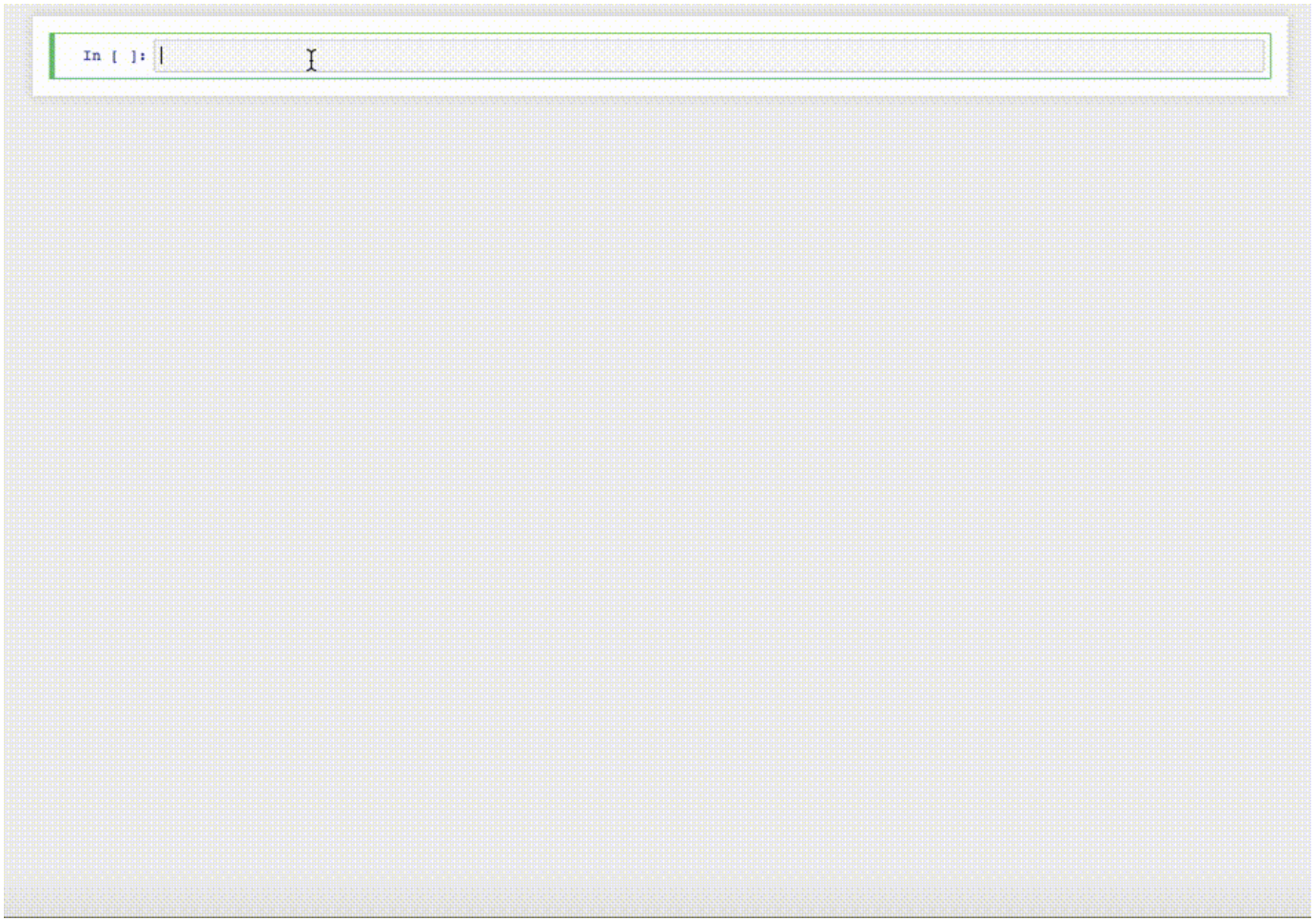
IVOA science priorities

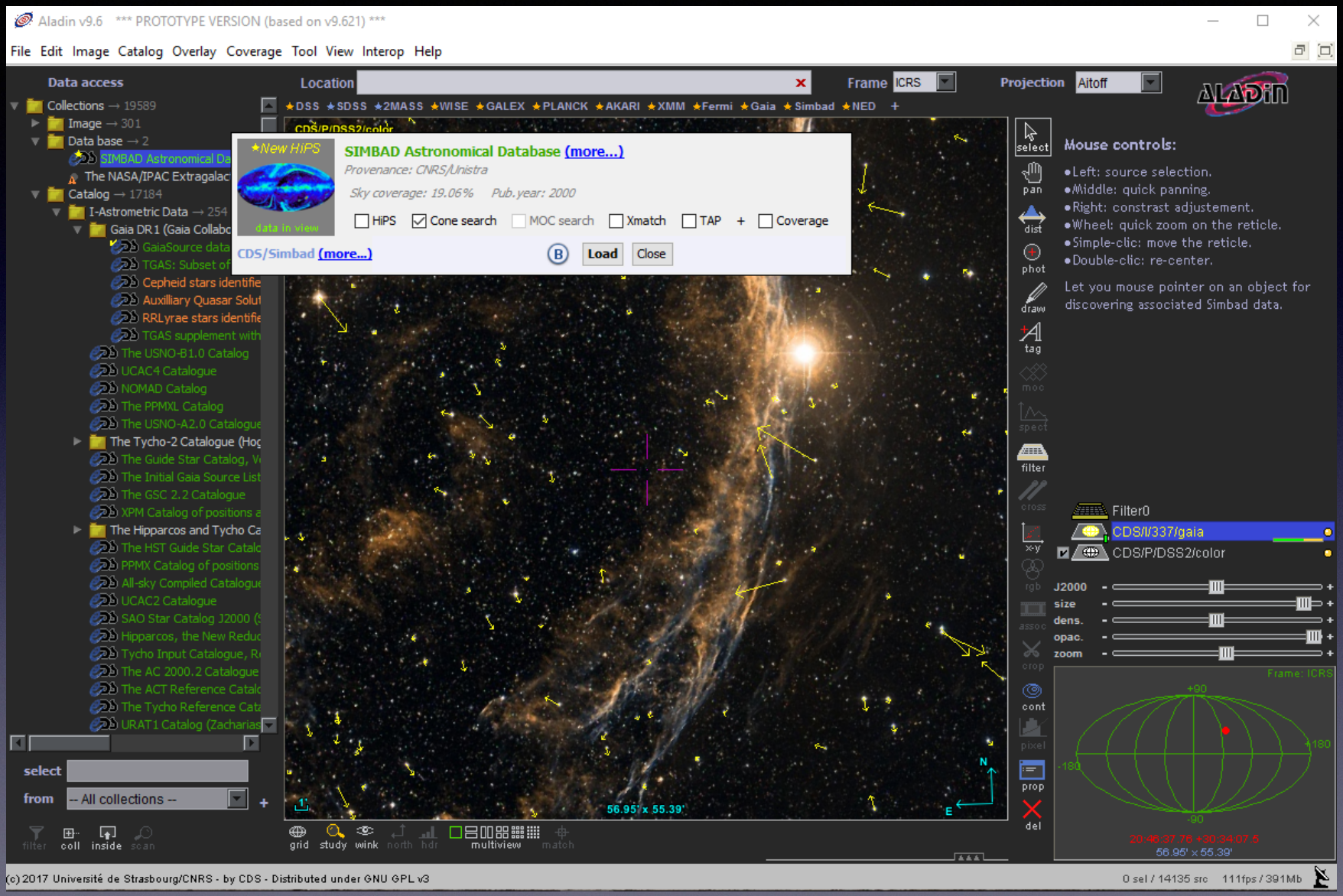
- **Multi-d data**
  - First set of standards achieved
  - Implementation extremely important
  - Radio, mm, IFU/IFS demonstrators needed
- **Time domain**
  - TDIG very active
- **Emerging priority:**
  - Science Platforms/Portals & Computing near data

