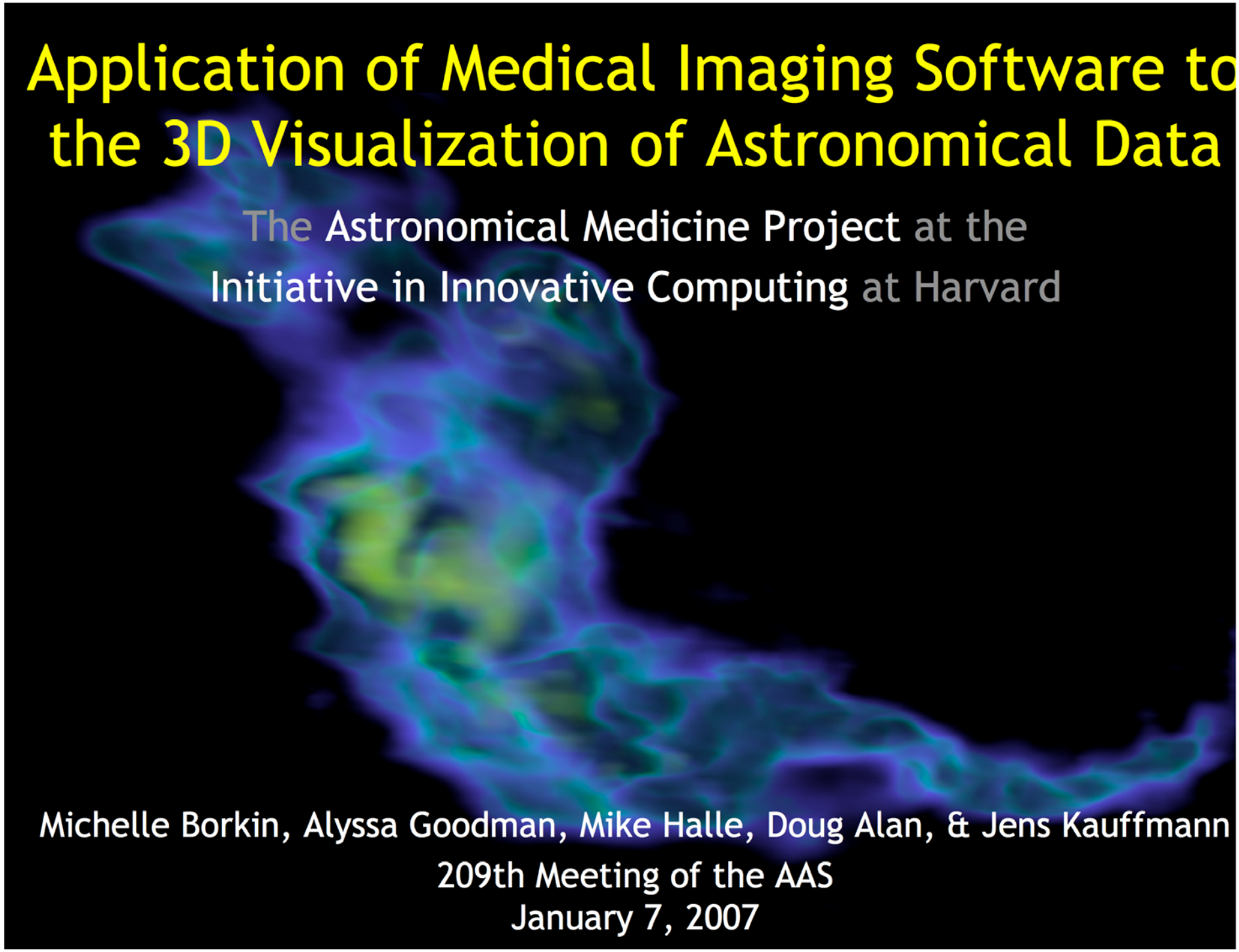
Application of Medical Imaging Software to the 3D Visualization of Astronomical Data

