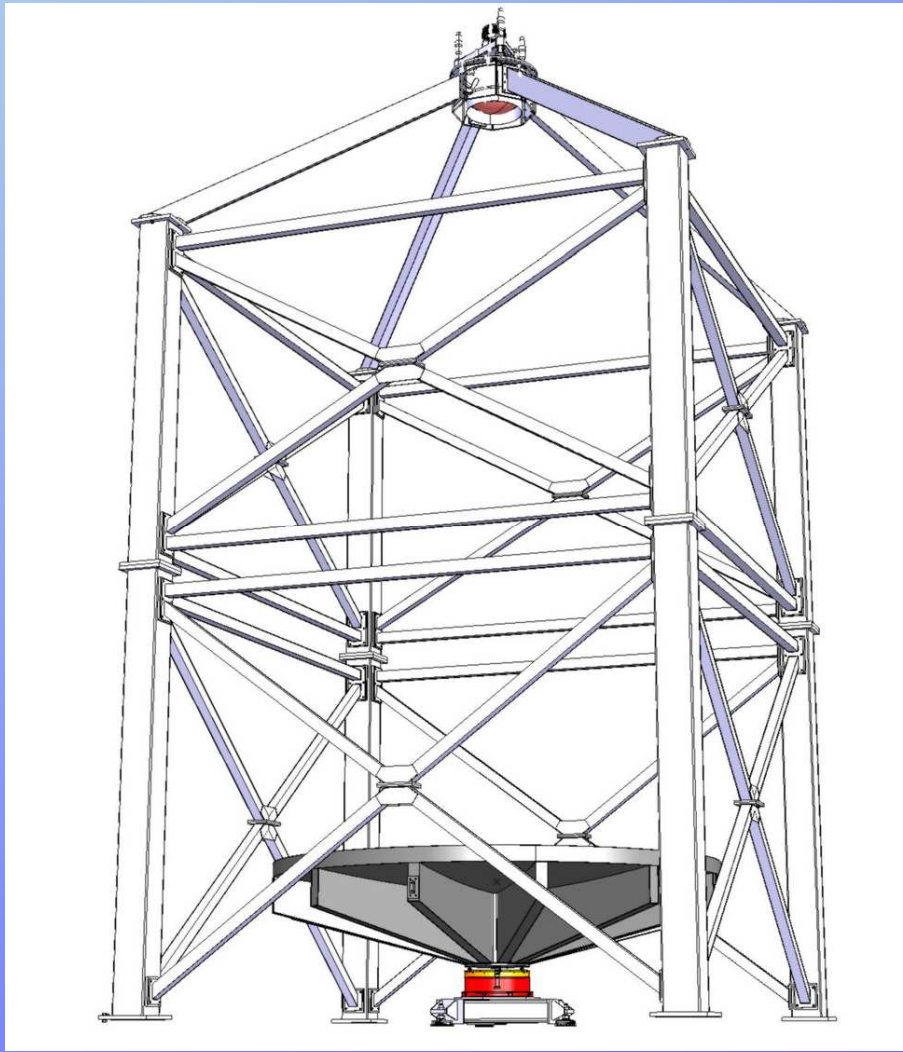
EuroVO-AIDA School 2009

Extragalactic Group 2

SCIENCE CASE: Search for variable sources (QSOs, SNae, etc.) in the narrow (30') strip of sky visible at zenith from the Devasthal Observatory

