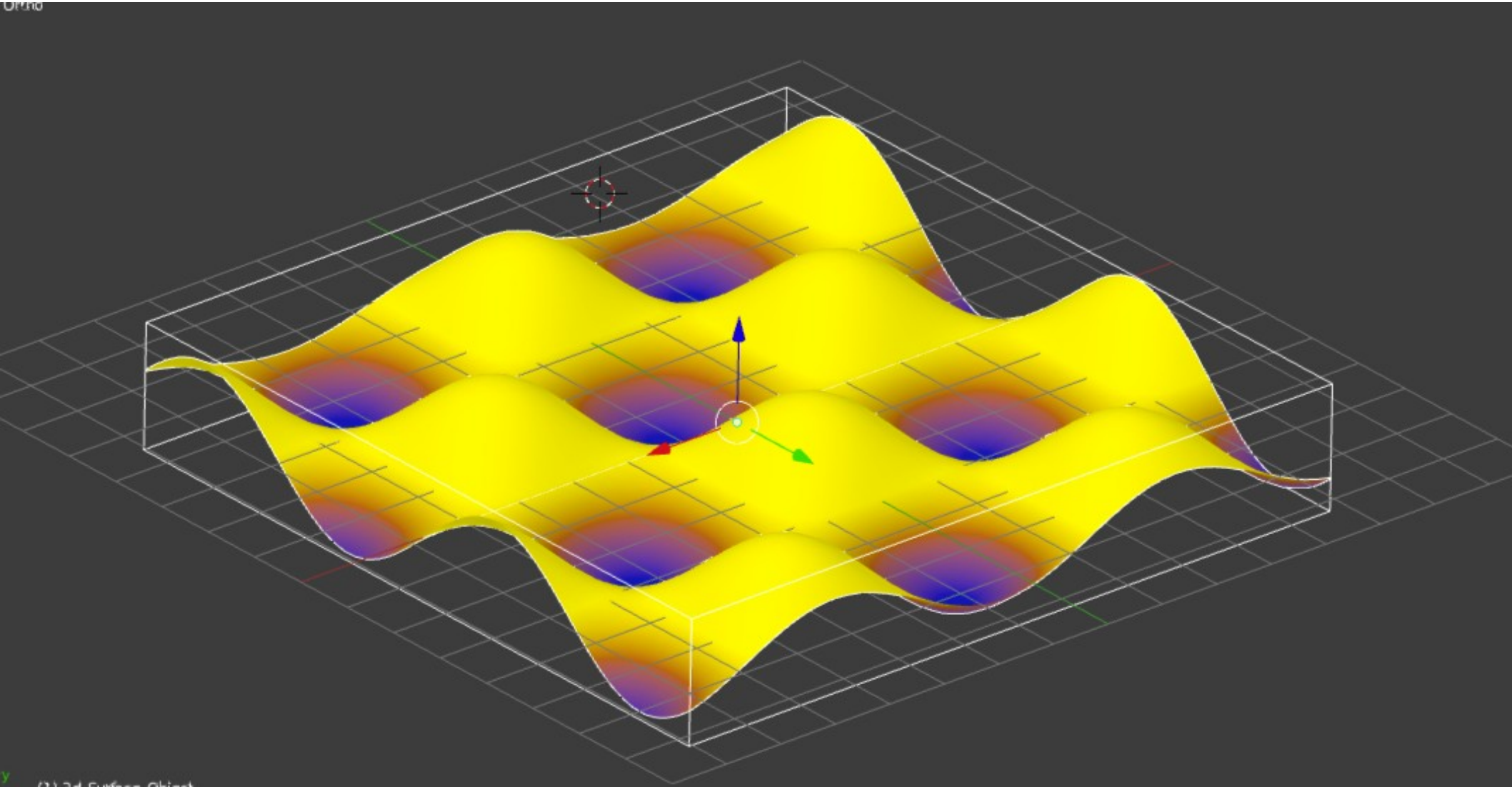
Blender and Visualization



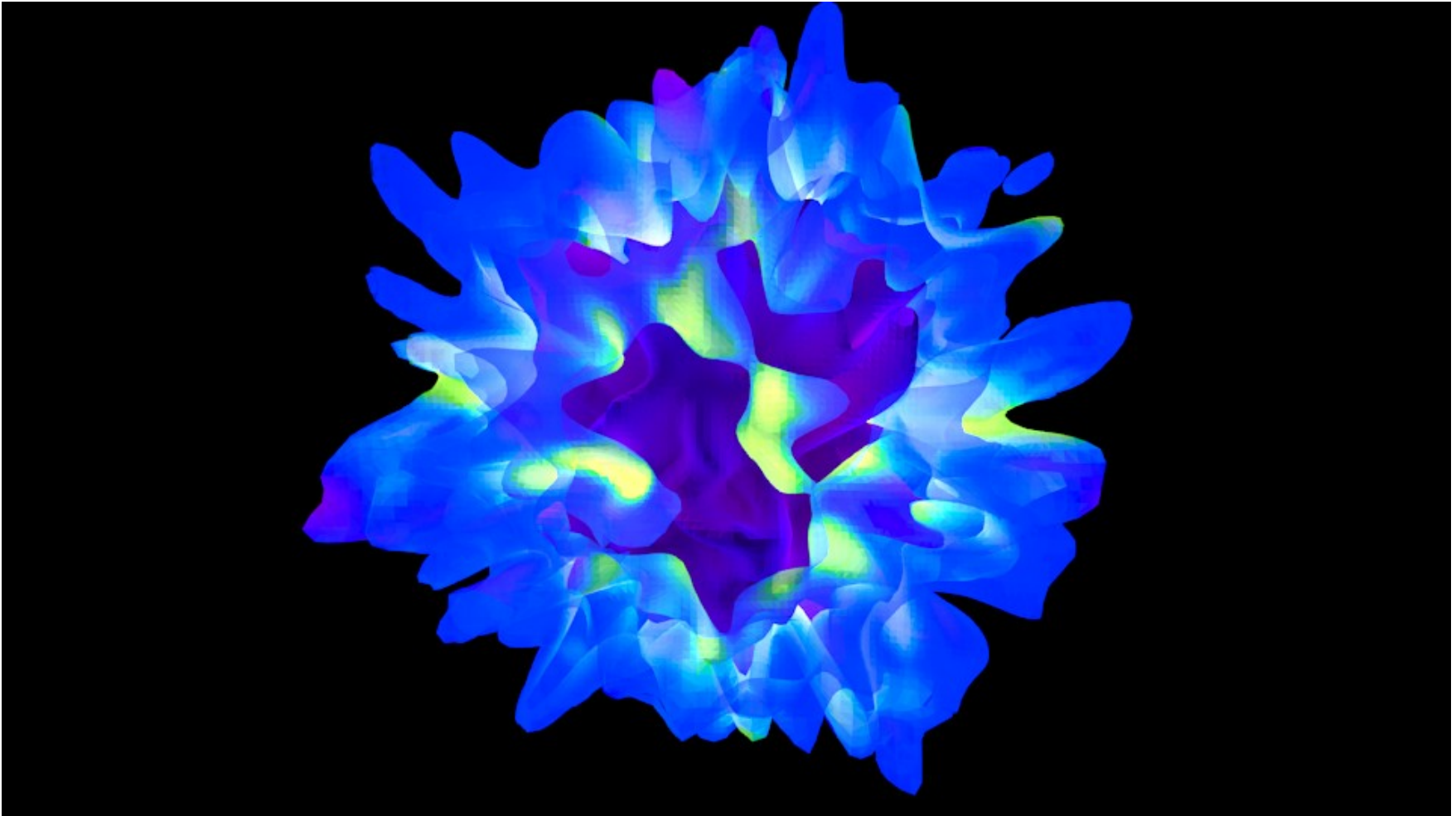
Blender and Visualization



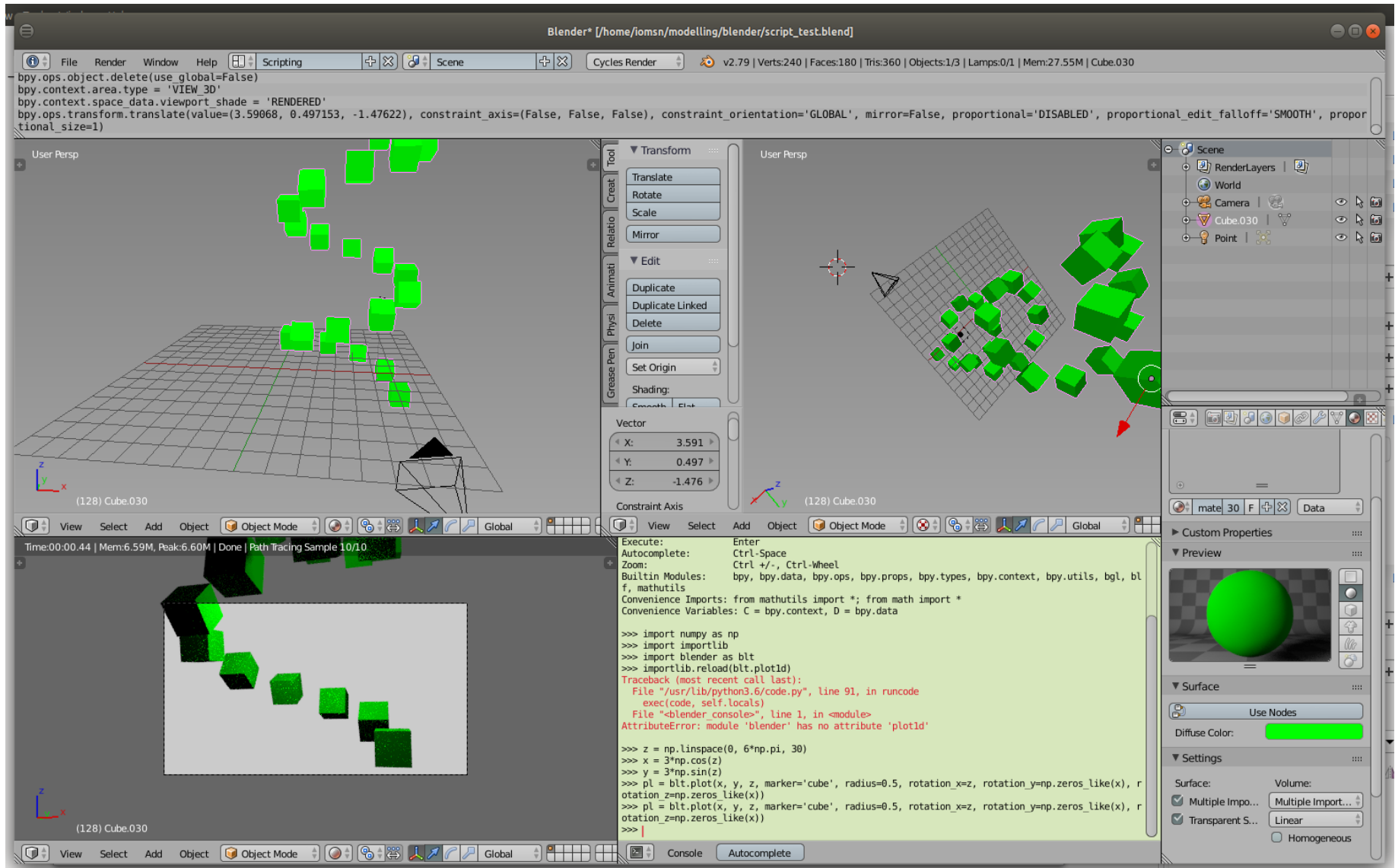
Blender and Visualization



Blender and Visualization