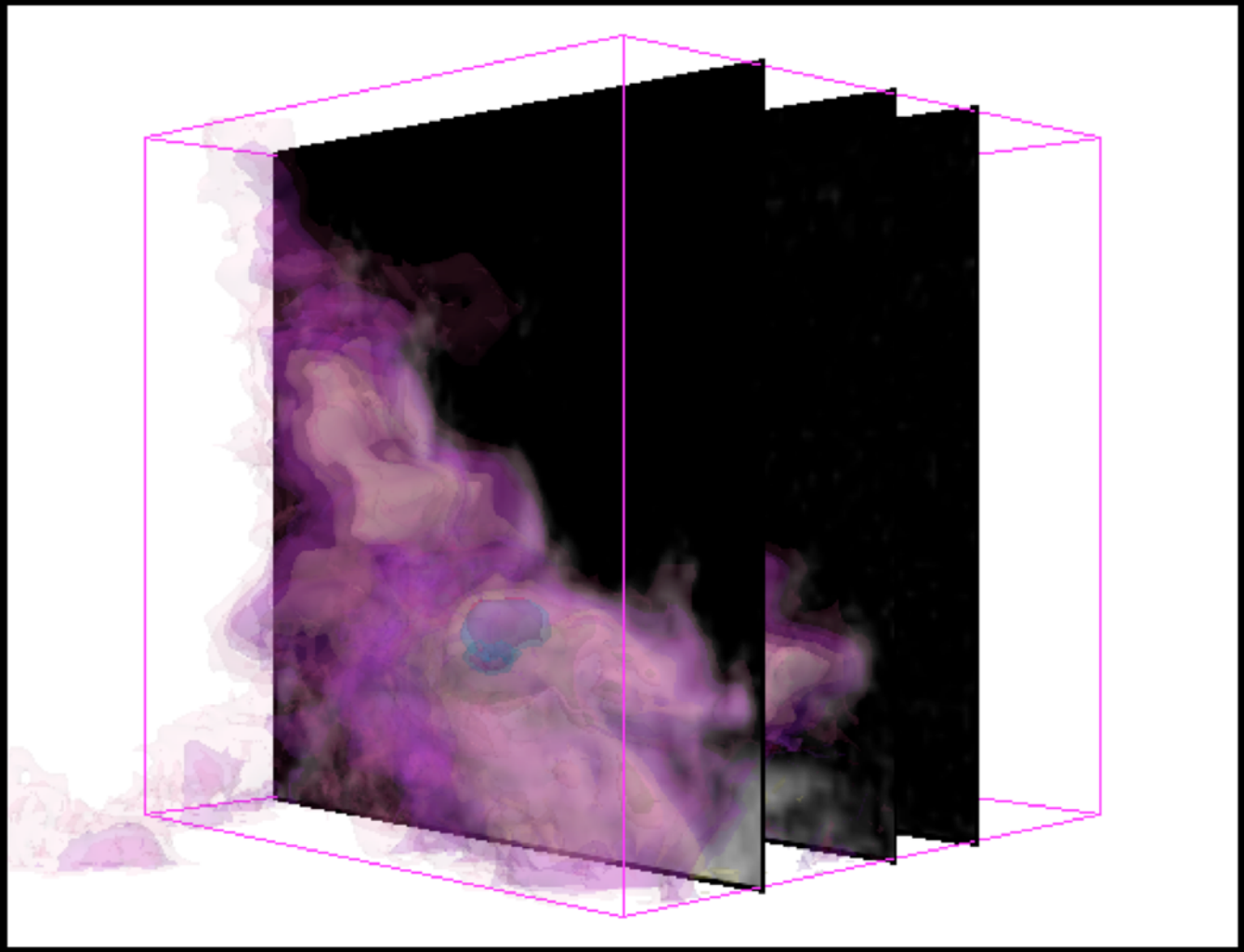


The Astronomical Medicine Project at the
Initiative in Innovative Computing at Harvard