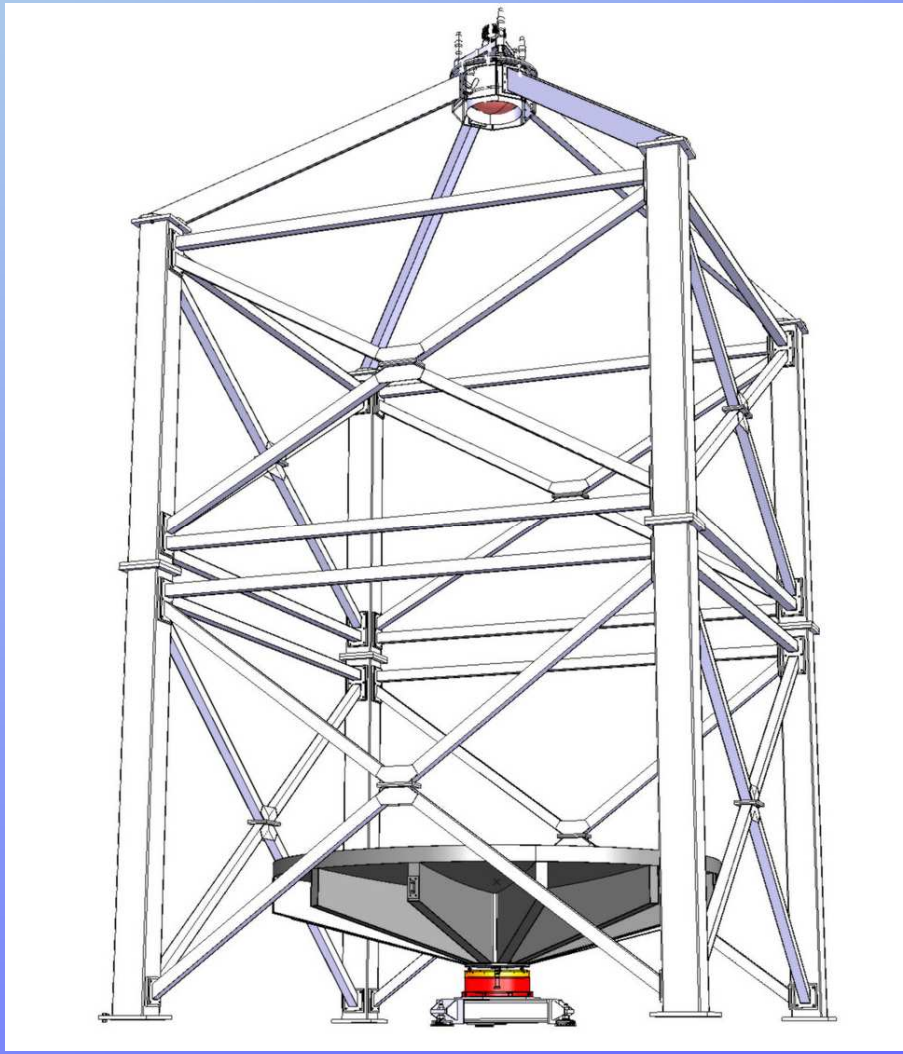
The Telescope: ILMT

- Online in 2010;
- Zenith mountage => area observed will be a strip in the sky
- Telescope FOV: 30’



