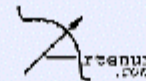


# **SPIS Numerical core**

(or SPIS/NUM, or "the solvers")

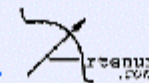
## **Some results of a few test cases**

**J.-F. Roussel, *ONERA / DESP***

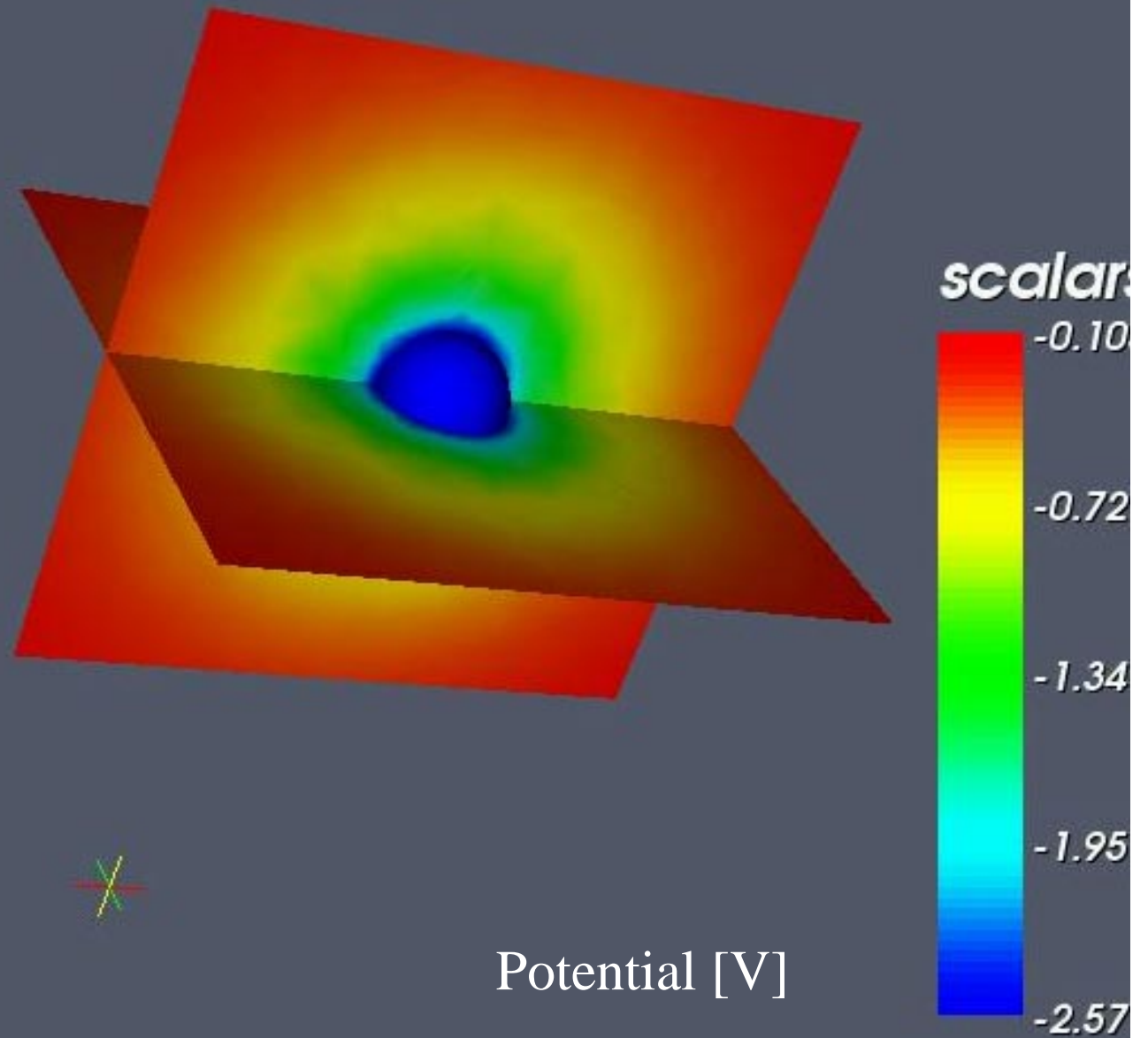


# Outline

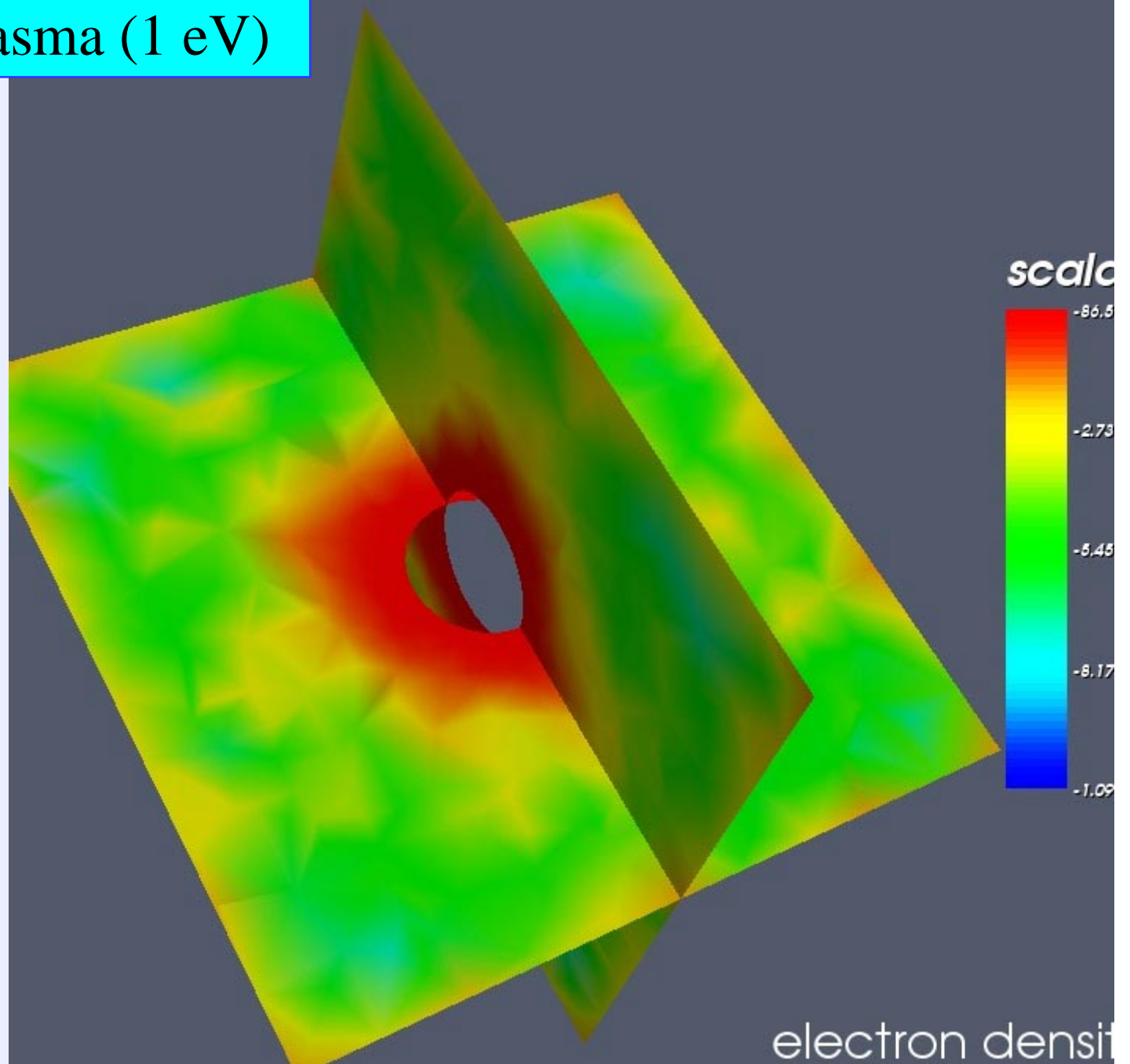
- GEO, cold plasma (1 eV)
- GEO, hot plasma (1 keV)
- Cold plasma with photo-emission



