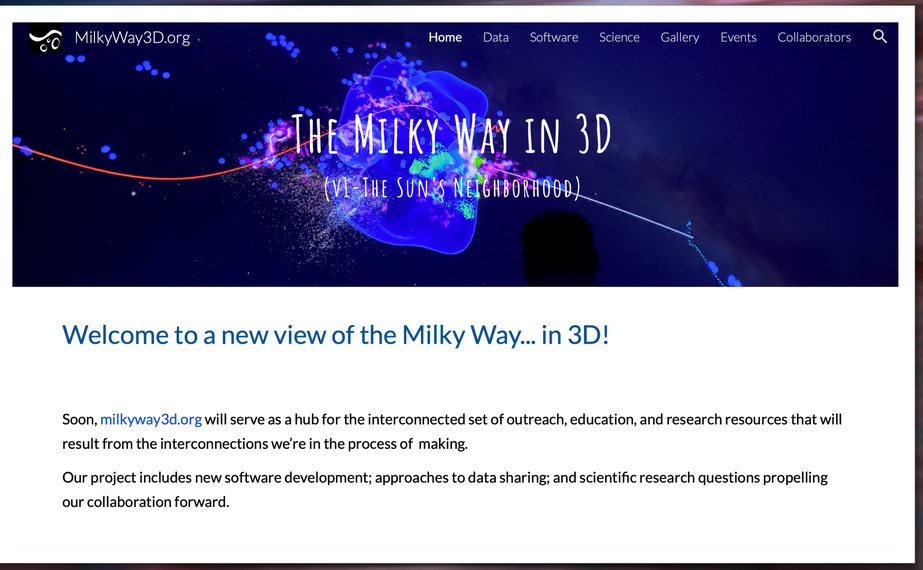
The Local Milky Way, in 3D — milkyway3d.org



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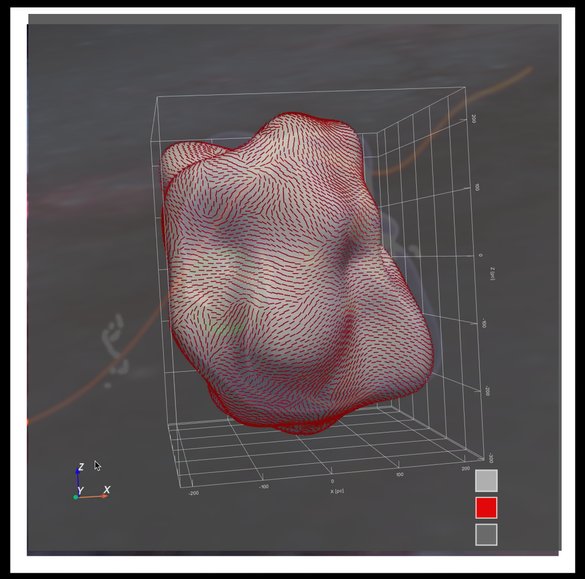
Alyssa A. Goodman
Center for Astrophysics | Harvard & Smithsonian