Science Platforms

- Science Analysis platforms
- Demand for an IVOA / VO / Euro-VO Portal
  - Influenced by…
    - *Aladin Lite/ESA sky*, Open Universe

- Python / notebooks / Jupyter
- AstroPy …
- Strongly driven by LSST / SKA / …


In [ ]:


Aladin v9.6 *** PROTOTYPE VERSION (based on v9.621) ***
File Edit Image Catalog Overlay Coverage Tool View Interop Help
Data access
Location
Frame ICRS
Projection Aitoff
ALADIN
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Collections → 19589
Image → 301
Data base → 2
SIMBAD Astronomical Da
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Catalog → 17184
I-Astrometric Data → 254
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Auxilliary Quasar Solut
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UCAC4 Catalogue
NOMAD Catalog
The PPMXL Catalog
The USNO-A2.0 Catalogue
The Tycho-2 Catalogue (Hog
The Guide Star Catalog, V
The Initial Gaia Source List
The GSC 2.2 Catalogue
XPM Catalog of positions a
The Hipparcos and Tycho Ca
The HST Guide Star Catalc
PPMX Catalog of positions
All-sky Compiled Catalogue
UCAC2 Catalogue
SAO Star Catalog J2000 (S
Hipparcos, the New Reduc
Tycho Input Catalogue, R
The AC 2000.2 Catalogue
The ACT Reference Catalc
The Tycho Reference Cata
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data in view
SIMBAD Astronomical Database (more...)
Provenance: CNRS/Unistra
Sky coverage: 19.06% Pub.year: 2000
HiPS Cone search MOC search Xmatch TAP + Coverage
CDS/Simbad (more...)
Load Close
select pan dist phot draw tag moc spect filter cross x-y rgb assoc crop cont pixel prop del
Mouse controls:
•Left: source selection.
•Middle: quick panning.
•Right: constrast adjustement.
•Wheel: quick zoom on the reticle.
•Simple-clic: move the reticle.
•Double-clic: re-center.
Let you mouse pointer on an object for discovering associated Simbad data.
Filter0
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CDS/P/DSS2/color
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20:46:37.76 +30:24:07.5
56.95' x 55.39'
56.95' x 55.39'
N
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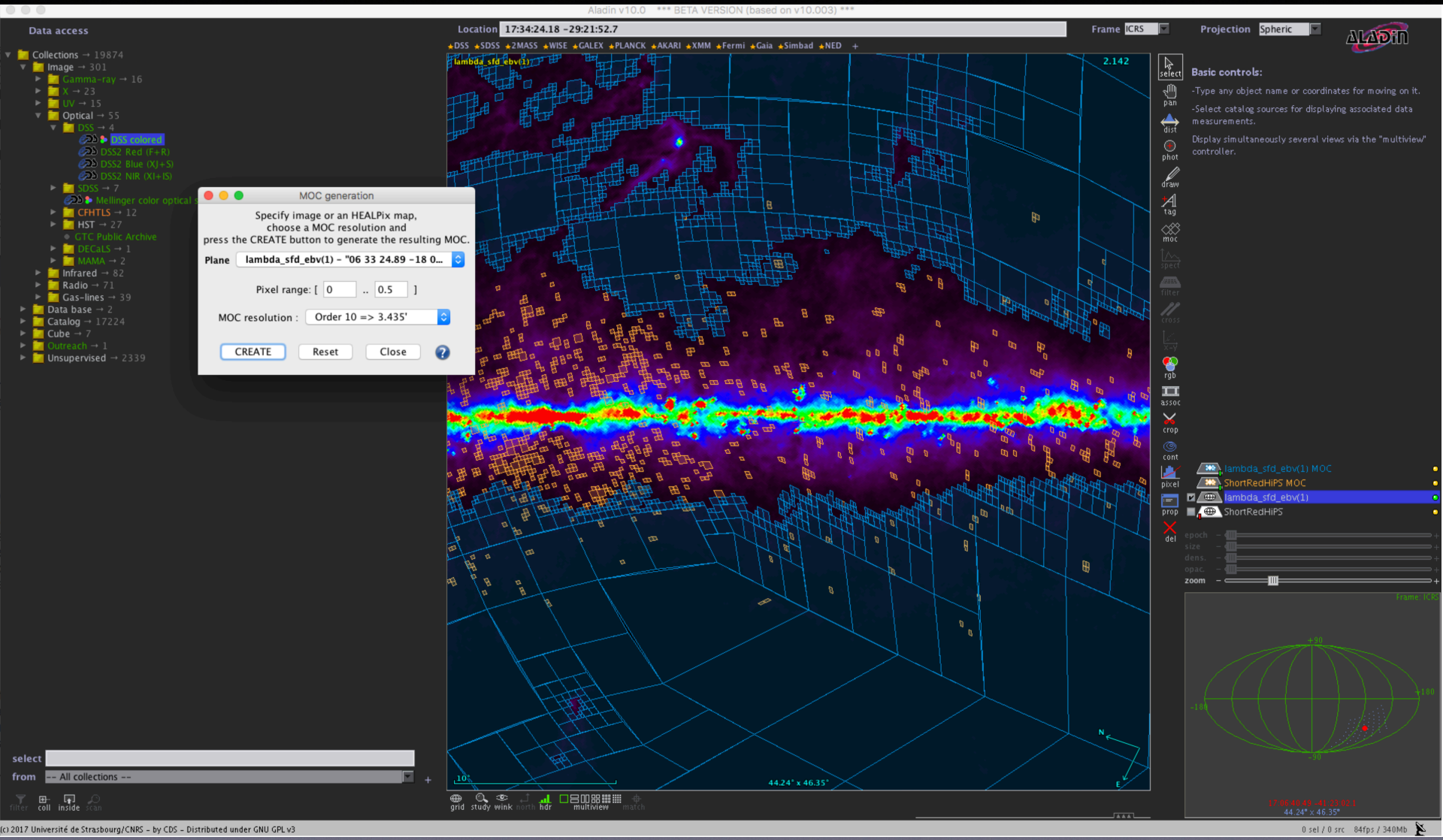
grid study wink north hdr multiview match
(c) 2017 Université de Strasbourg/CNRS - by CDS - Distributed under GNU GPL v3
0 sel / 14135 src 111fps / 391Mb


