# Spherinator & HiPSter:
Using HiPS tiling to allow for explorative access to simulations

# Interop Victoria, 2018, DM



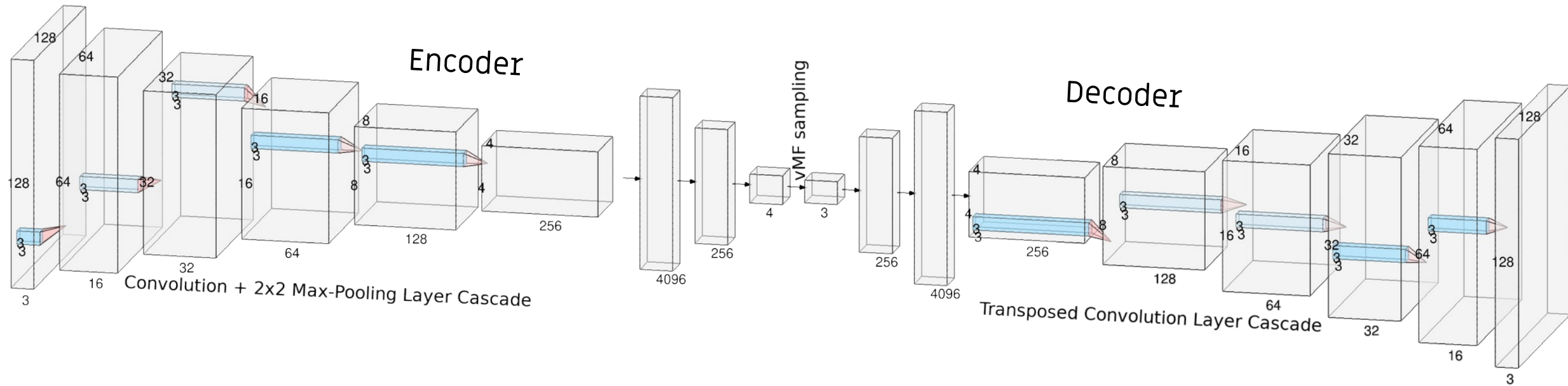