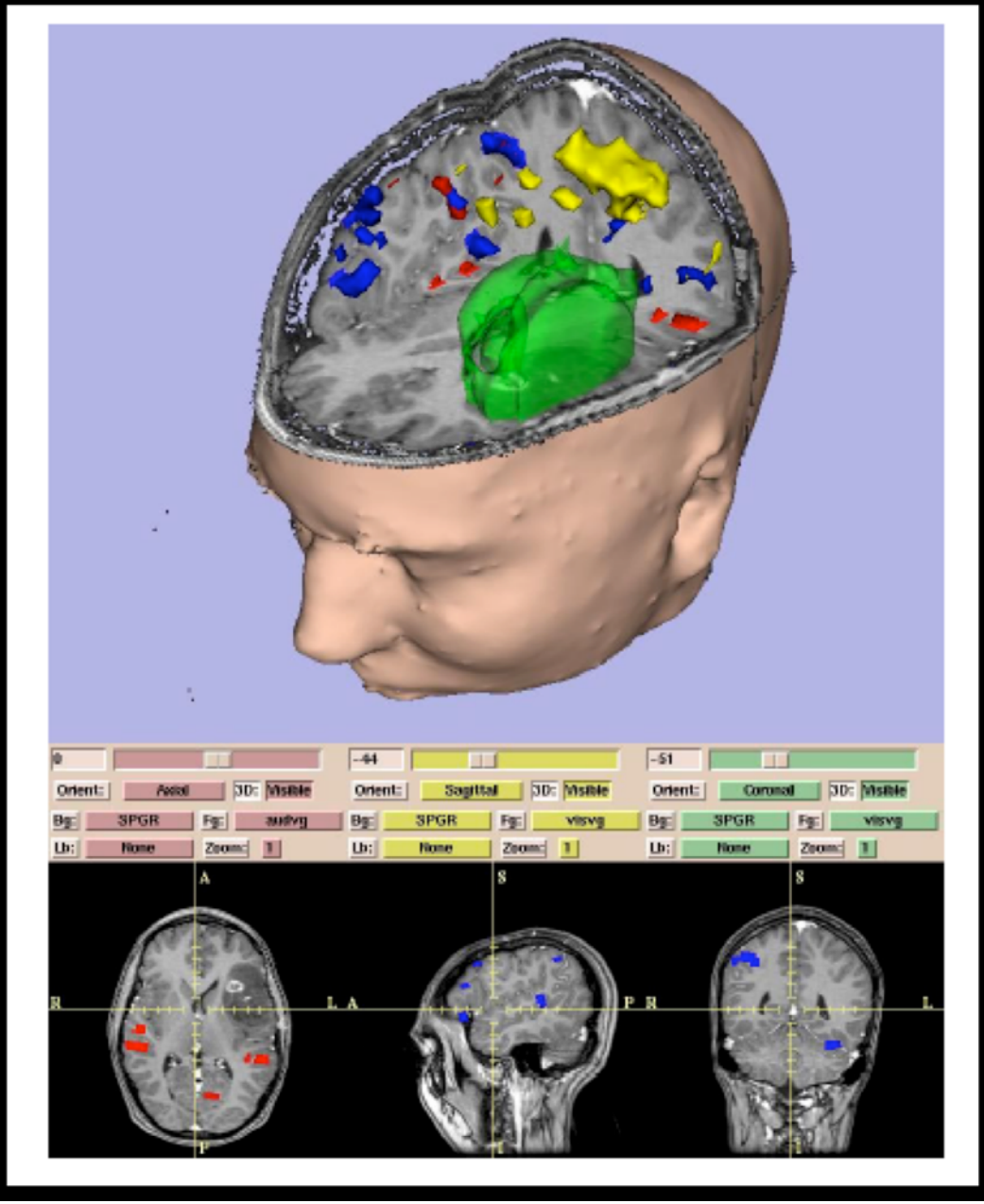
Michelle Borkin, Alyssa Goodman, Mike Halle, Doug Alan, & Jens Kauffmann