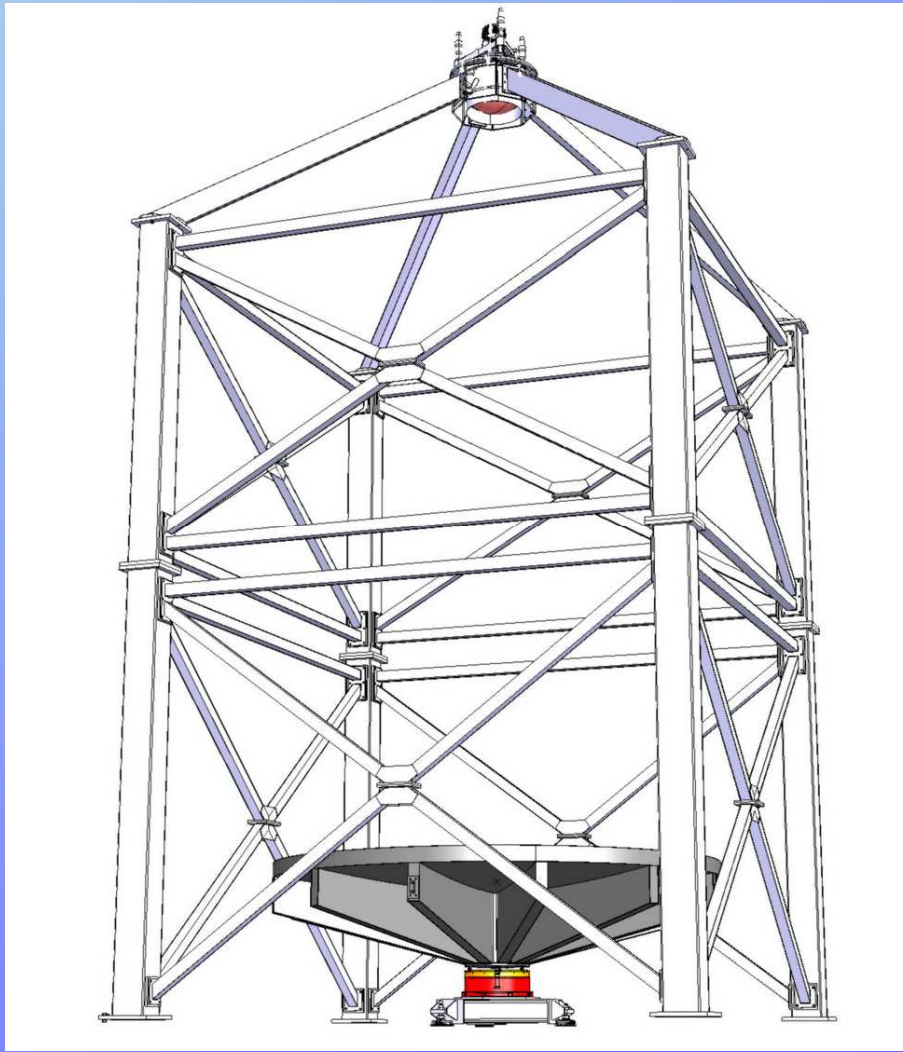
How to describe the strip?

- A) δ = cte
- B) α = cte
- C) $\delta = (\text{atan}(\sinh(\alpha)^2 + \cosh(\alpha+\pi/2)^2))^{1/2}$