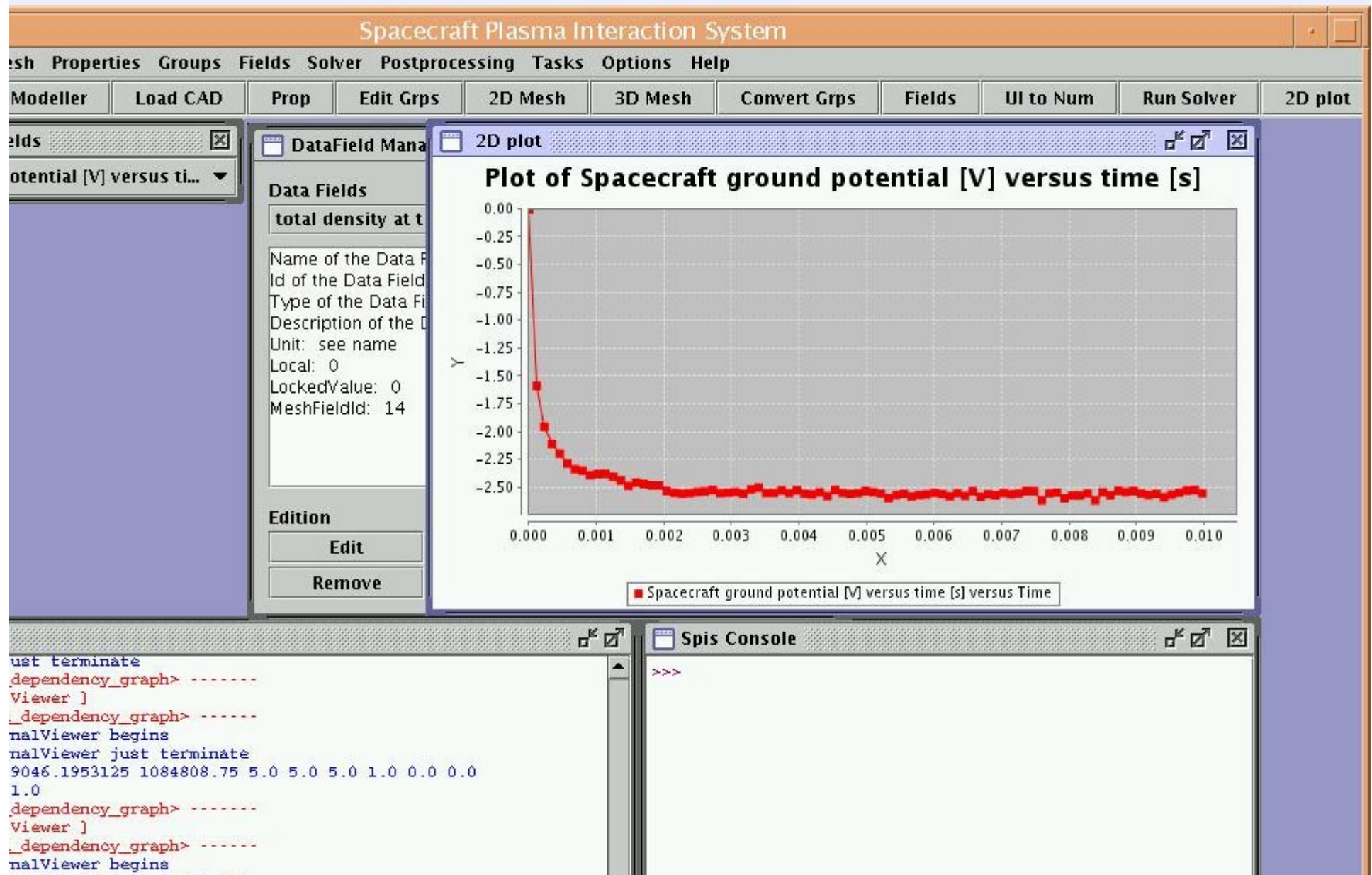
GEO, cold plasma (1 eV)



