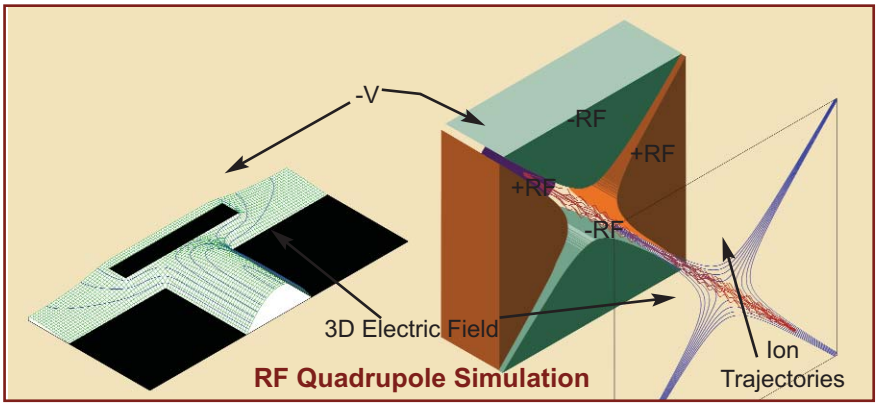
SIMION® 8.1.1 New Release

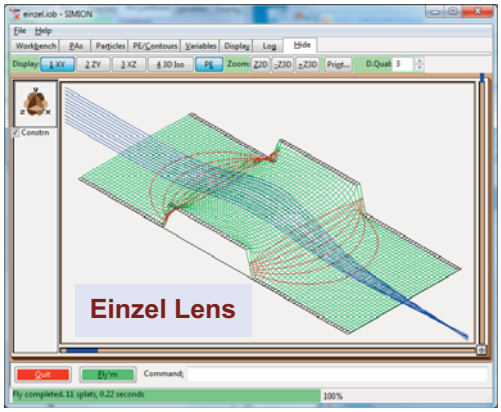
The industry standard for E/B-field and particle trajectory simulation.

Now faster, more accurate, and more versatile.

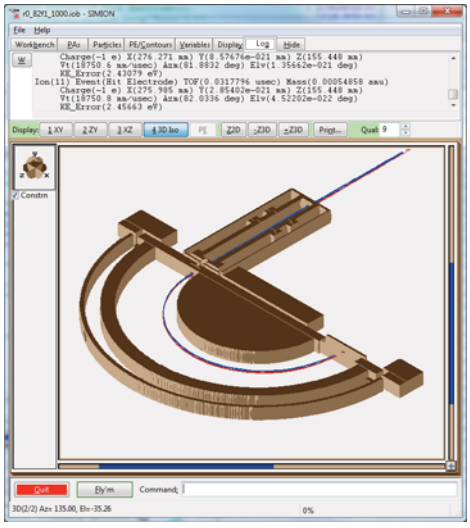
What is SIMION?



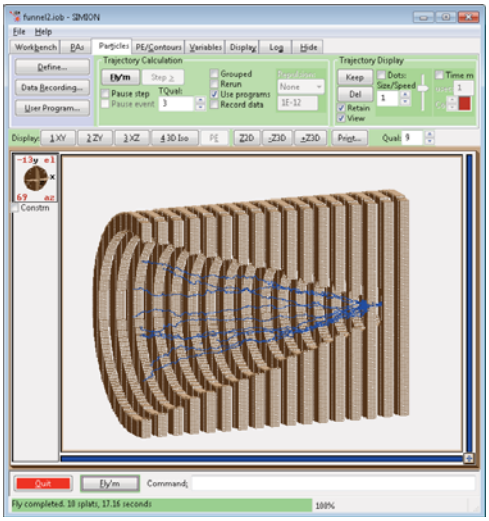
RF Quadrupole Simulation



SIMION has wide applicability for simulation of mass spectrometer and related particle optics systems.



Hemispherical Analyzer



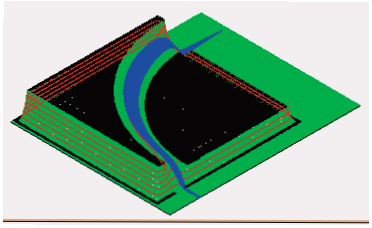
RF Ion Funnel/Collisions

Part No.	Description
SIMION81	SIMION 8.1
SIMION81LK	SIMION 8.1 Lab Kit - For Universities Use Only - Up to 30 seats
SIMION81U	SIMION 8.1 Upgrade from SIMION 8.0
SIMION81U7	SIMION 8.1 Upgrade from SIMION 7.0
SIMION81AL	SIMION 8.1 Academic Lease (1 year)

Scientific Instrument Services, Inc.
1027 Old York Rd, Ringoes, NJ 08551-1039
Phone: 908-788-5550 **FAX: 908-806-6631** **Web: http://www.simion.com**

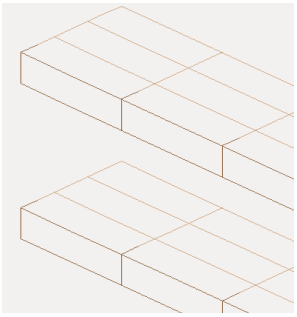
New Features of SIMION 8.1.1 (over 8.0)