The Telescope: ILMT

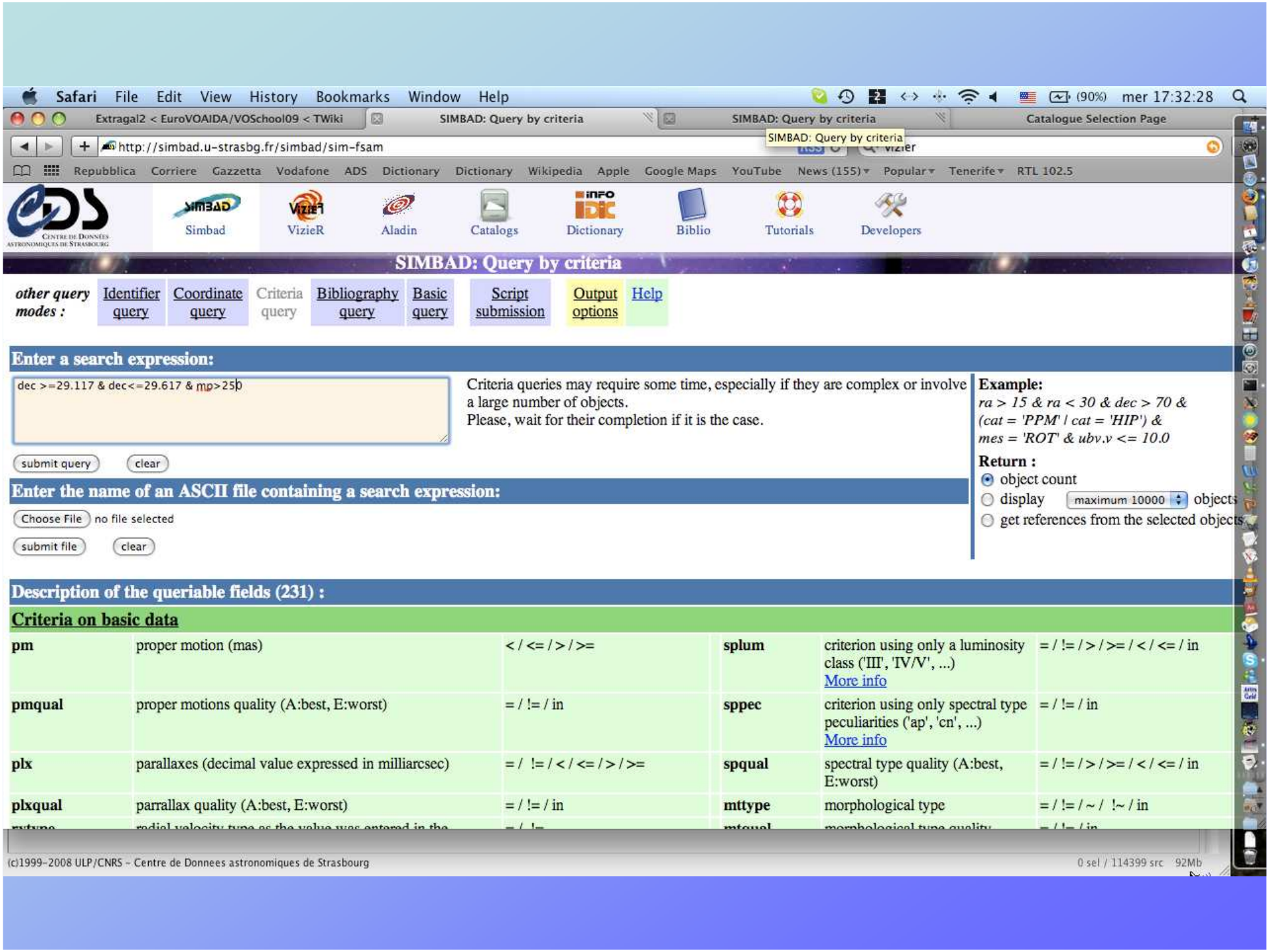
- Online in 2010;
- Zenith mountage => area observed will be a strip in the sky with a constant declination: latitude = δ = 29°22’ = 29.367°
- Telescope FOV: 30’ => 29.367° ± 0.25



Calibration sample

- QSOs: through VizieR, obtain the complete Large QSOs Astrometric Catalog (LQAC) (Caveat: Ought to do it through VizieR site, N>50000). With Topcat select those objects in the strip of interest: $2>=29.117 && $2<=29.617.

- High proper motion stars: through Simbad, query by criteria: dec>=29.117 & dec<=29.617 & pm>250 (why..? It’s reasonably fast..)