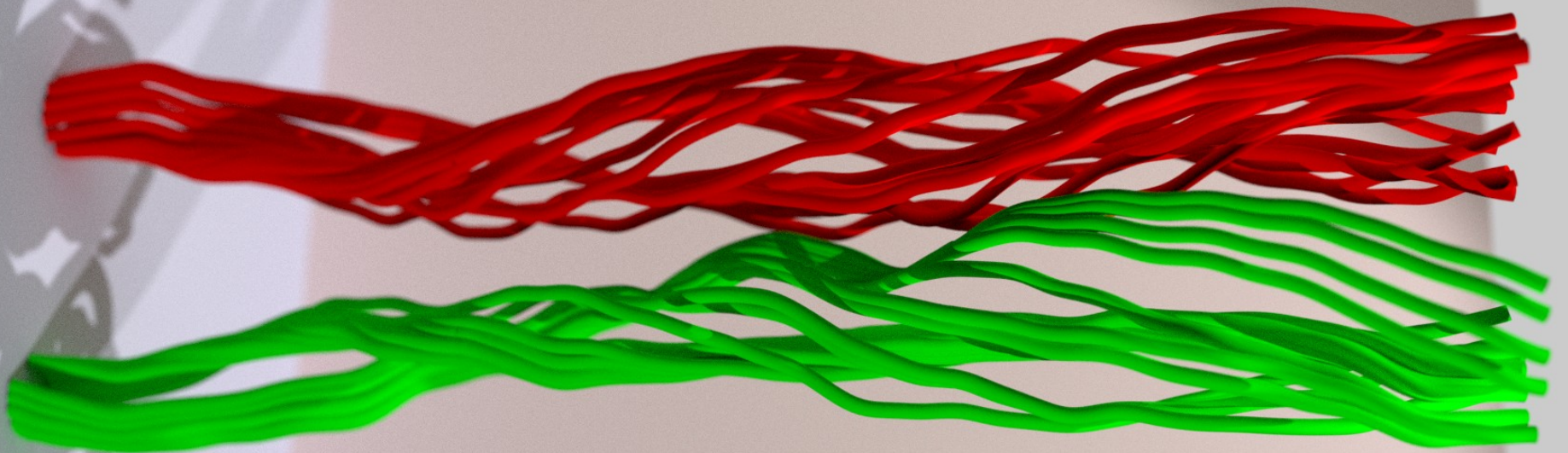
BlenDaViz



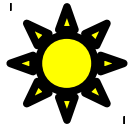
github.com/SimonCan/BlenDaViz

BlenDaViz

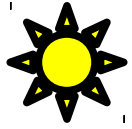
$t = 500$



BlenDaViz



Quick and intuitively to use.



Everything possible through console.



Object oriented.



Group plot geometry into one blender object.

Outlook

- Axis and bounding boxes.
- Labels and annotations (LaTeX).
- Automatic camera and lights.
- Volume rendering.
- Iso surfaces.
- Streamlines
- Time integration.