More Accurate

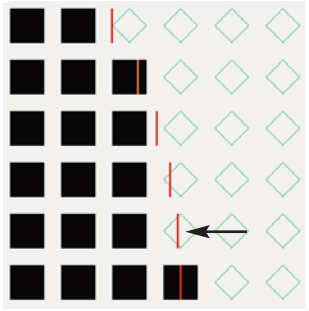


64-bit array sizes up to 20 billion points (190 GB)

Example: 56 GB PA running in Amazon EC2

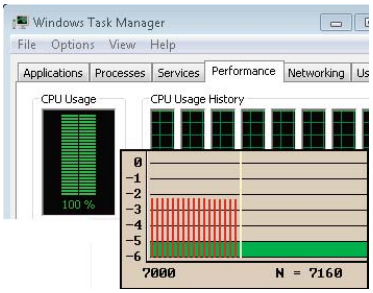


Rectangular, non-square grid cells.



Enhanced accuracy curved surface handling with fractional grid units

Faster

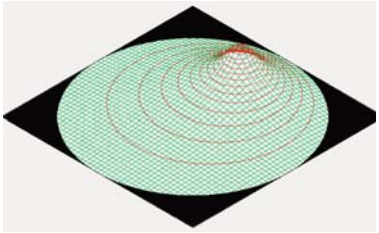


Multicore CPU support (Refine Speed)

8.1.2: Improved Lua speed

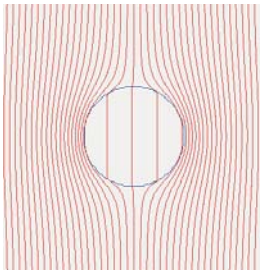
In development: CUDA

More Versatile



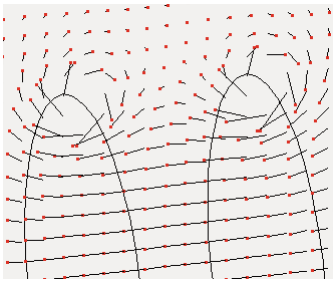
Poisson solver (Refine)

Example: charged sphere in grounded tube



Dielectric materials (Refine)

Example: dielectric sphere in E-field



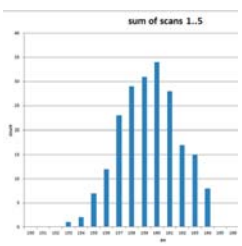
Programmable plotting capabilities: vector field plots for B-fields, gas flow, and wire coils.

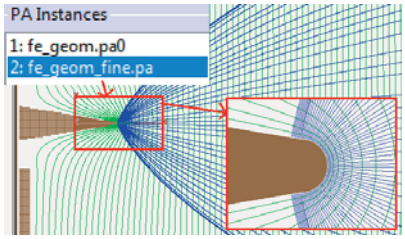
Example: Helmholtz coil

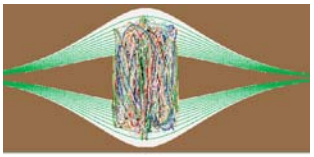
```
function segment.flym()
  -- Step combinations of voltages A an
  for VA = 10,100,10 do
  for VB = 50,70,5 do
    _VA,_VB = VA,VB
    run()   -- Perform trajectory calcul
  end end
end
function segment.terminate_run()
  print('transmission ratio=', count/to
end

simion.pas[1]:potential(x,y,z, 200)
simion.pas[1]:refine{convergence=1e-5}
simion.wb.instances[1].x = 10
simion.wb:efield(x,y,z)
```

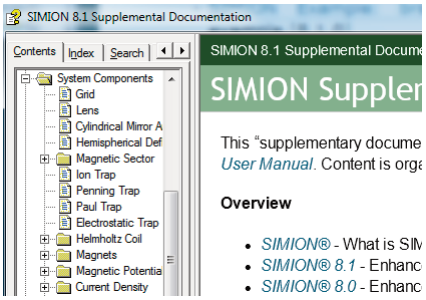
New programming segments and APIs.

Example: voltage/geometry optimization.





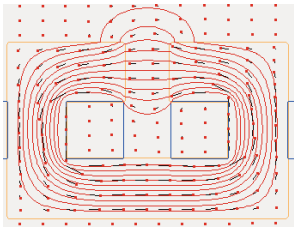




Two dozen examples added or significantly improved: spectrum plot, nested coarse/fine arrays, FAIMS, magnetic sector, dielectric, pseudopotential, ...

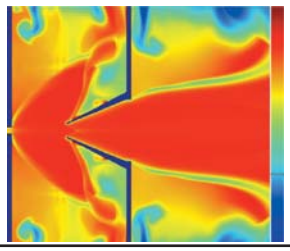
Supplemental docs expanded.

Extras



Beta testing next version: permeability/magnetic vector potential

Example: C-magnet



Add-on package: Virtual Device Hydrodynamics 21.2

Gas flow solver for supersonic compressible conditions (ESI).