Safari File Edit View History Bookmarks Window Help
mer 17:32:28
Extragal2 < EuroVOAIDA/VOSchool09 < TWiki
SIMBAD: Query by criteria
SIMBAD: Query by criteria
Catalogue Selection Page
http://simbad.u-strasbg.fr/simbad/sim-fsam
Simbad
VizieR
Aladin
Catalogs
Dictionary
Biblio
Tutorials
Developers
SIMBAD: Query by criteria
other query modes :
Identifier query
Coordinate query
Criteria query
Bibliography query
Basic query
Script submission
Output options
Help
Enter a search expression:
dec >=29.117 & dec<=29.617 & mp>250
Criteria queries may require some time, especially if they are complex or involve a large number of objects.
Please, wait for their completion if it is the case.
Example:
ra > 15 & ra < 30 & dec > 70 &
(cat = 'PPM' | cat = 'HIP') &
mes = 'ROT' & ubv.v <= 10.0
Return :
object count
display maximum 10000 objects
get references from the selected objects
submit query
clear
Enter the name of an ASCII file containing a search expression:
Choose File no file selected
submit file
clear
Description of the queriable fields (231) :
Criteria on basic data
pm proper motion (mas) < / <= / > / >=
pmqual proper motions quality (A:best, E:worst) = / != / in
plx parallaxes (decimal value expressed in milliarcsec) = / != / < / <= / > / >=
plxqual parrallax quality (A:best, E:worst) = / != / in
splum criterion using only a luminosity class ('III', 'IV/V', ...) More info = / != / > / >= / < / <= / in
sppec criterion using only spectral type peculiarities ('ap', 'cn', ...) More info = / != / in
spqual spectral type quality (A:best, E:worst) = / != / > / >= / < / <= / in
mttype morphological type = / != / ~ / !~ / in
(c)1999-2008 ULP/CNRS - Centre de Donnees astronomiques de Strasbourg
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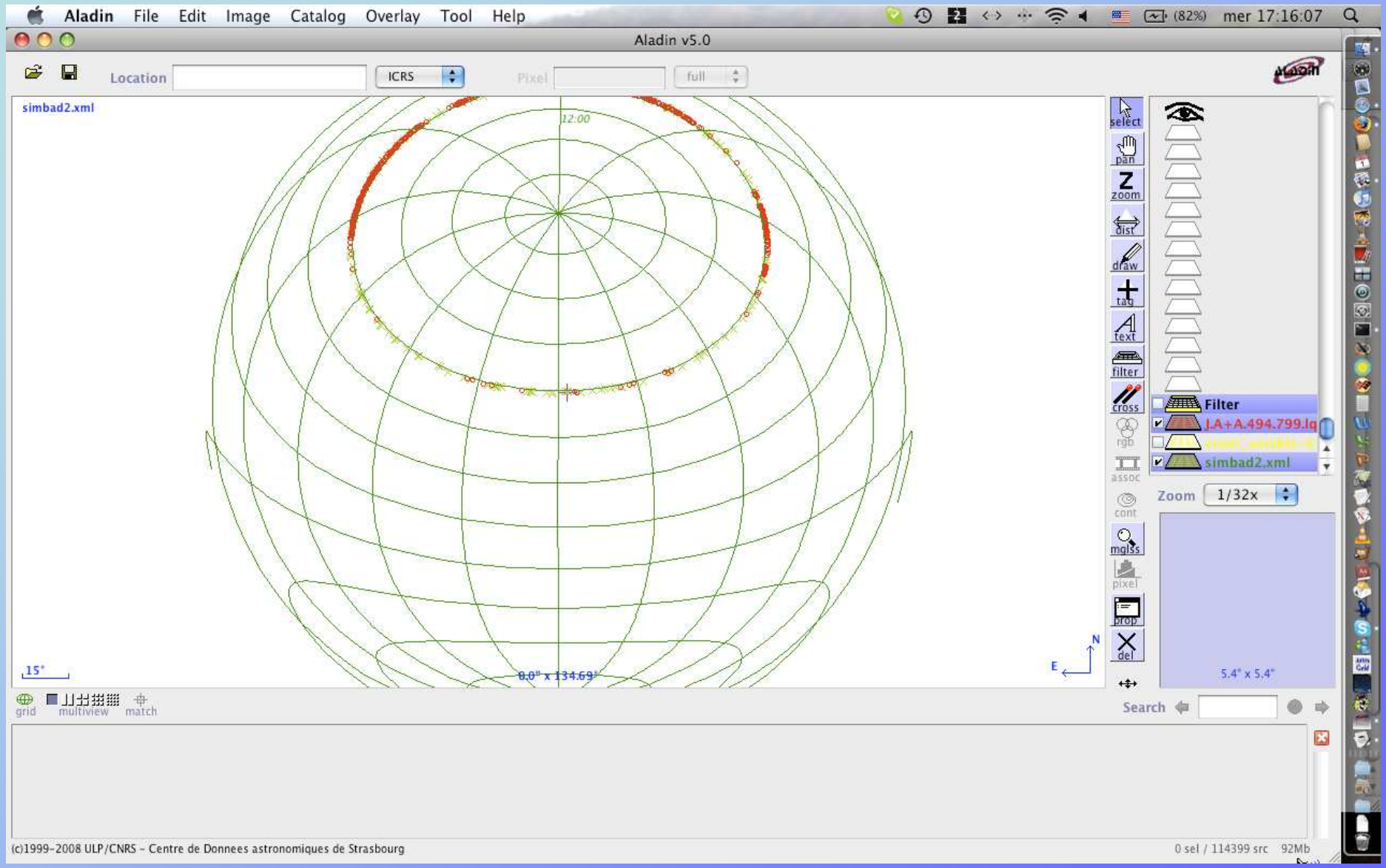
Aladin File Edit Image Catalog Overlay Tool Help
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5.4° x 5.4°
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match
Search
(c)1999-2008 ULP/CNRS - Centre de Donnees astronomiques de Strasbourg
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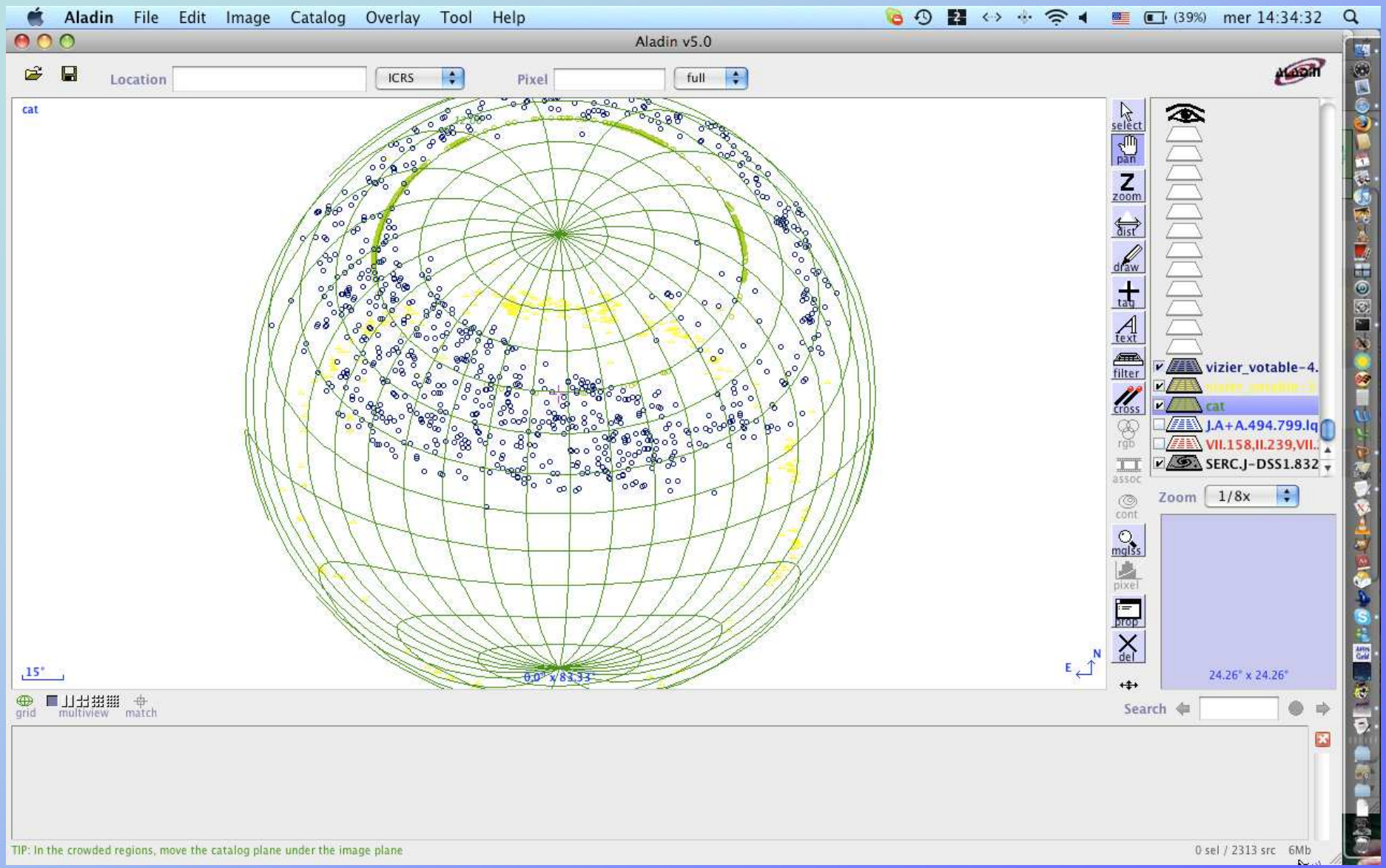
BUT!!!