Aladin v10.0 *** BETA VERSION (based on v10.003) ***
Data access
Location 17:34:24.18 -29:21:52.7
Frame ICRS
Projection Spheric
ALADIN
DSS SDSS 2MASS WISE GALEX PLANCK AKARI XMM Fermi Gaia Simbad NED
lambda_sfd_ebv(1)
2.142
Collections → 19874
Image → 301
Gamma-ray → 16
X → 23
UV → 15
Optical → 55
DSS → 4
DSS colored
DSS2 Red (F+R)
DSS2 Blue (XJ+S)
DSS2 NIR (XI+IS)
SDSS → 7
Mellinger color optical
CFHTLS → 12
HST → 27
GTC Public Archive
DECaLS → 1
MAMA → 2
Infrared → 82
Radio → 71
Gas-lines → 39
Data base → 2
Catalog → 17224
Cube → 7
Outreach → 1
Unsupervised → 2339
MOC generation
Specify image or an HEALPix map,
choose a MOC resolution and
press the CREATE button to generate the resulting MOC.
Plane lambda_sfd_ebv(1) - "06 33 24.89 -18 0...
Pixel range: [0 .. 0.5]
MOC resolution : Order 10 => 3.435'
CREATE
Reset
Close
select
pan
dist
phot
draw
tag
moc
spect
filter
cross
xy
rgb
assoc
crop
cont
pixel
prop
del
Basic controls:
-Type any object name or coordinates for moving on it.
-Select catalog sources for displaying associated data measurements.