GEO, cold plasma (1 eV)



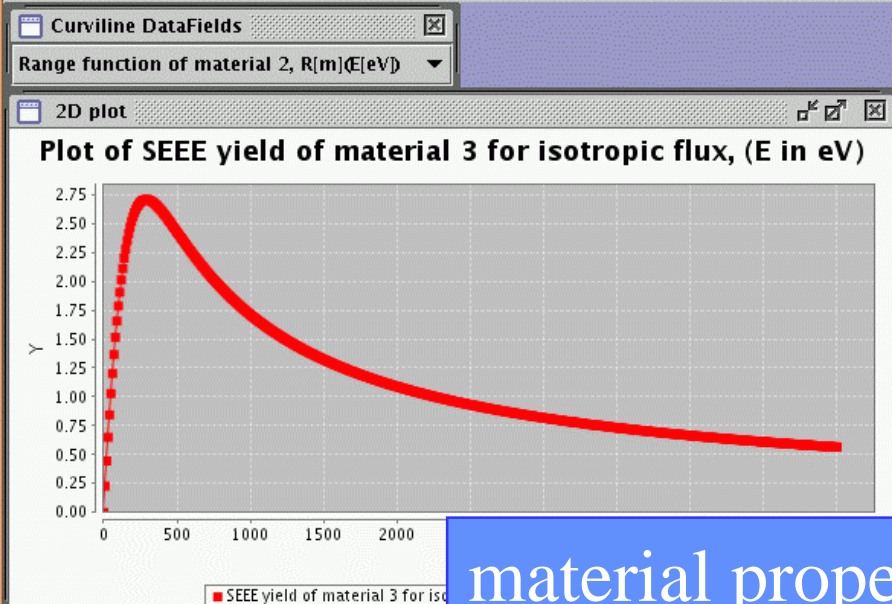
# GEO, cold plasma (1 eV)