- We first started with smaller catalogs searched on Vizier. As they didn’t properly cover the desired strip of the sky we preceeded with a general search described previously.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Aladin v5.0
Location
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vizier_votable-4.
cat
J.A+A.494.799.lq
VII.158,II.239,VII..
SERC.J-DSS1.832
Zoom
1/8x
24.26° x 24.26°
15°
0.0° x 83.33°
E
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grid
multiview
match
Search
TIP: In the crowded regions, move the catalog plane under the image plane
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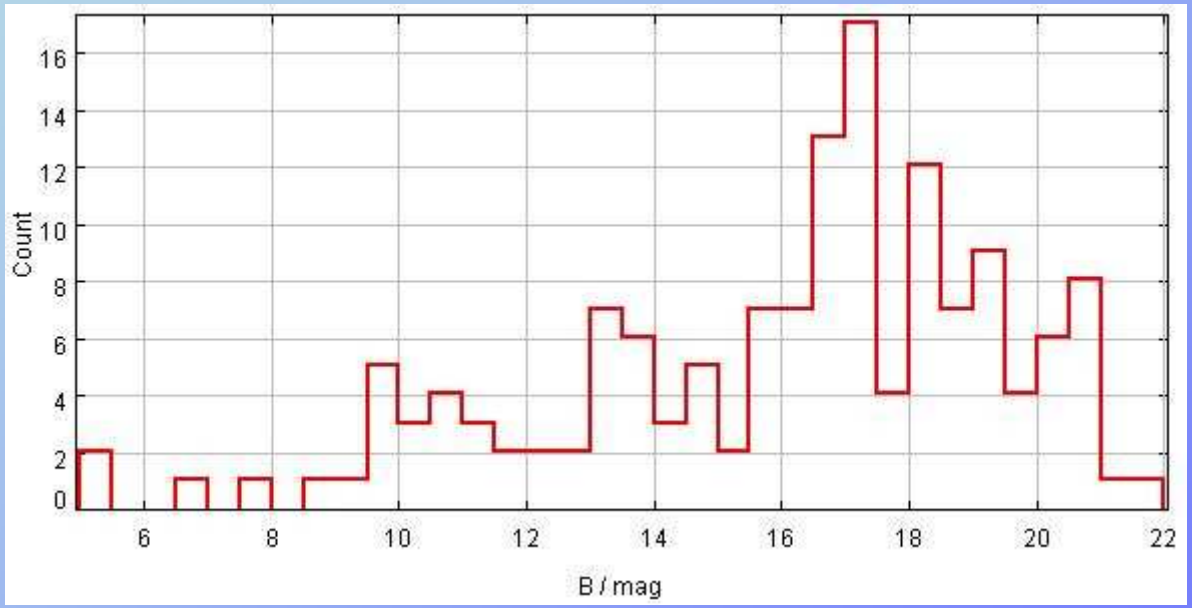
Further Procedure

Magnitude cut (topcat) to select brightest objects:



But the software has to know all of them!!!

Eh!!! Infatti!!!

Ranieri Baldi
Letizia Cassarà
François Finet
Hugo Messias
Benedetta Vulcani