Display simultaneously several views via the "multiview" controller.
lambda_sfd_ebv(1) MOC
ShortRedHiPS MOC
lambda_sfd_ebv(1)
ShortRedHiPS
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from -- All collections --
filter coll inside scan
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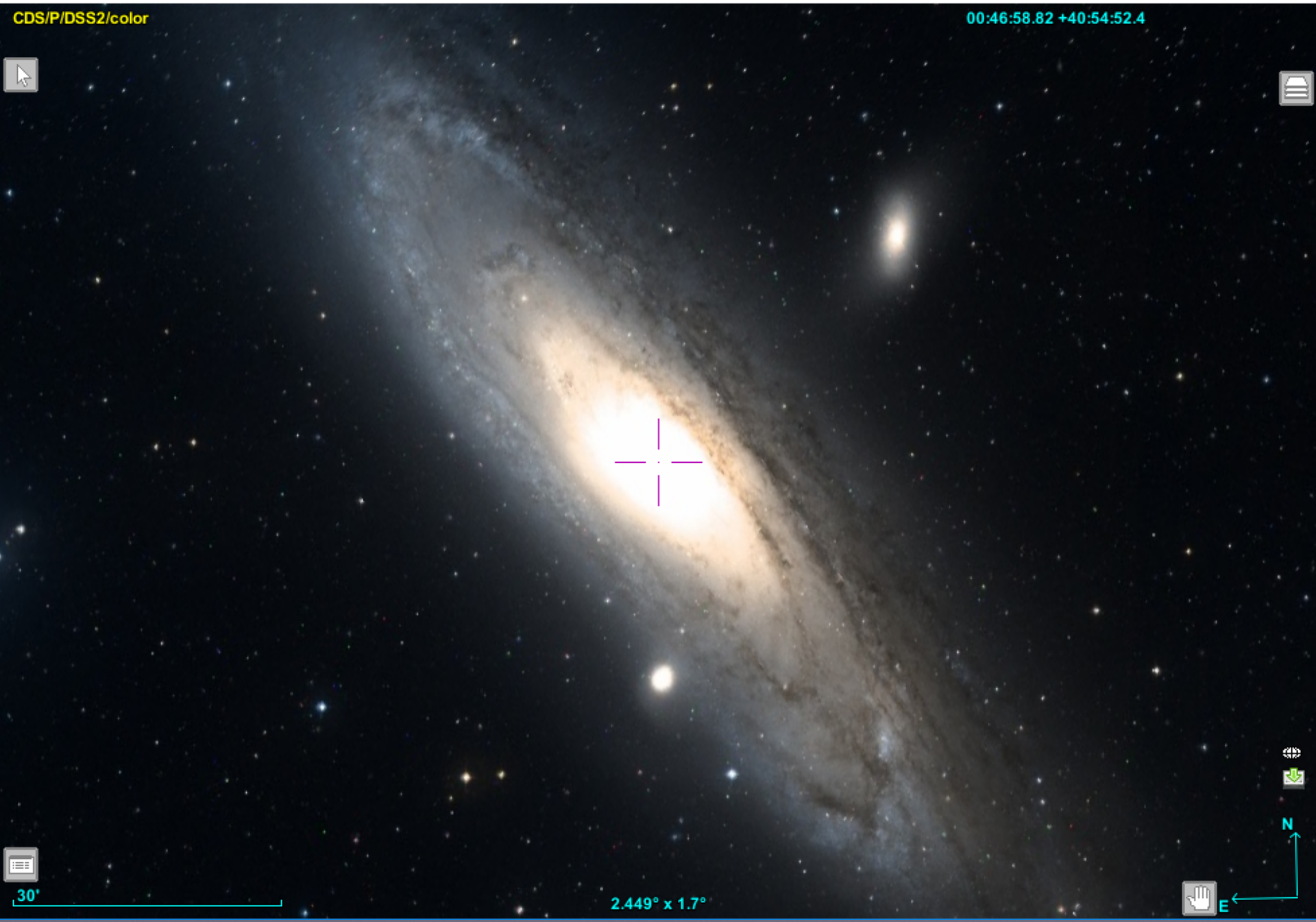
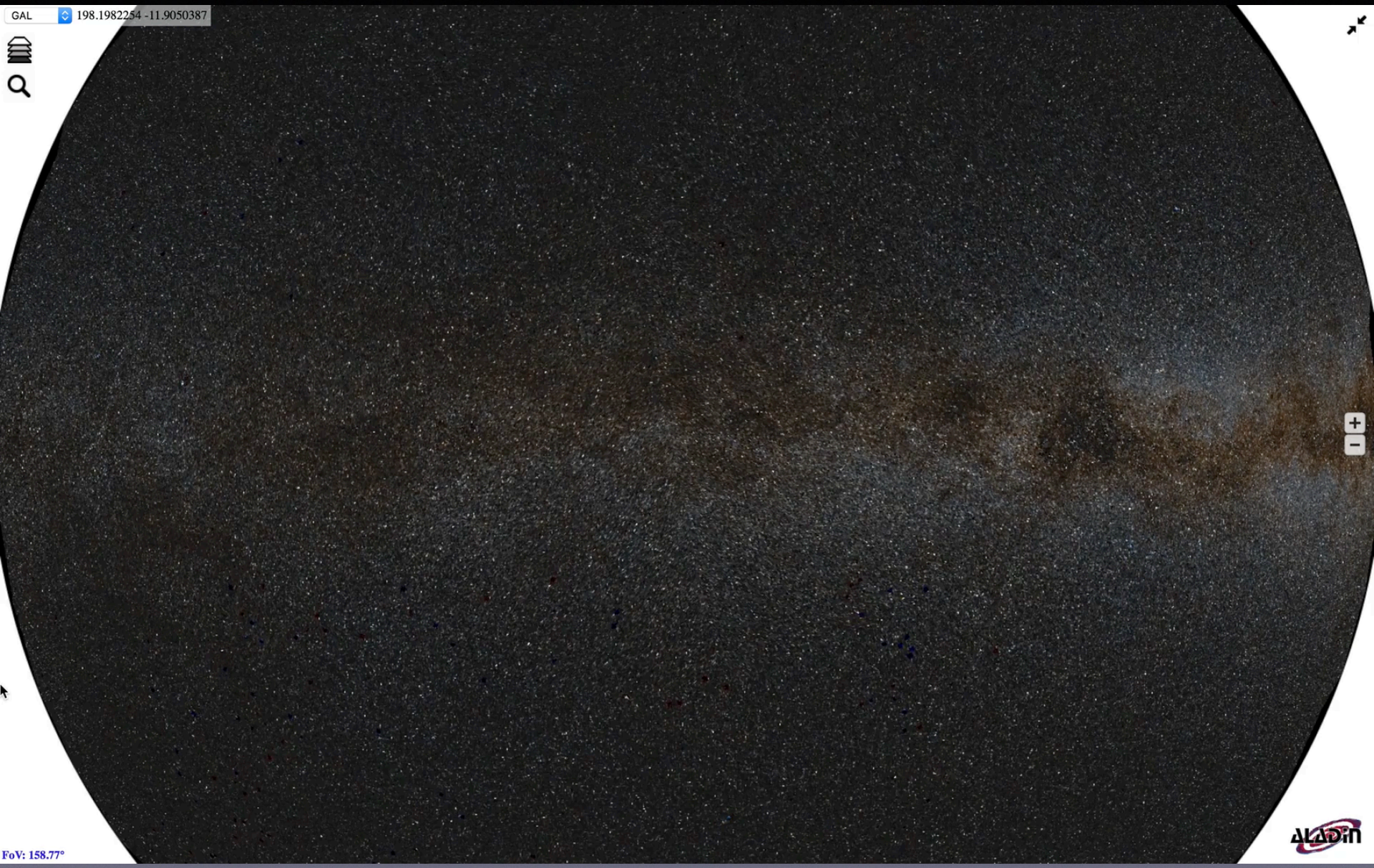
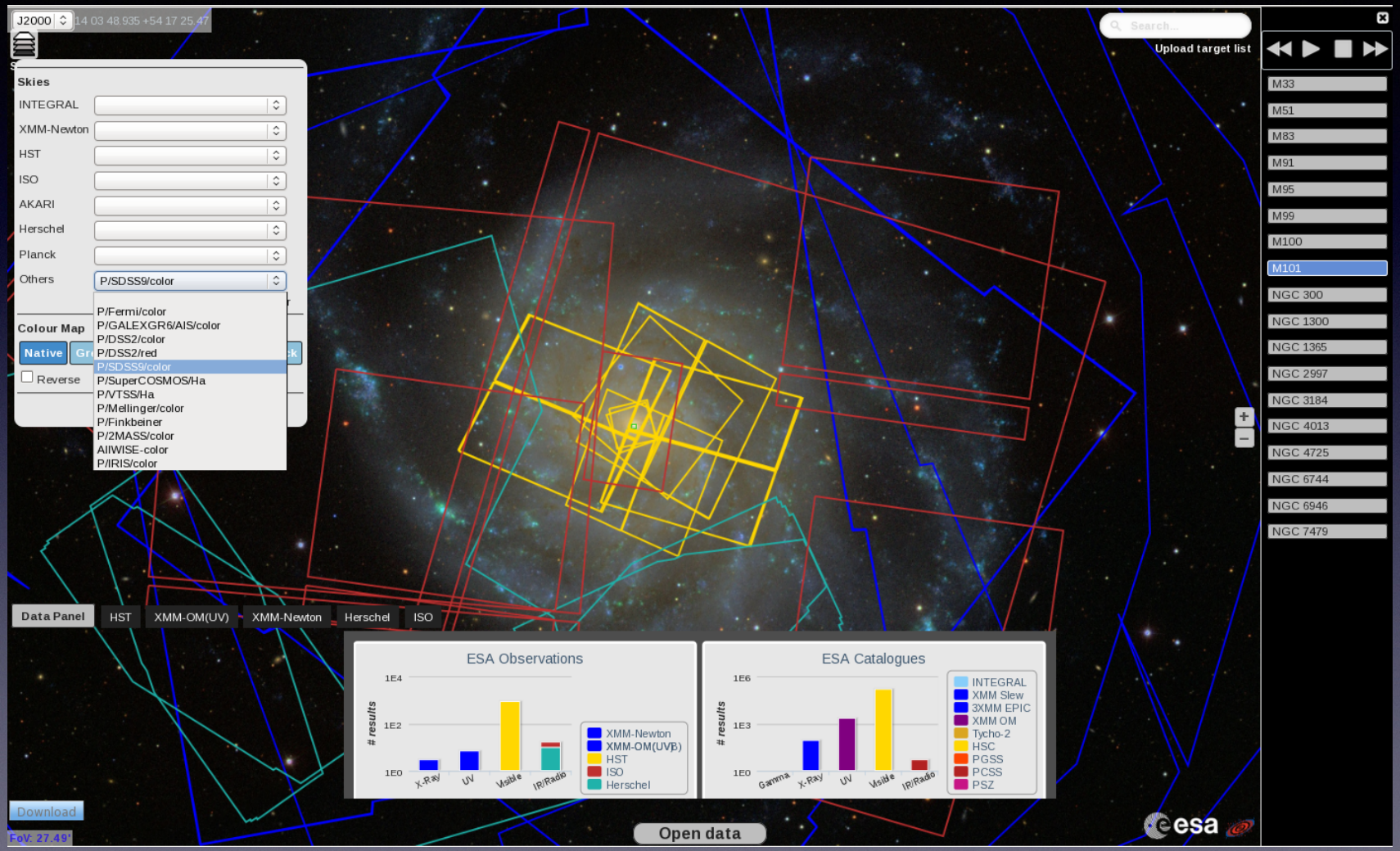
(c) 2017 Université de Strasbourg/CNRS - by CDS - Distributed under GNU GPL v3
0 sel / 0 src 84fps / 340Mb