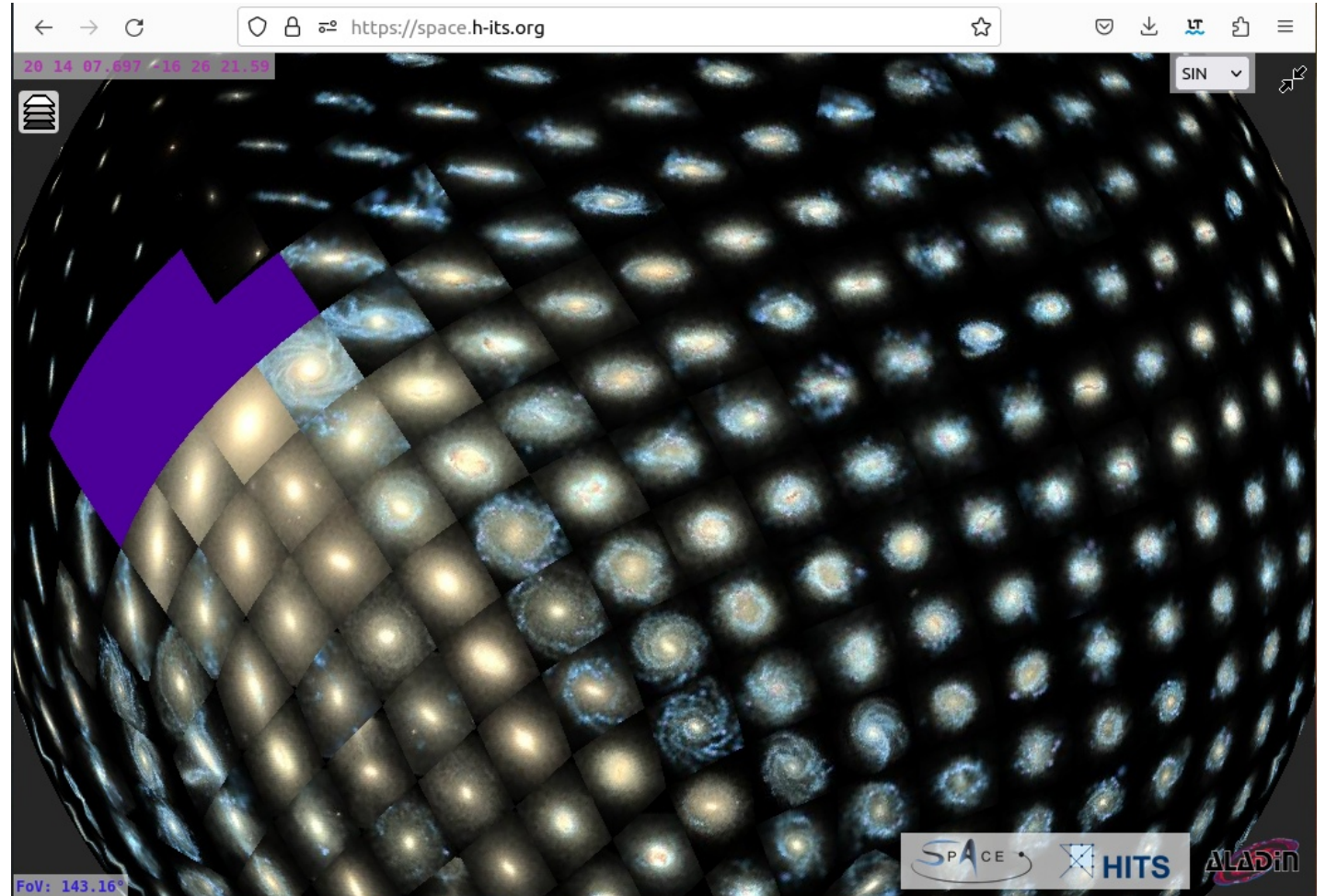https://wiki.ivoa.net/internal/IVOA/InterOpMay2018KDIG/KDIG.pdf
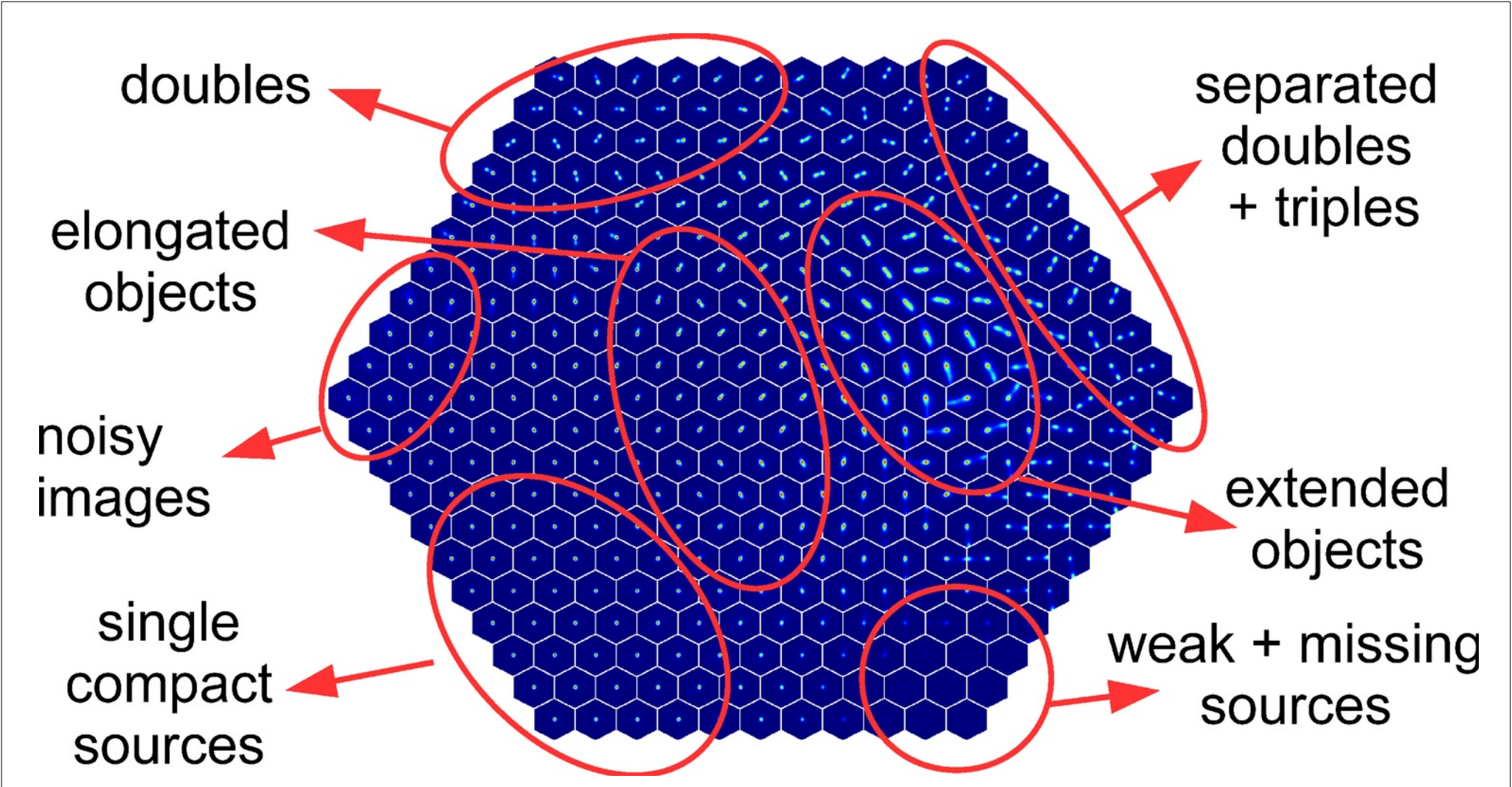