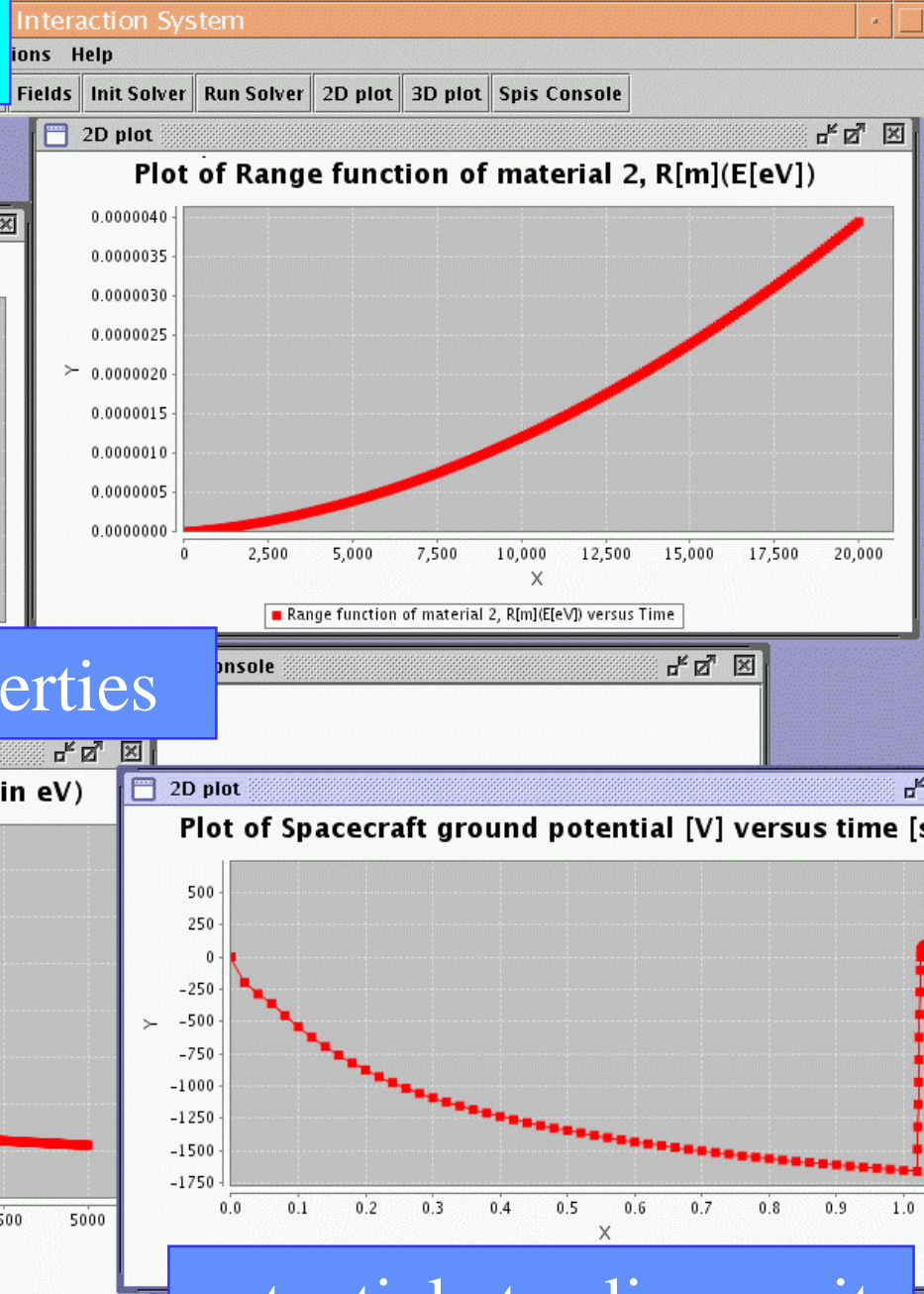
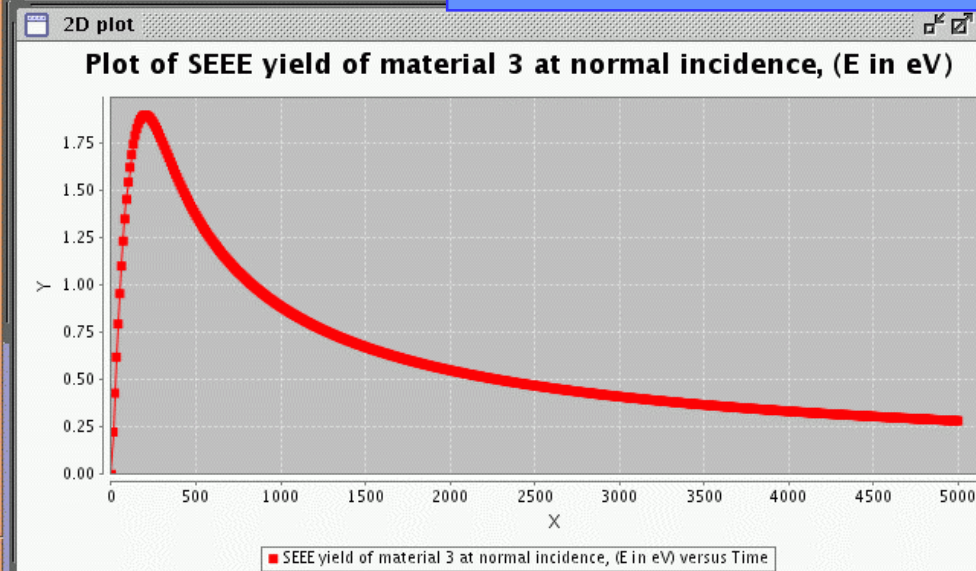