milkyway3d.org would like your

DATA, INFORMATION

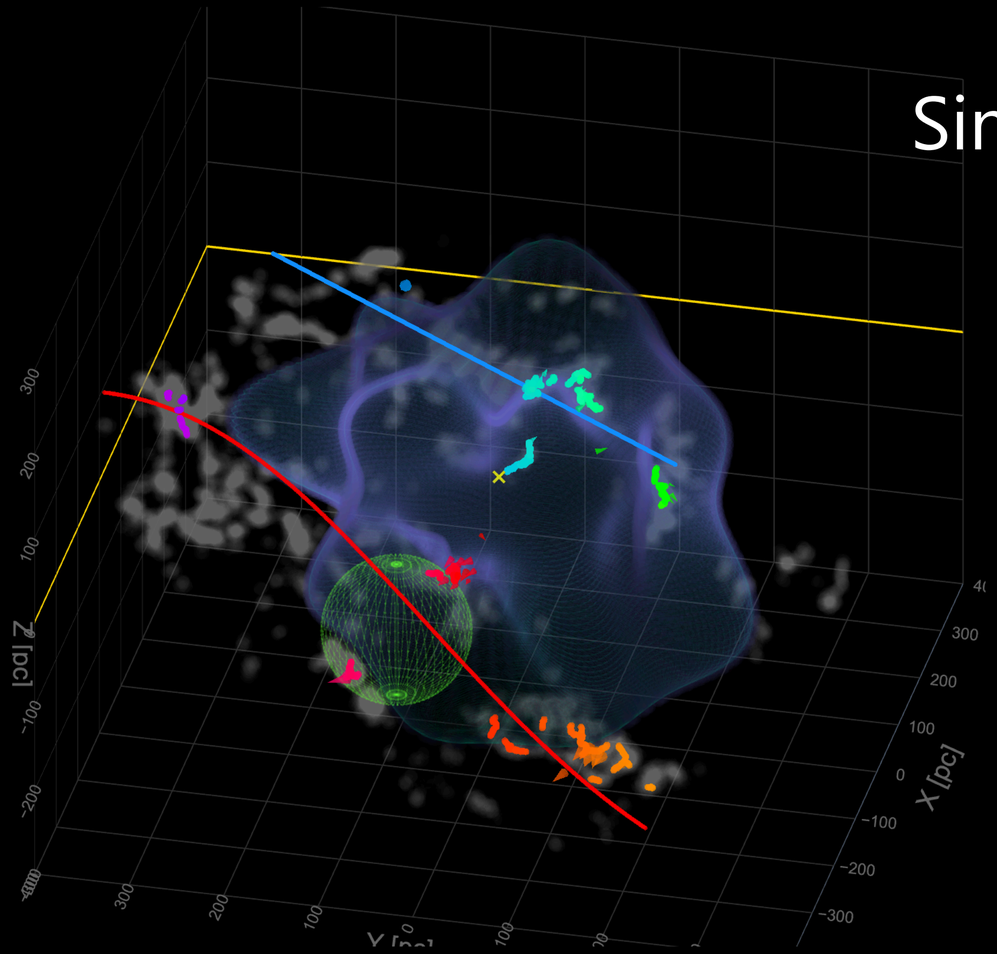
to see our neighborhood
in 3D (and 2D, and more).

And we promise

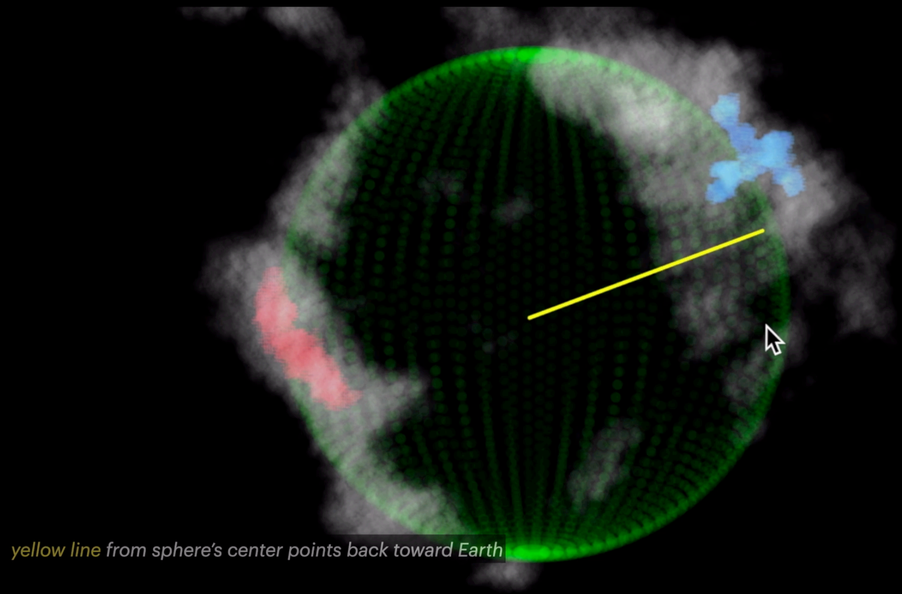
VISUALIZATION

choices matter.