# SPACE / IllustrisTNG simulation
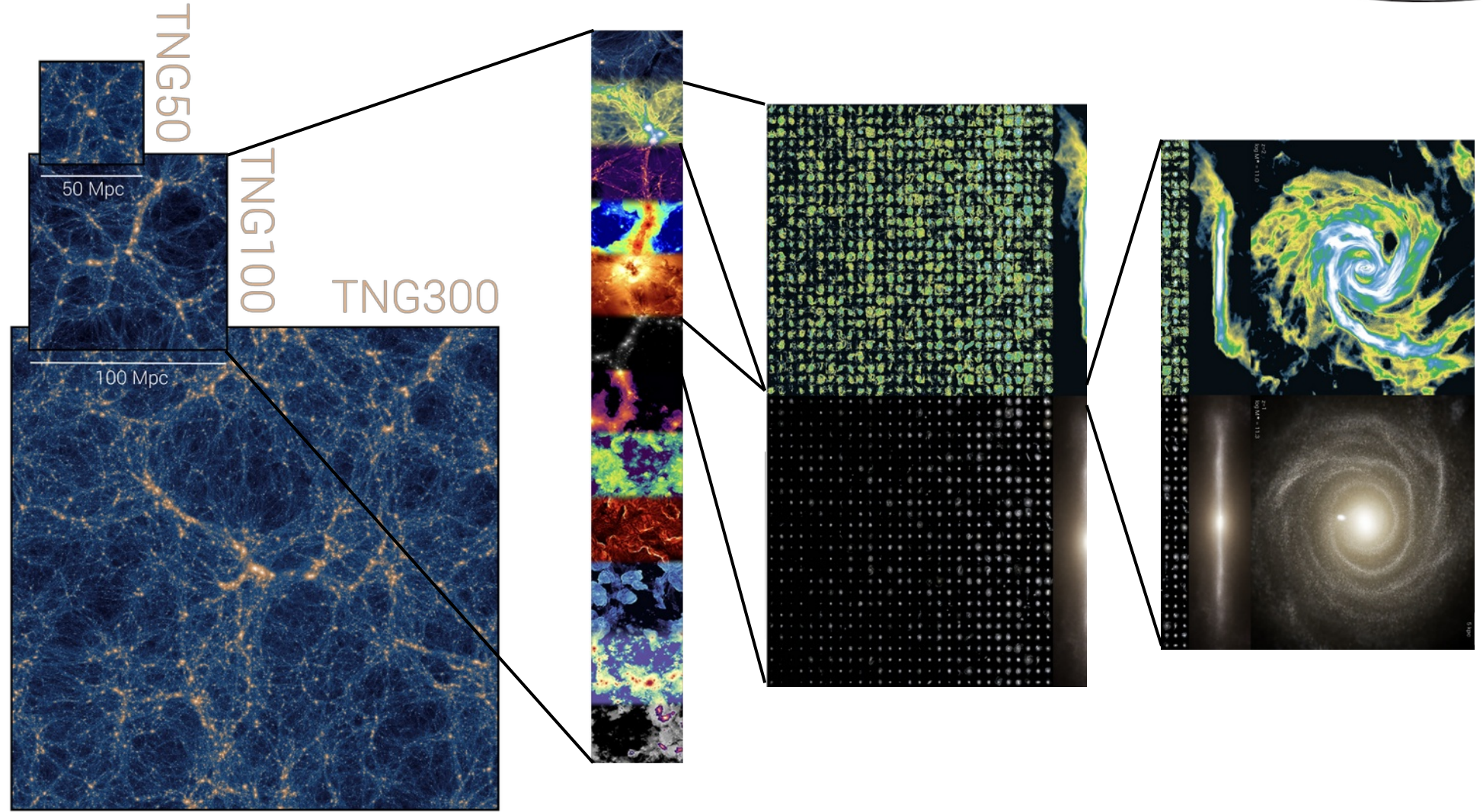
# Hyperspherical Variational Convolutional Autoencoder