# GEO, hot plasma (1 keV)

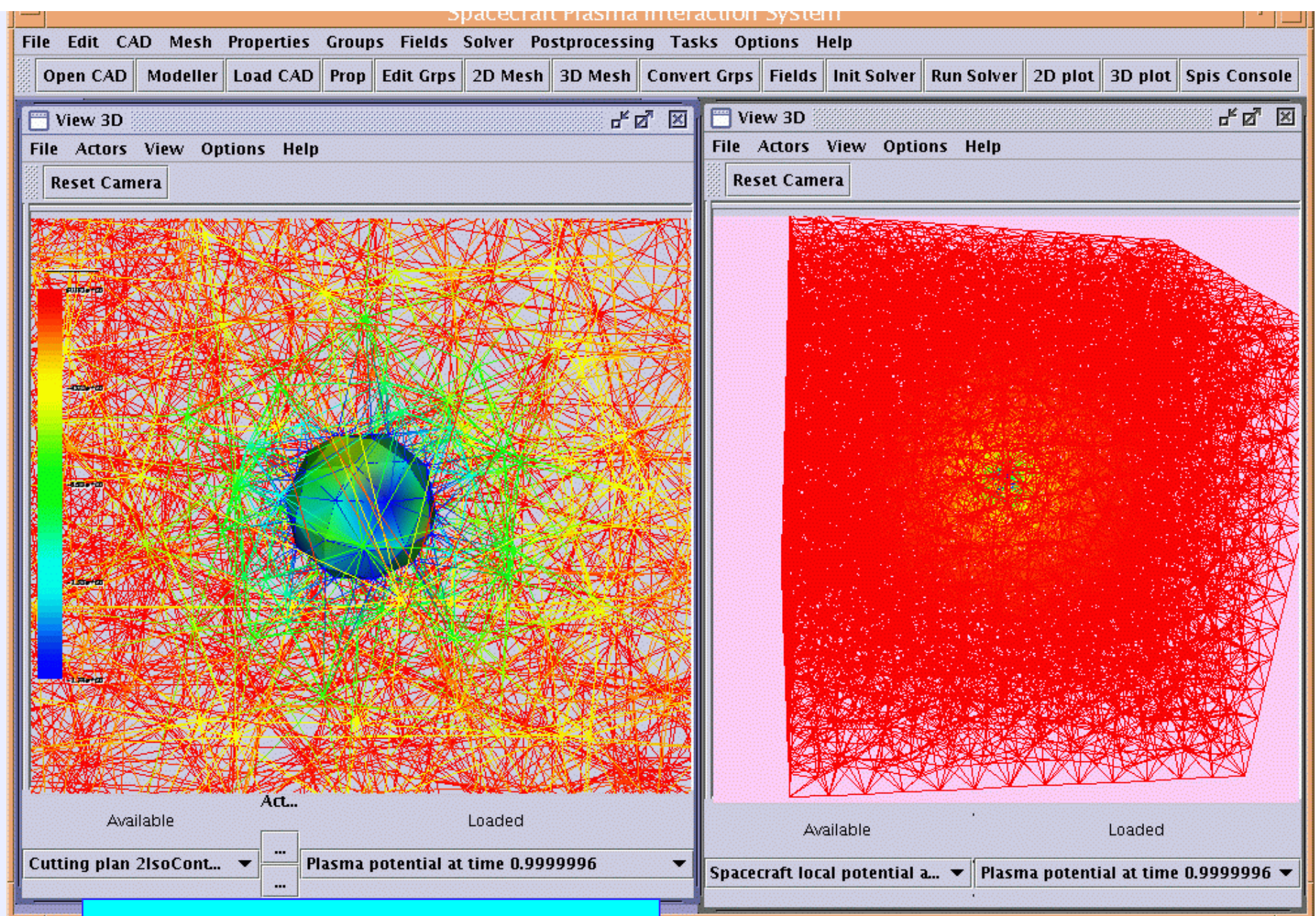


material properties

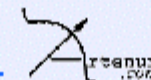


potential at eclipse exit





GEO, hot plasma (1 keV)