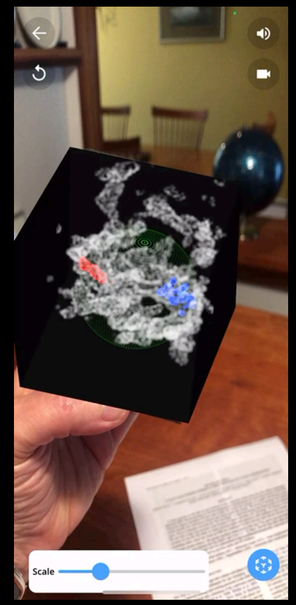
Since HHSF 2020…

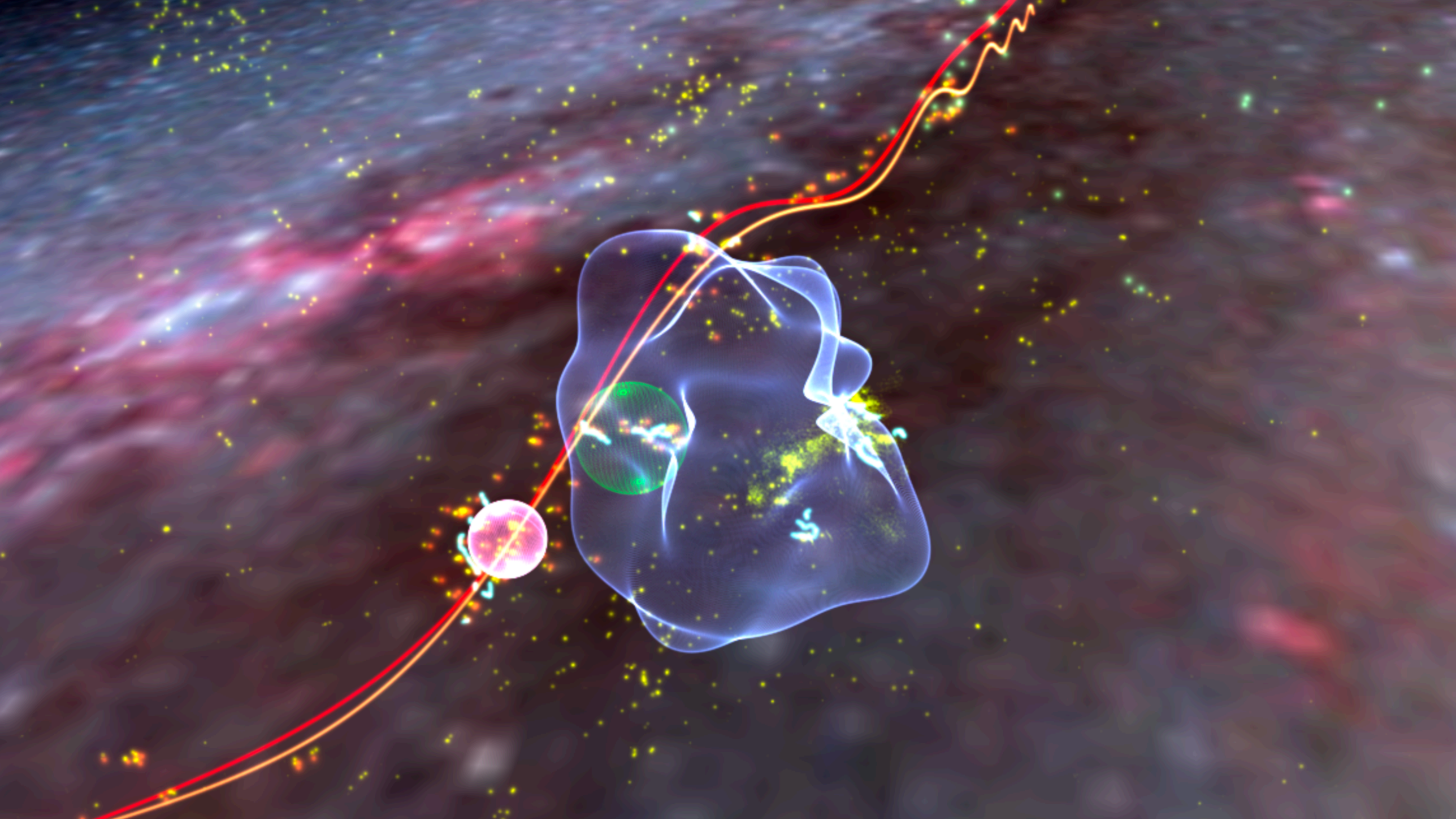


Zucker et al. 2022



Bialy et al. 2021





***great* 1D, 2D** and **3D** data manipulation, flexible architecture facilitating plug-ins, data transfer, and interactive data exploration; "glupyter" flavor runs in web pages