Encoder

Convolution + 2x2 Max-Pooling Layer Cascade

vMF sampling

Decoder

Transposed Convolution Layer Cascade

# Representing the Model/Data with HiPS

Demo with Aladin Lite :

https://space.h-its.org
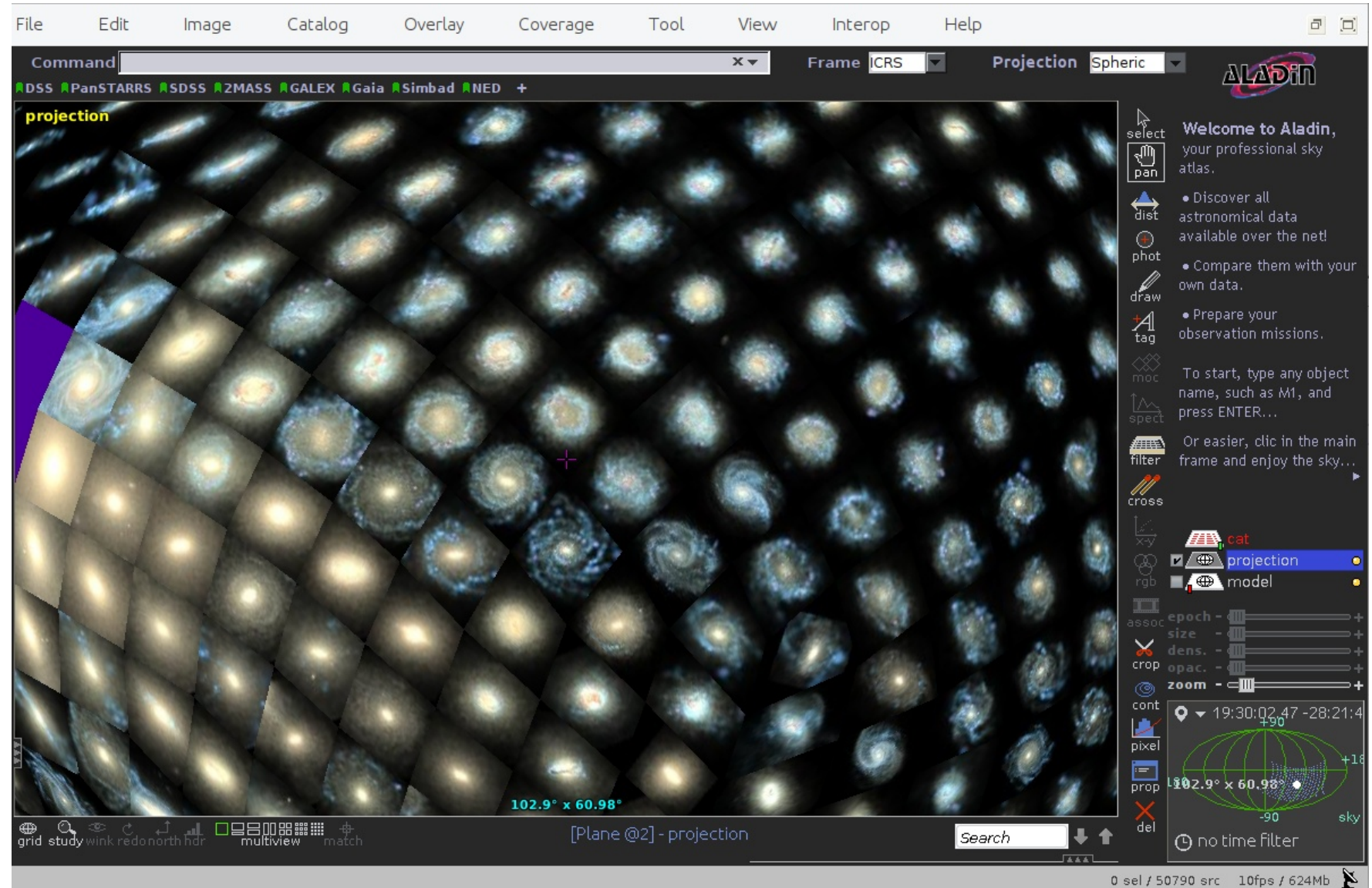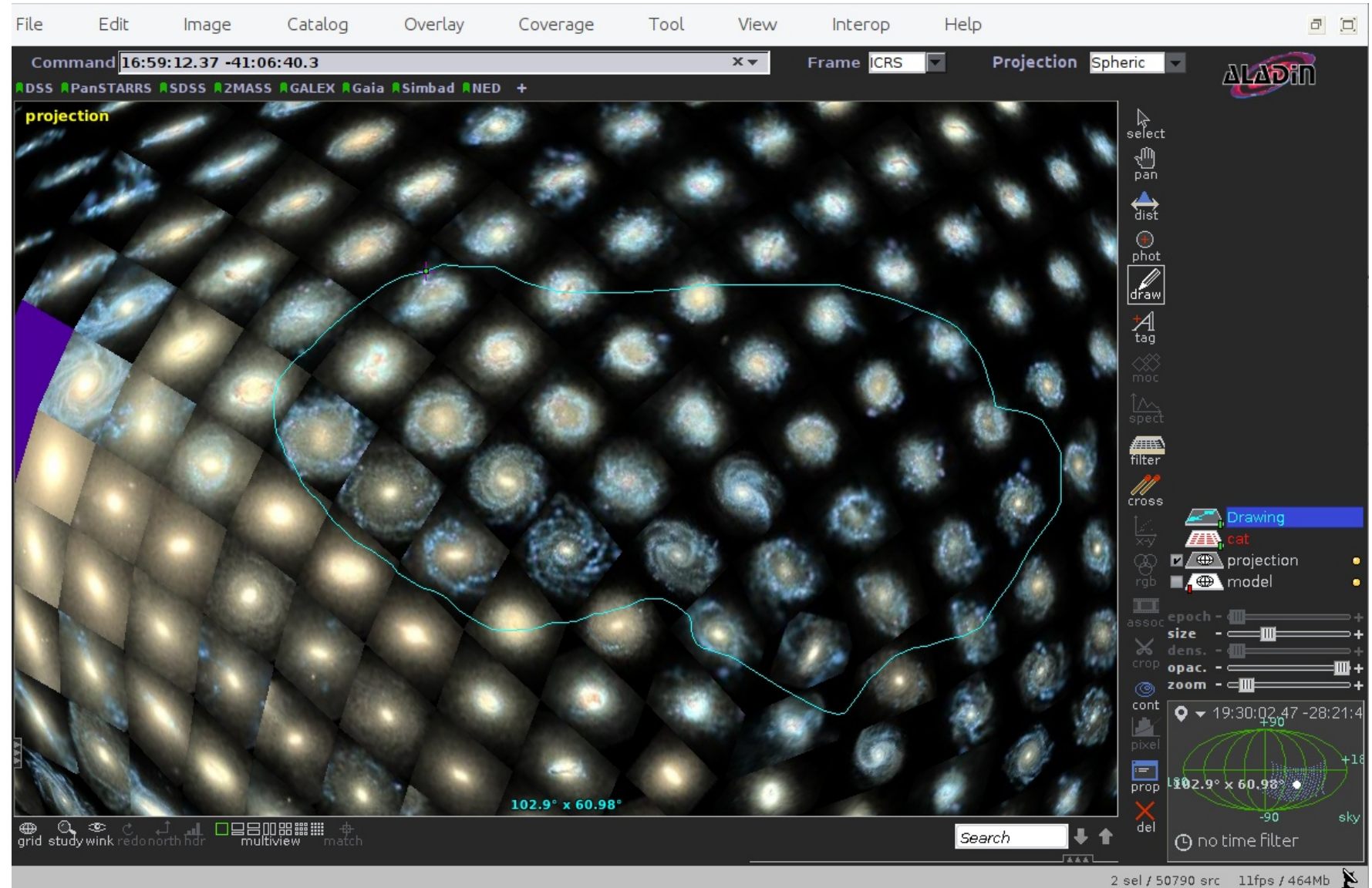
# Aladin Kai

