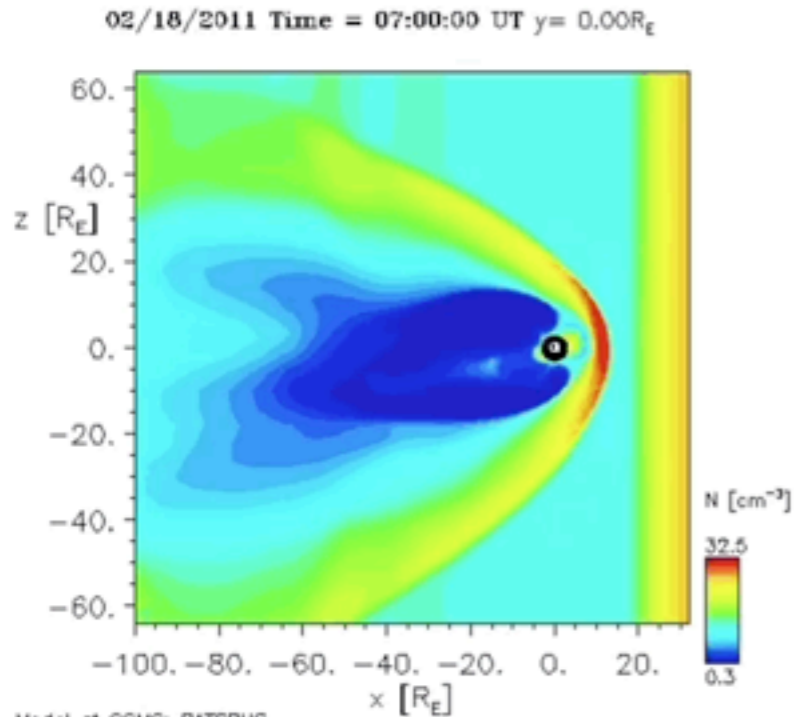


# Kameleon Live

An Interactive 3D Web Analysis Tool for CCMC-hosted Models  
Asher Pembroke

# ROR visualization

Please wait - computation is estimated to take 1 minutes and 57 seconds.  
A "." will appear for each 5 seconds elapsed.



**New:** Point inside plot area of image for position.

Hover over plot area to see position.

Click inside plotarea to temporarily save position.

Accumulate checked positions (not shown on plot; uncheck to erase positions with future selections).

**Figure: Simulation of the Solar Wind flow around the Earth.**  
[EPS image \(5165.62 KB\)](#)

**Model: BATSRUS**  
**Run: Sergio\_Vidal-Luengo\_040918\_1**

**Note:** Floating-point values with a decimal point not followed by numbers (e.g., "1." or "1.E+4") are not being acc  
**Publication Policv:** Please contact the model owners before you use results for any presentation or publication

Current Options:

- 1) Offline:
  - 1) download/store data cube
  - 2) Use low-level access tools including Kameleon
  - 3) Roll your own analysis
  
- 2) Online:
  - 1) RoR vis for "quick" view
  - 2) Generates static plots
  - 3) Computation can be slow

# Kameleon Live Features

## RoR Database Integration

- Select run ID from drop down
- Retrieves run and available timesteps
- Access and interpolation through Kameleon