glue
multidimensional data exploration

CosmicDS

Prototype plug-in in-use (e.g. Radcliffe Wave on Hayden Planetarium dome

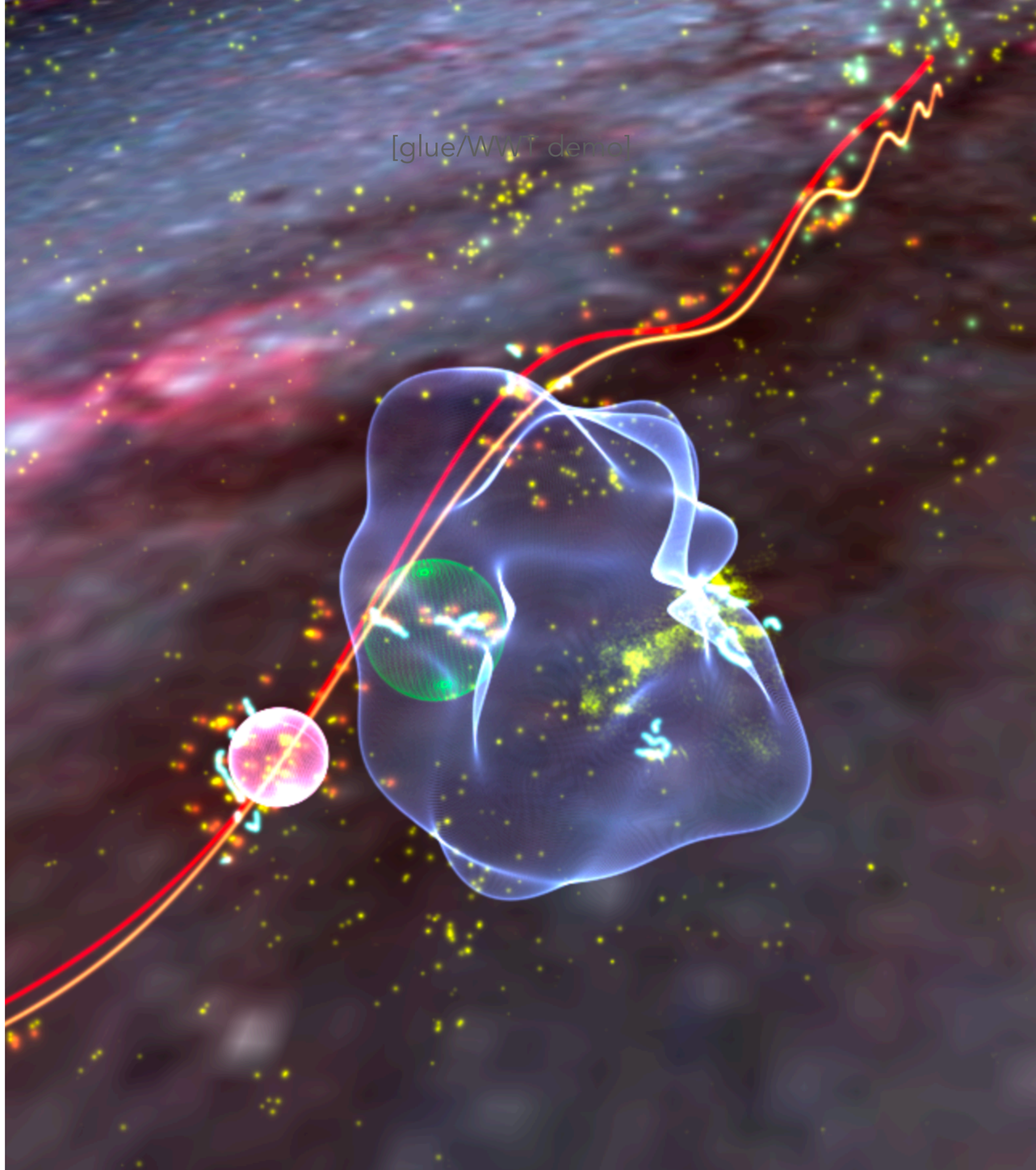
AMERICAN ASTRONOMICAL SOCIETY
WORLDWIDE TELESCOPE

Prototype plug-in shows WWT images in context in 3D.

OpenSpace

***great* 2D** object and all-sky images
limited 3D functionality

limited 2D all-sky images
***great* 3D** functionality



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The "Perseus-Taurus Superbubble"
a demo of the need for 2D-3D contextualization functionality

This video was composited using the WWT and OpenSpace, making some use of prototype plug-ins, but 2D and 3D imagery was aligned manually by experts. As a generalizable STEM concept, it explains the deceptive "forced perspective" made possible in when objects at very different distances, in 3D, appear to touch in 2D.