## Model
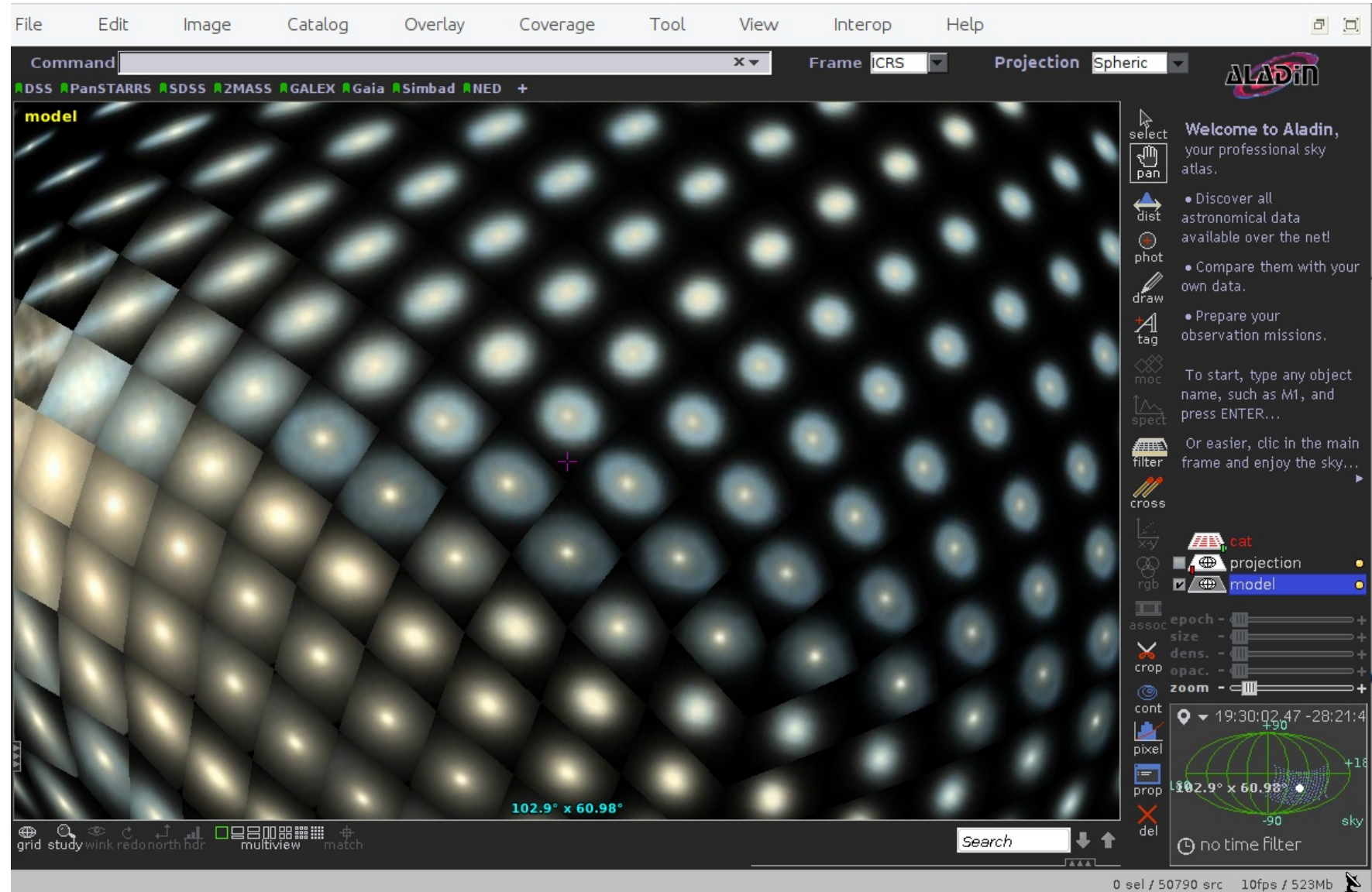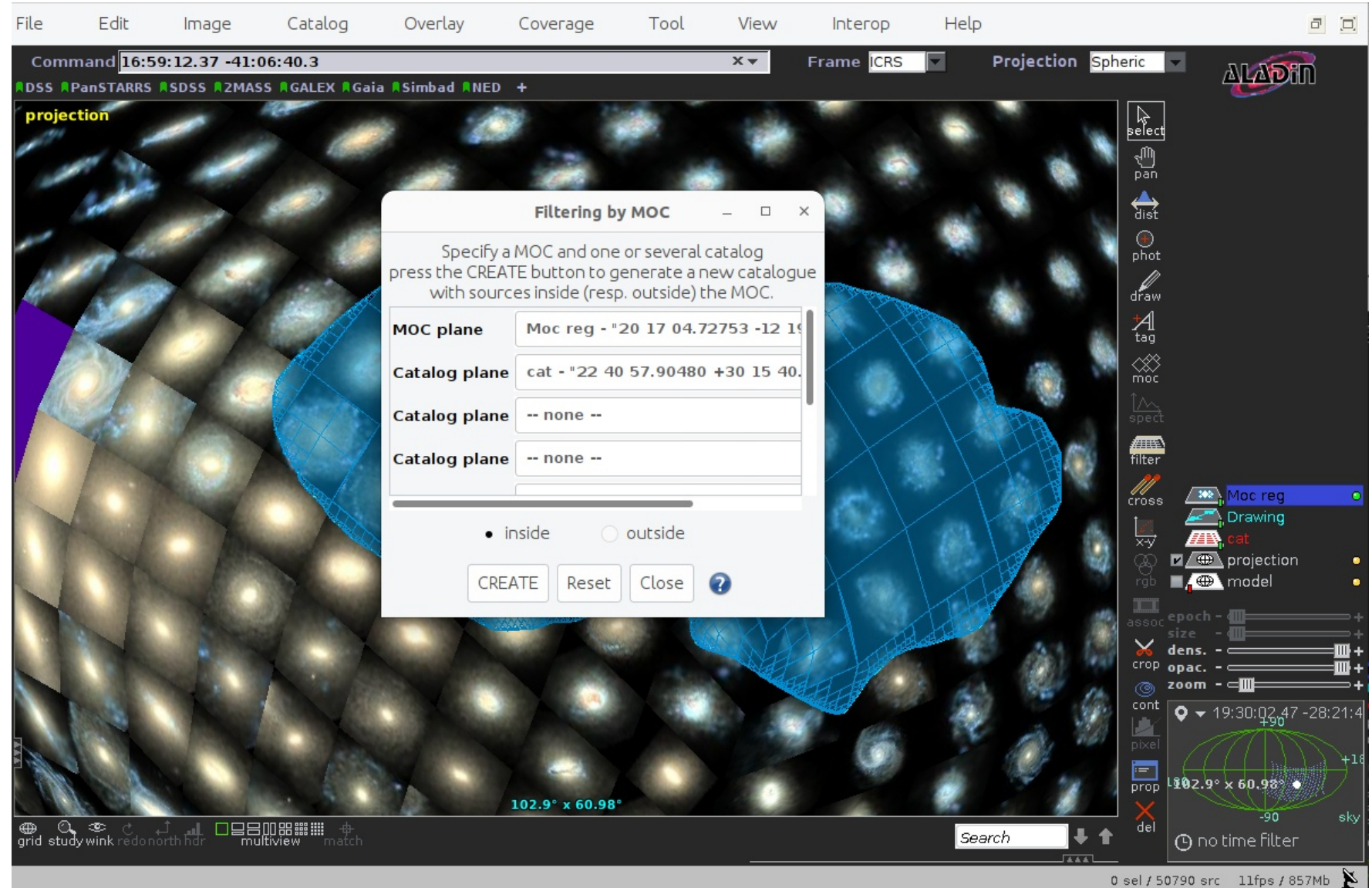
# Aladin Kai

Projection of data

# Aladin Kai

## Mark an area

# Aladin Kai

Create a MOC
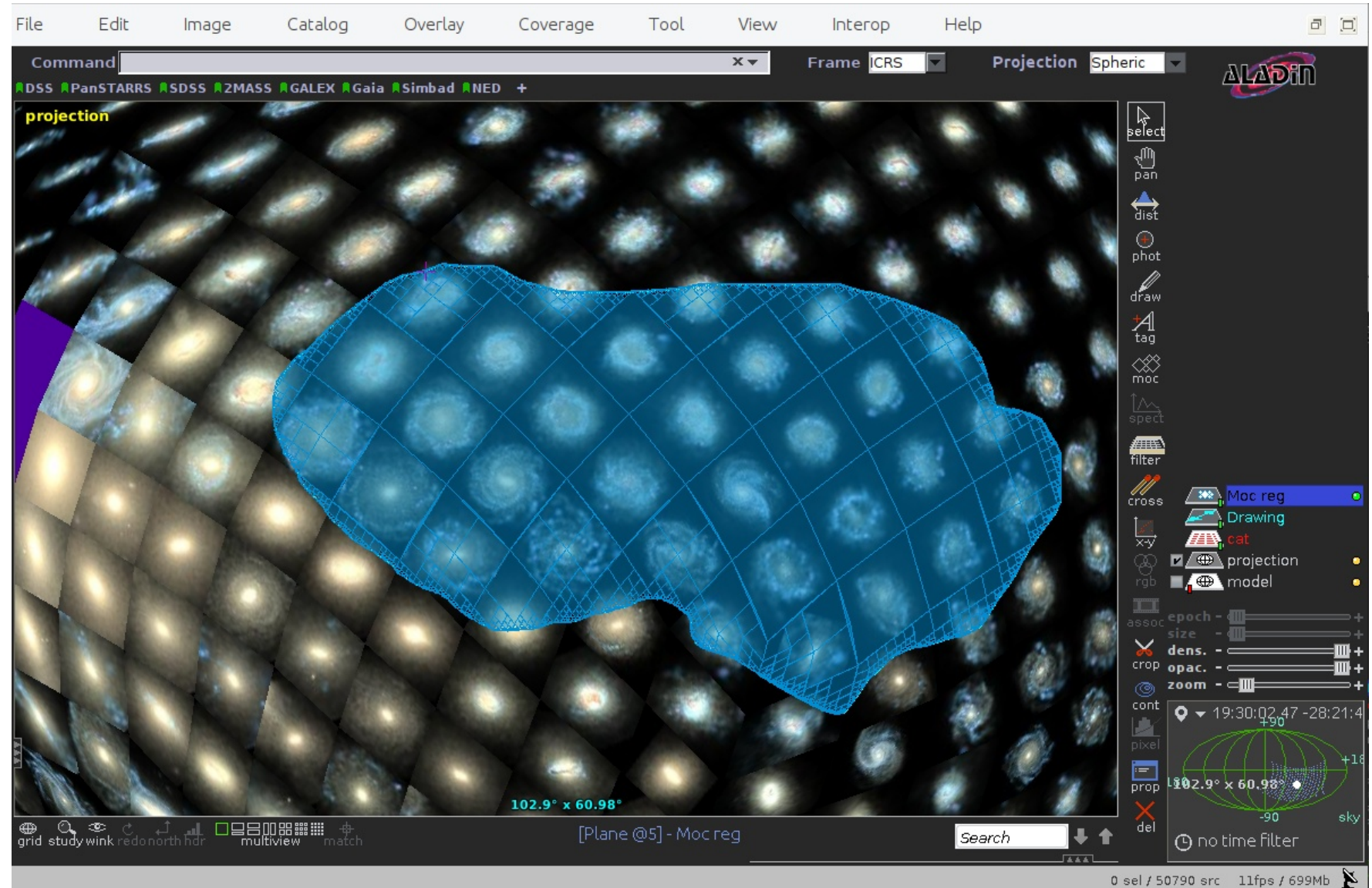
# Aladin Kai

## Filter catalog by MOC

# Aladin Kai

Individual catalog

# Questions

Coordinates

- UCD?

- How to connect to the model used to project?

HiPS

- Re-using hierarchical representation of HiPS → unexpected behavior in VO tools

MOC

- Annotations?

- Semantics?
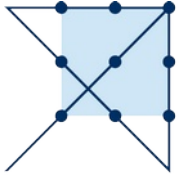
- Multi-mocs?

# Acknowledgments

Kai Polsterer, Bernd Doser, Andreas Fehlner & Sebastian Trujillo-Gomez

Thanks for your attention!

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