209th Meeting of the AAS
January 7, 2007

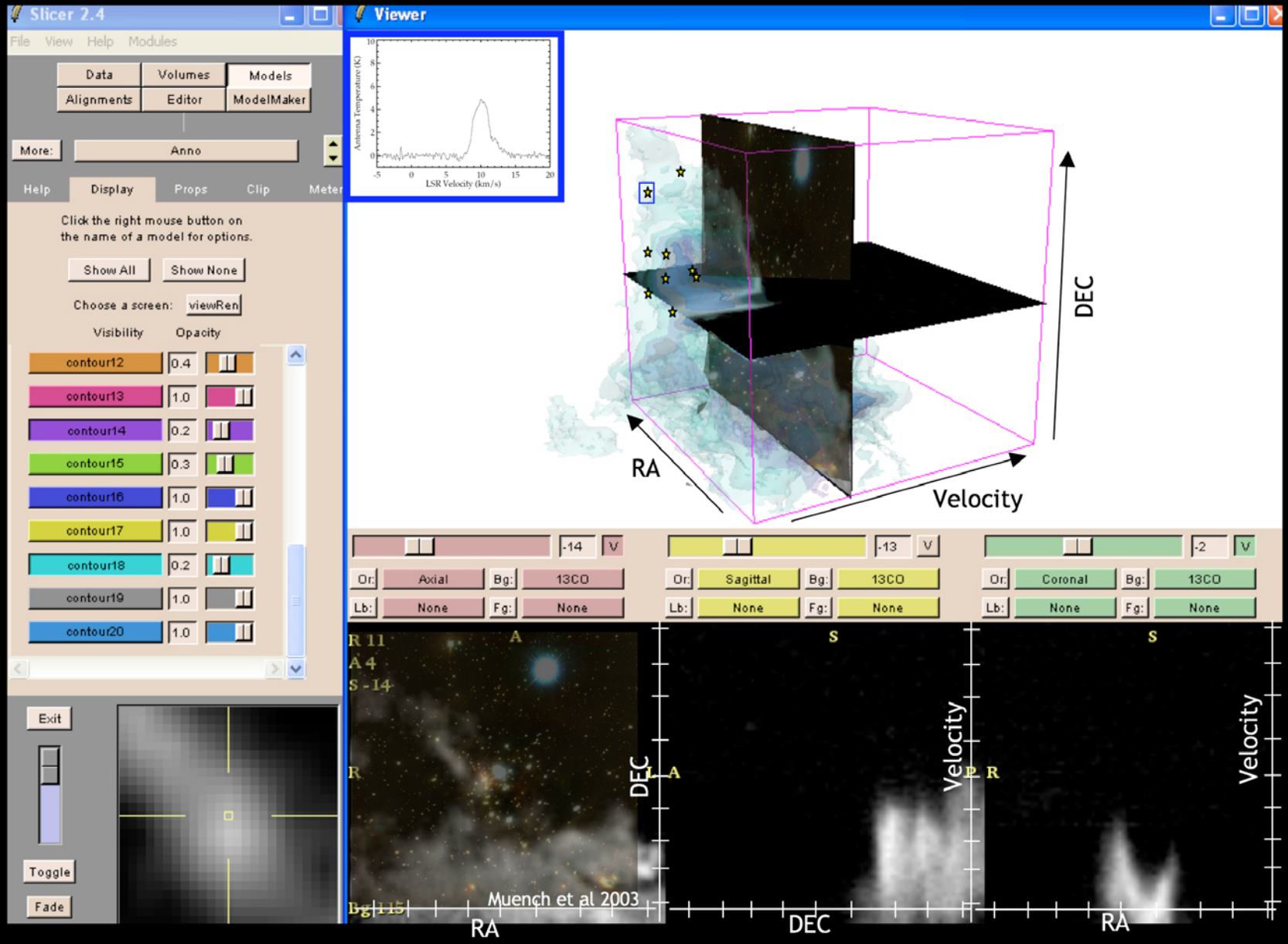
2D vs. 3D



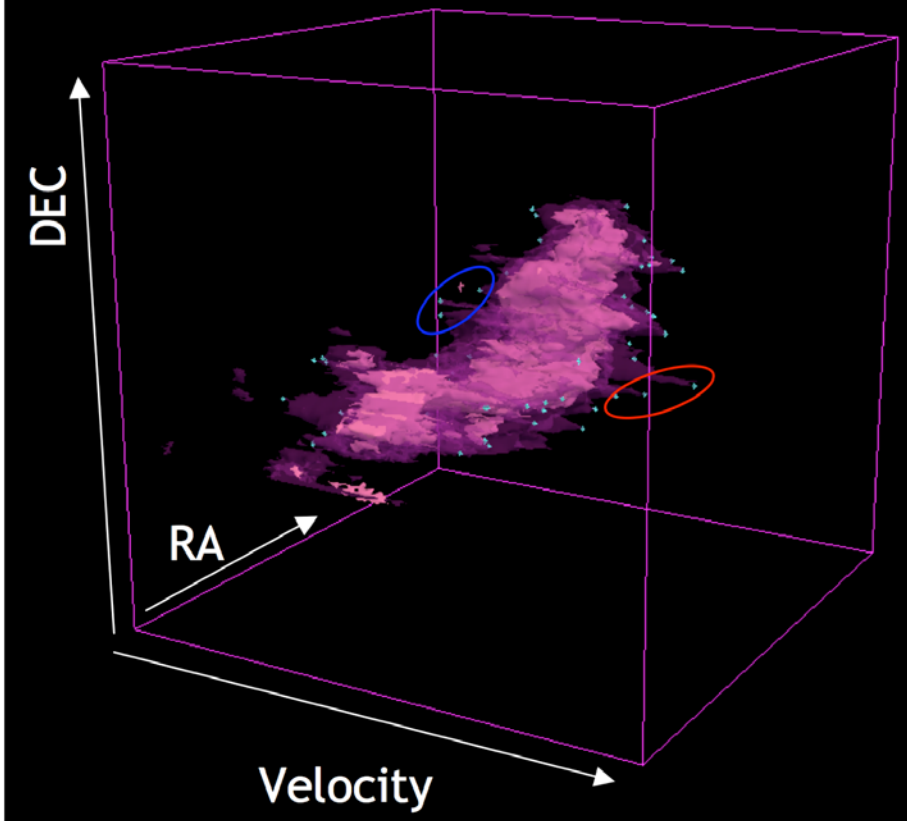
3D Slicer

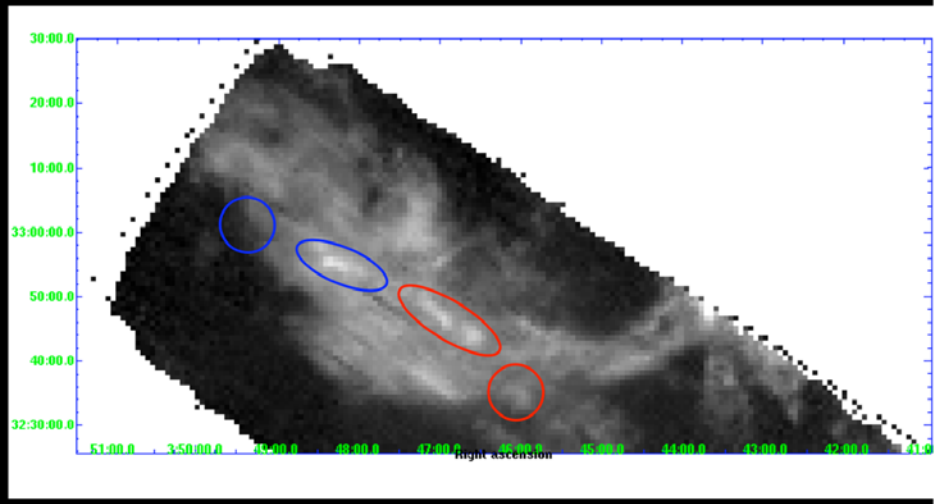

-64
-51
Orient:
Axial
3D:
Visible
Sagittal
Coronal
Bg:
SPGR
Fg:
Lb:
None
Zoom:
1
A
S
R
L
P

3D Slicer


Slicer 2.4
File View Help Modules
Data Volumes Models
Alignments Editor ModelMaker
More: Anno
Help Display Props Clip Meter
Click the right mouse button on the name of a model for options.
Show All Show None
Choose a screen: viewRen
Visibility Opacity
contour12 0.4
contour13 1.0
contour14 0.2
contour15 0.3
contour16 1.0
contour17 1.0
contour18 0.2
contour19 1.0
contour20 1.0
Exit
Toggle
Fade
Viewer
Antenna Temperature (K)
LSR Velocity (km/s)
RA
Velocity
DEC
-14 V
-13 V
-2 V
Or: Axial Bg: 13CO
Lb: None Fg: None
Or: Sagittal Bg: 13CO
Lb: None Fg: None
Or: Coronal Bg: 13CO
Lb: None Fg: None
R 11
A 4
S -14
Bg 115
Muench et al 2003
RA
DEC
Velocity
DEC
Velocity
RA