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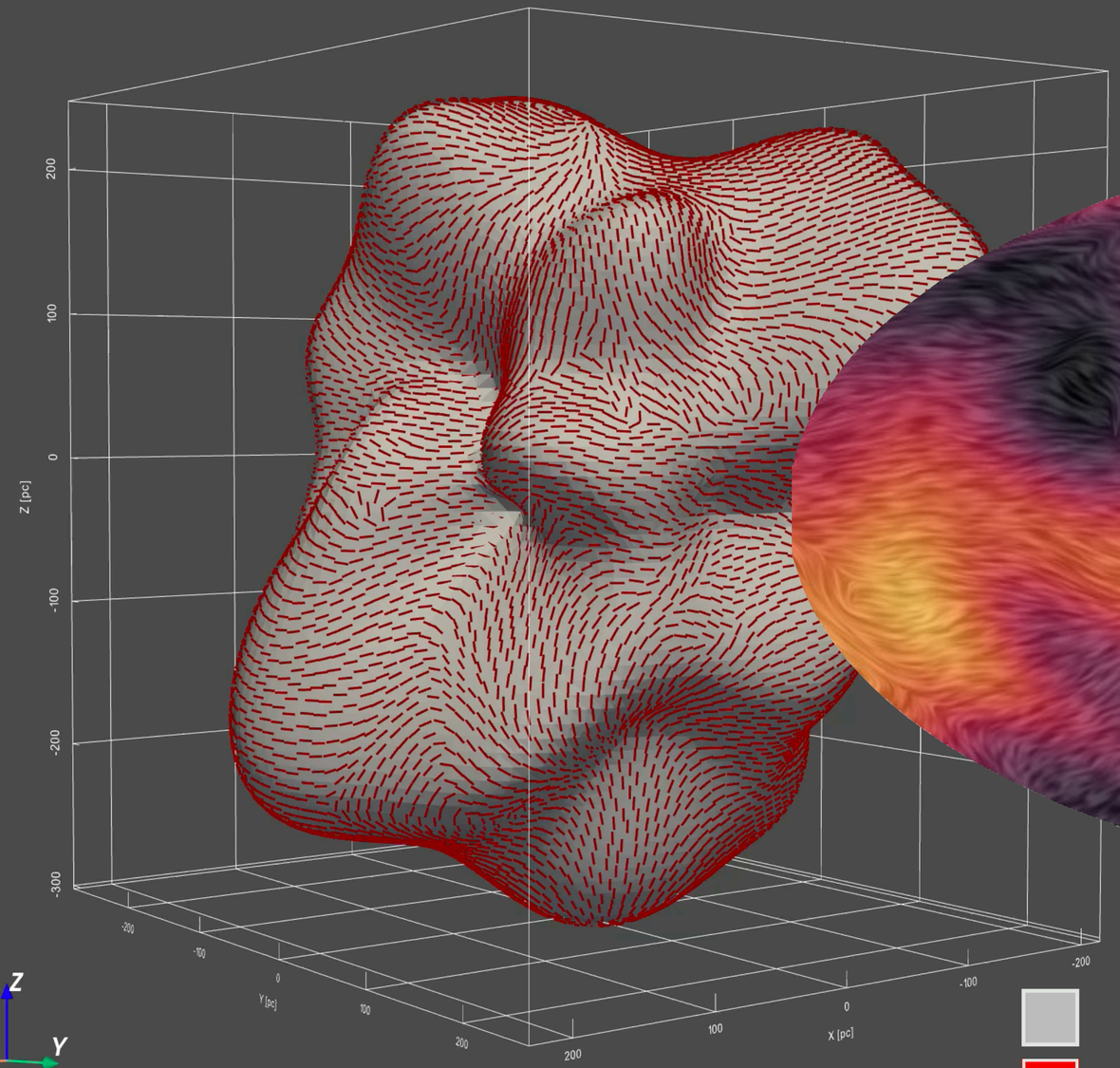
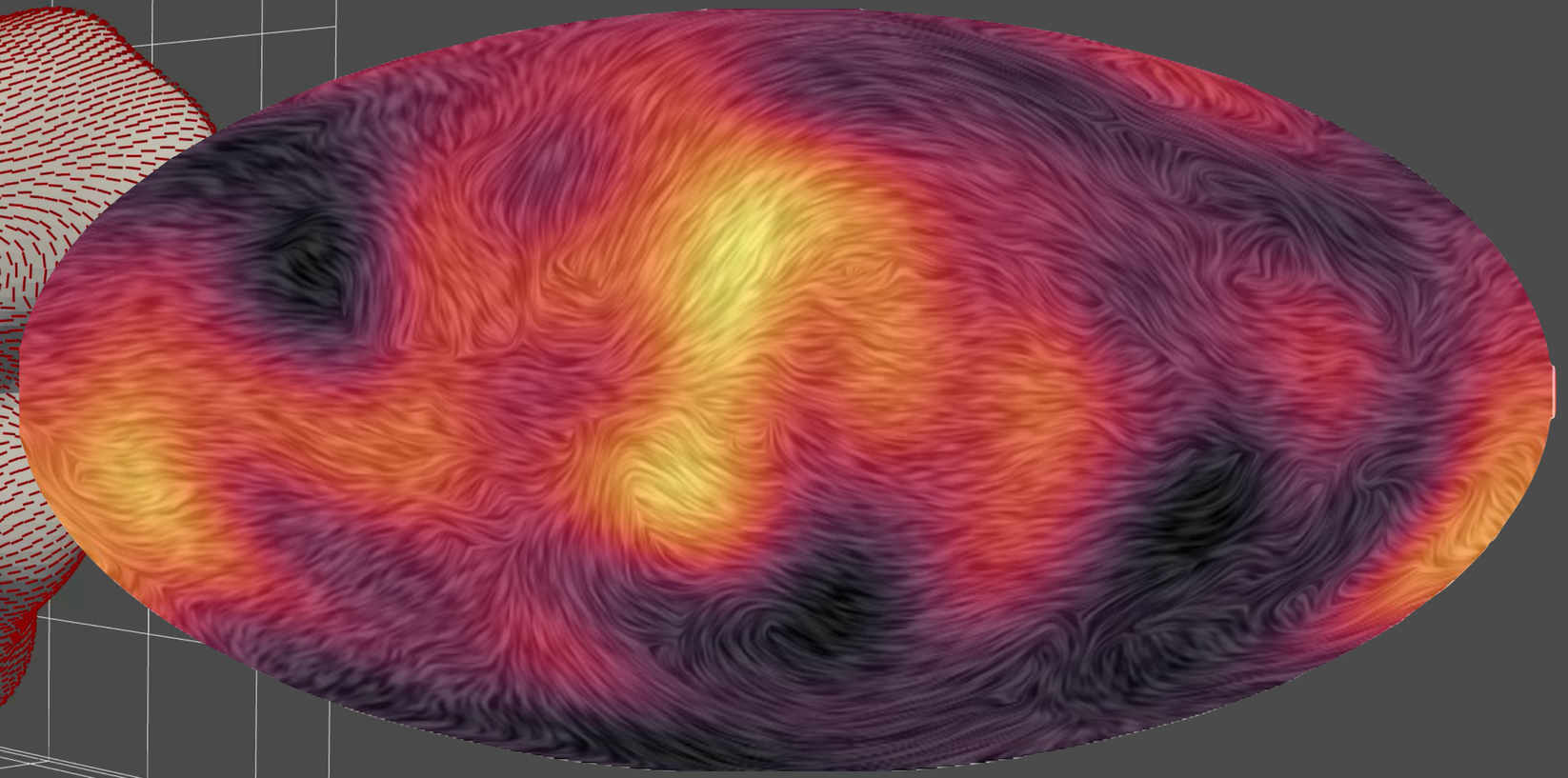
VISUALIZATION OPTIONS REVEAL DIFFERENT ASPECTS OF DATA, INFORMATION

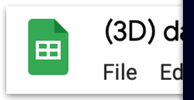




yes, this is the B-field on the surface of the Local Bubble from O'Neill et al. 2022, in process

DATA, INFORMATION

VISUALIZATION



(3D) da

File Ed

RONOMICAL SOCIETY

RLDWIDE

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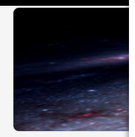
MilkyWay3D.org

Home Data Software Science Gallery Events Collaborators

The Milky Way in 3D

(v1-The Sun's Neighborhood)



Local **3D**

This form facilitate
that will ultimately
current understand

agoodman@cfa.har

The name and phot
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Email *

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If all you have time
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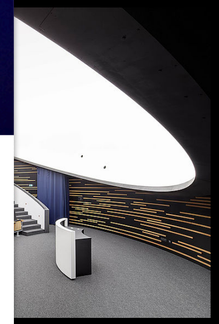
to use the data set sooner. You can also come back to this form and add more information later.



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beyond…

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