CDS/P/DSS2/color
00:46:58.82 +40:54:52.4
30'
2.449° x 1.7°
N
E


GAL
198.1982254 -11.9050387
FoV: 158.77°
ALADIN

ESA Sky - built on Aladin Lite



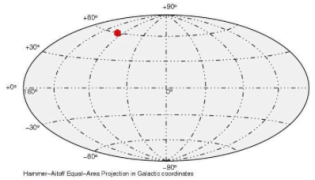
Open UNiverse for astronomy

UNITED NATIONS
Office for Outer Space Affairs

Open Universe @ ASI | Space Astronomy » | Ground Astronomy » | Planetary Science » | Solar data » | ISS » | VO and General services » | Bibliography » | Cosmic Rays » | Astronomical tools » | Image galleries » | Open software » | Other Initiatives » | Educational contents »

Help | VO inside IVOA | Login | Reset all

OU Parameters



Aitoff coordinates type: **Galactic** - *Equatorial*

Source Name(s) : **M101**

R.A.(J2000) = **14 03 12.0 (210.8 deg)**

Dec.(J2000) = **+54 21 00.0 (54.35 deg)**

Version 1.1

Object name or coordinates: M101 (SSDC)

M101

W | NED | SIMBAD

ESASky | SKY-MAP.ORG | Google Sky | SDSS SkyServer | Aladin Lite | Legacy Surveys | MAST Archive | SuperCOSMOS | Radio Surveys

SSDC Catalogs | Astronomical Catalogs | SkyMapper | CADC Archive | ESO Archive | NOAO Survey Data | NRAO Archive | ALMA Archive | ISDC - HEAVENS

SSDC Archive | Radio Telescope DC | INAF IA2 | Multi-freq. Explorer | VOU SED | SED builder | SED movie | Bibliographic Search

Open Universe for Astronomy


Stellarium 0.18.0
Earth, Paris, 42 m
FOV 47.4°
130 FPS
2018-04-16 15:54:28 UTC+01:00

Gaia DR2 - 25 April

- Expected showcase of VO Access
  - ESA
  - DPAC Data Centres - including CDS, ARI
- Training events
  - ESA
  - Heidelberg

European Open Science Cloud (EOSC)

EOSC

- Global Open Science as a driver for accelerating innovation and enabling a new paradigm of data-driven science
- In Europe, this vision is being realised through an ambitious programme of research and development under the heading of the European Open Science Cloud (EOSC).
- EOSC will deliver an Open Data Science Environment that federates existing scientific data infrastructures to offer European science and technology researchers and practitioners seamless access to services for storage, management, analysis and re-use of research data

FAIR Data

Findable

Data has **rich metadata**, specifies **data identifiers**, has a **globally unique persistent identifier** and is registered and/or indexed in **searchable resources**

Accessible

Data is **retrievable** via their **identifier**, via **standard protocols**, protocols are **open, free** and **universally implementable**, allows **authentication** and **authorization** where necessary and **metadata** are kept **accessible** when **data** is **no longer available**

Interoperable

Data has formal, accessible, shared and broadly applicable **knowledge representation,** use **vocabularies** that flow **FAIR principles** and include qualified **references** to **other (meta)data**

Reusable

Data has plurality of accurate and **relevant attributes**, is released with clear and accessible **data usage license**, has associated **provenance** and meets domain-relevant **community standards**