Outflow Identification in B5

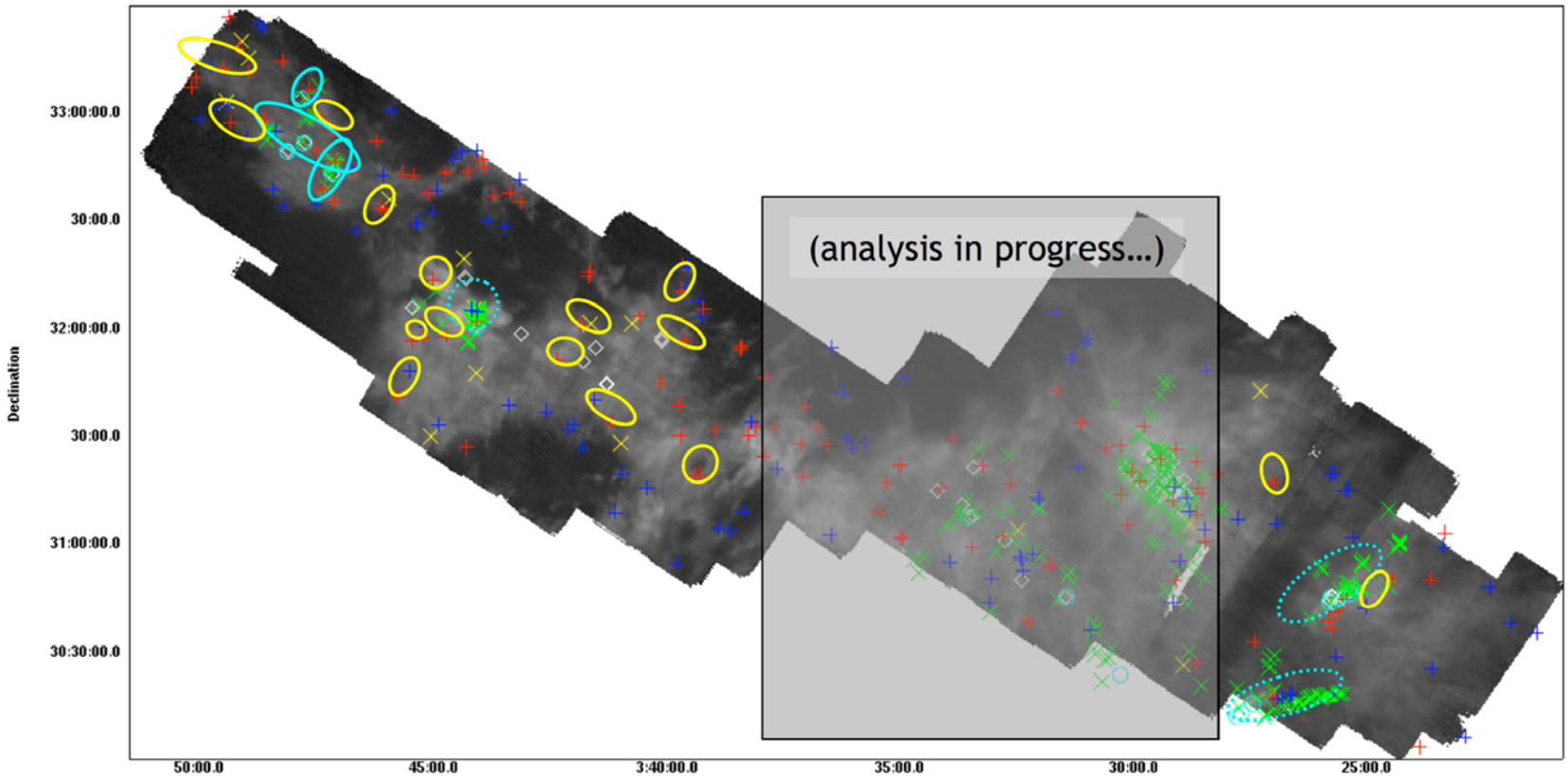




RA-DEC integrated map of ^{12}CO

Borkin 2006

Outflow Identification



Red Shifted points

Blue Shifted points

HH Objects

SCF points

IRAS Sources

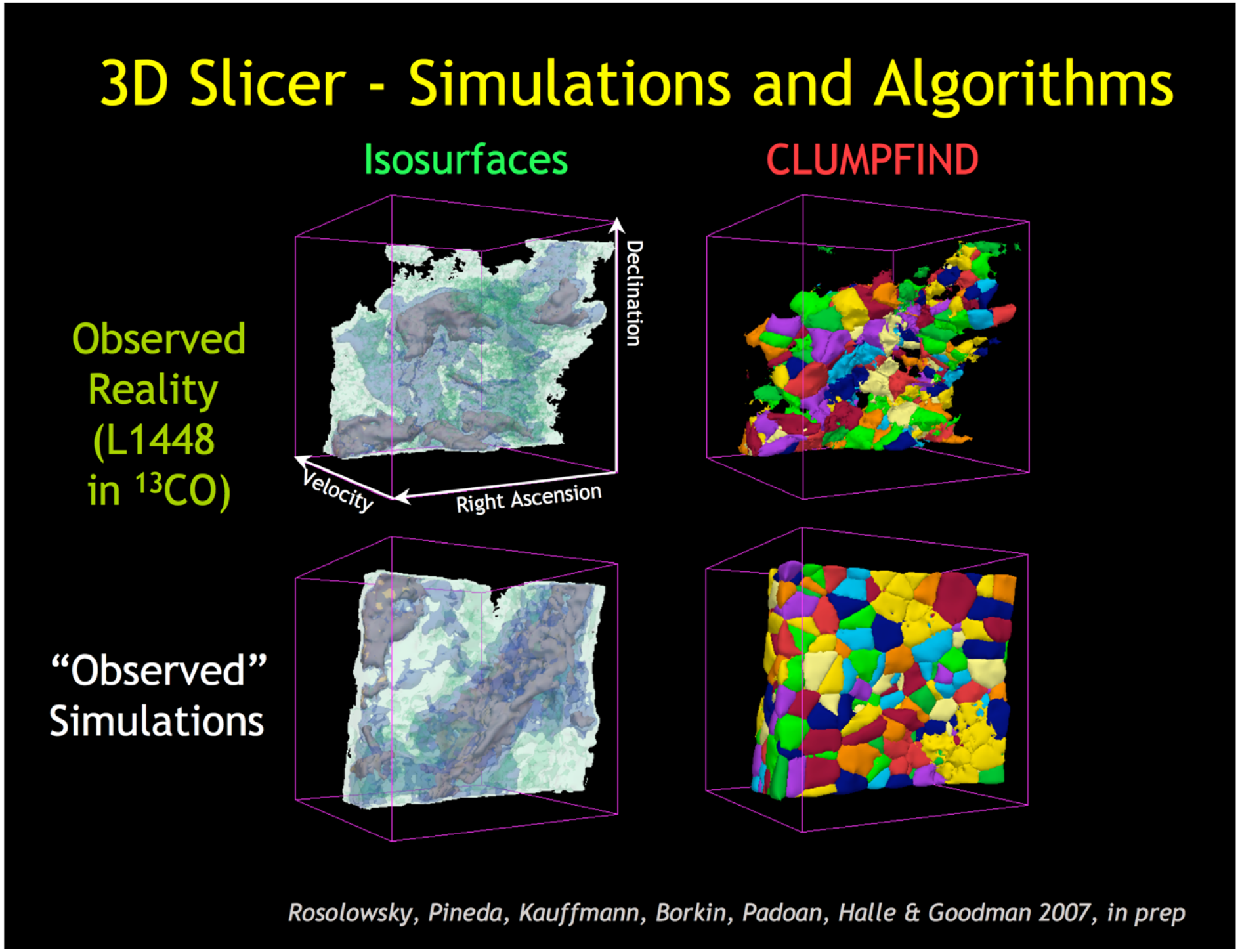
Known Outflow Sources

New outflows

Known outflows or outflow regions

Borkin, Arce, & Goodman 2007, in prep

3D Slicer - Simulations and Algorithms



Rosolowsky, Pineda, Kauffmann, Borkin, Padoan, Halle & Goodman 2007, in prep

For more information…

Visit our display at the *"Gadgets and Gizmos"* session - South Lobby!

For demo movies, downloads, and papers, go to:
http://iic.harvard.edu/astromed.php