## Offline Options

- Run application with your own CDFs
- Save graph objects as plotly json

## Cut-Plane selection

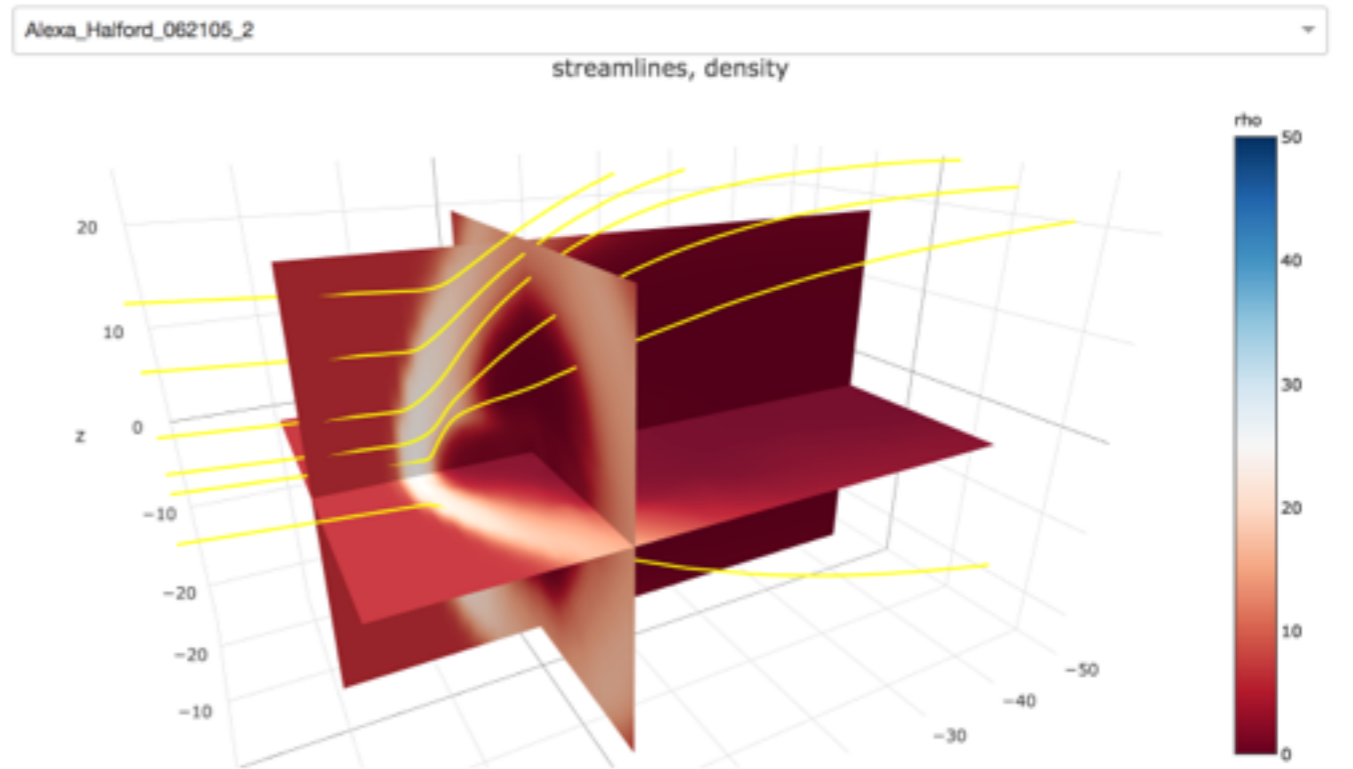
- Customize up to 10 cut-planes
- position, scaling, colormap, tags
- Slices generated on the server and visualized on the client

## Seed Point Picker

- Trace multiple vector fields
- Pick points from any scene object
- traces update automatically
- modify pick points in table

## Region-of-interest tags

- Appear as metadata on hover
- Used for server-side caching



2001-08-03 03:09:00  
▼ slice 0 rho x-y

plane: x-y  
scalar: rho  
colormap: 11-div-RdBu (show/hide)  
x range: -40 to 20  
y range: -20 to 20  
z-intercept: 0  
tag:   
available tags: Select...  
REMOVE

vector: u  
click tag:   
available tags: Select...  
UPDATE REMOVE CLICKS

► Slice Summary

| <input type="checkbox"/> | vector | x                  | y                 | z                  | click_tag |
|--------------------------|--------|--------------------|-------------------|--------------------|-----------|
| <input type="checkbox"/> | u      | 15.932203389830505 | 0                 | 16.92307692307692  |           |
| <input type="checkbox"/> | u      | 15.932203389830505 | 0                 | 11.794871794871792 |           |
| <input type="checkbox"/> | u      | 16.94915254237288  | 0                 | 3.5897435897435876 |           |
| <input type="checkbox"/> | u      | 16.94915254237288  | 0                 | 6.666666666666664  |           |
| <input type="checkbox"/> | u      | 11.864406779661017 | 0                 | 1.5384615384615365 |           |
| <input type="checkbox"/> | u      | 10.847457627118644 | 6.666666666666664 | 0                  |           |

DEMO

# Conclusions

KameleonLive...

- provides an interactive, intuitive interface into your models
- no hassle of downloading/installing power tools
- speed and flexibility can enable science discovery
- publication-ready graphics

In the works:

- Save/Load/Share workspaces
- Support more domains (solar, heliosphere, etc)
- Animations
- Suggestions?