With photo-emission

potential

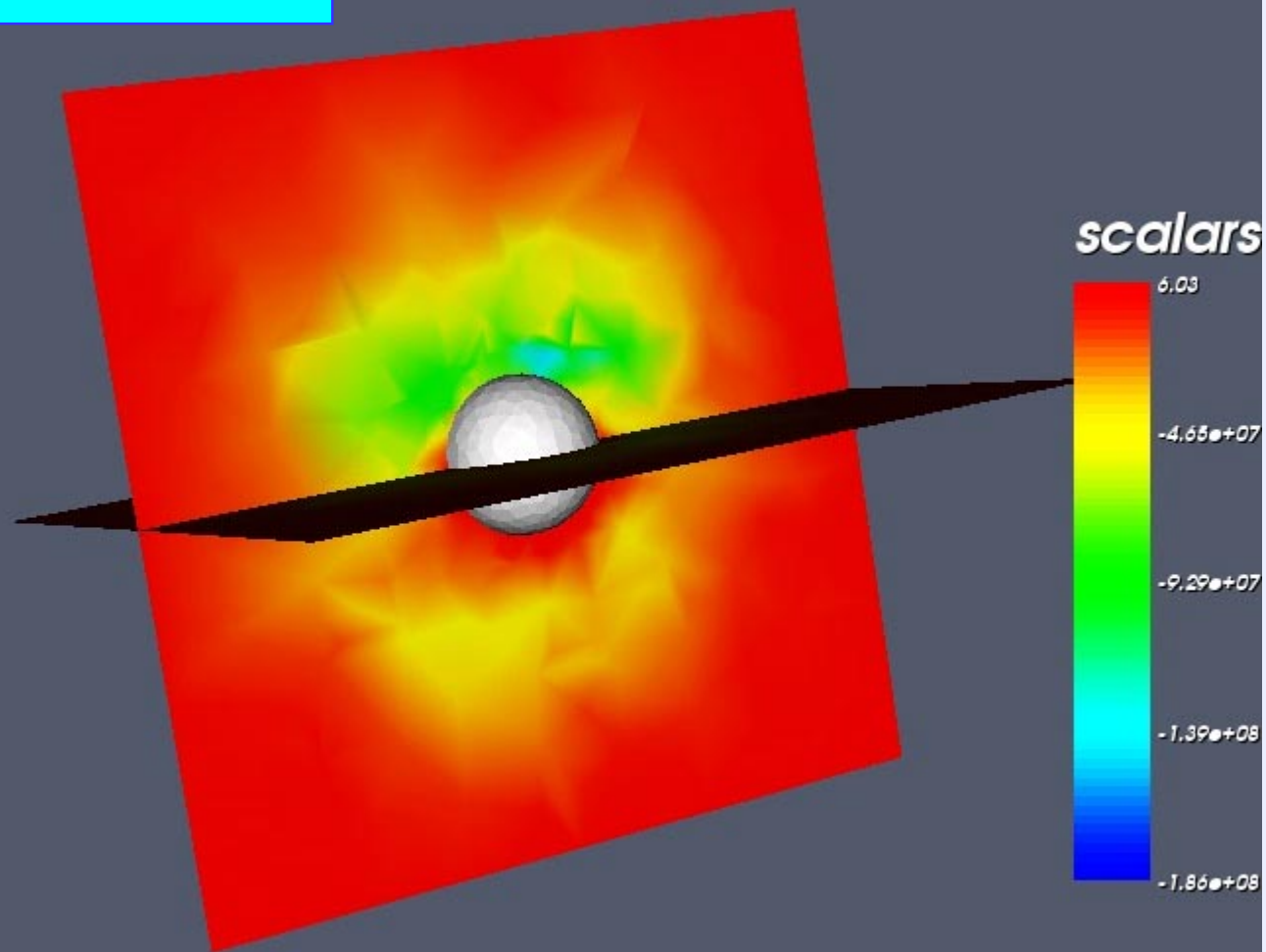
*scalars*



a

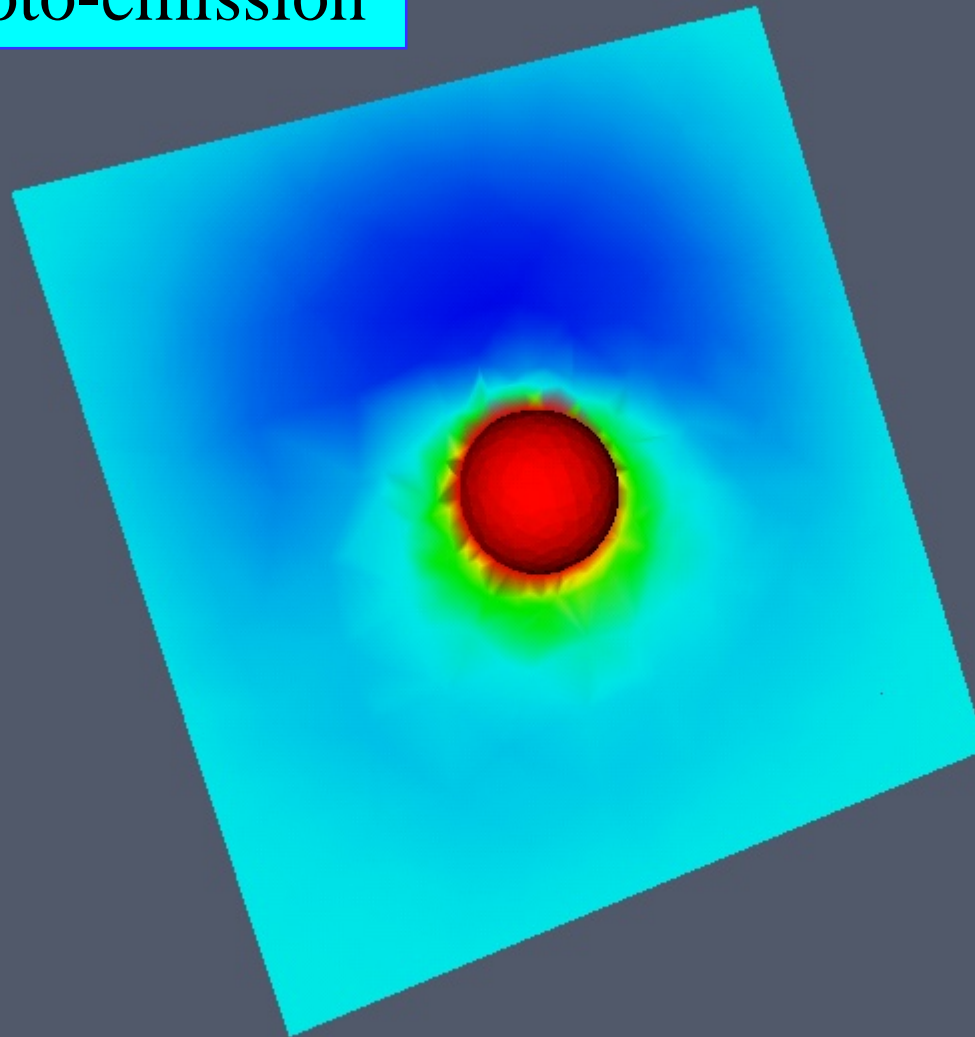
photo electron density

With photo-emission

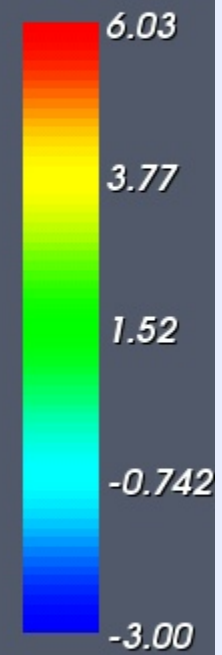


With photo-emission

potential



*scalars*





With photo-emission

potential

*scalars*

6.03

3.77

1.52

-0.742

-3.00

Plot of Spacecraft ground potential [V] versus time [s]

