In classroom with the Virtual Observatory: a new tool for students and teachers

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the European perspective — An ASTRONET Workshop
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The Virtual Observatory

- A set of standards, protocols and procedures
- A set of tools for
  - Publishing
  - Finding, verifying, retrieving
  - Displaying, analyzing
- Tools are interoperable

Astronomical data stored in digital archives anywhere

Education and the Virtual Observatory I

Since 2008 with Euro-VO AIDA

- Simplified professional tools:
  - Aladin (access and display VO data and catalogs)
  - Stellarium (virtual sky)

- Use Cases (secondary school to university)
  - PDF publication presenting a problem
  - Step-by-step guide to the solution using VO tools

Education and the Virtual Observatory II

- Developed in close collaboration with teachers and students
- Multilingual effort
- Teacher training
- Educational product available here:
  - http://wwwas.oats.inaf.it/aidawp5/

Gallery

Present plan: CoSADIE

Collaborative and Sustainable Astronomical Data Infrastructure for Europe

Diffuse VO Edu as widely as possible

- Increase the number of VO Edu aware countries
- Adapt products to different school structures
- Keep translating

First step: identify contact persons

Collaboration with Astronet is essential and already built in into CoSADIE

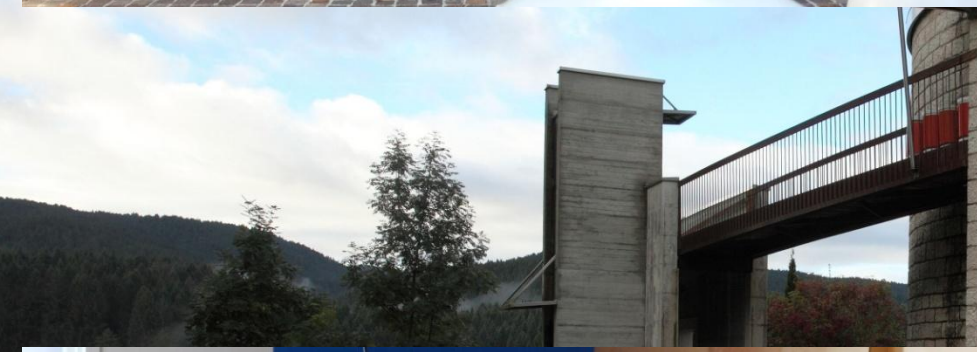
Longer term plan

VO Edu a sustainable resource

- Ideas to be developed in the CoSADIE framework, brainstorming with Astronet and other projects pursuing the same goal

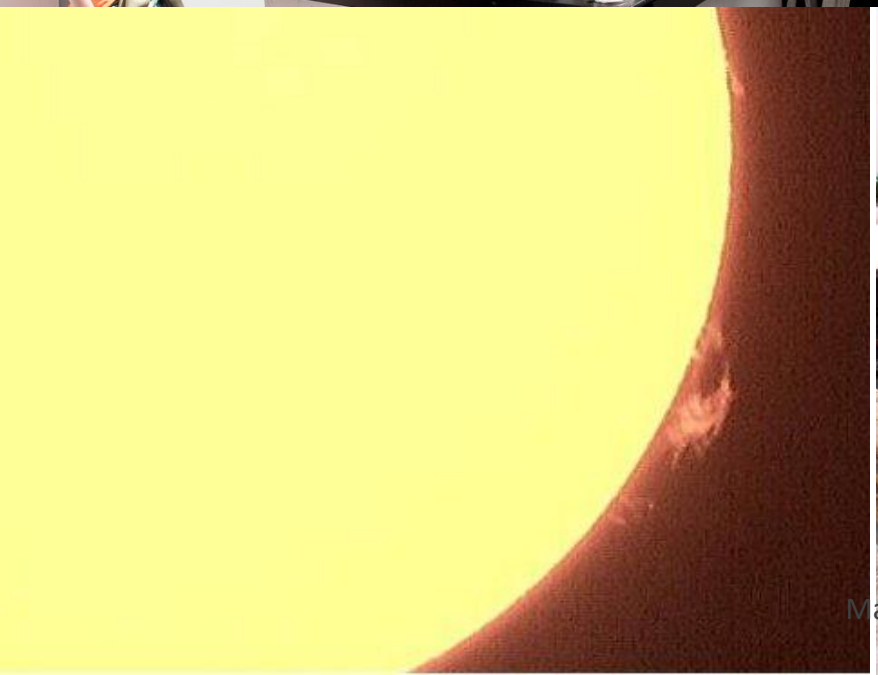
Interoperability:

"the ability of information systems to operate in conjunction with each other encompassing hard-ware, communication protocols, applications, and data compatibility layers" (ICH 2004).




Welcome
SCIENCE WITH
VIRTUAL OBSERVATORY
October 10-13, 2011


ASTROTECH

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Vega
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'Ar'ara, Israel
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'Arrabe, Israel
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's-Gravenzande, Netherlands
's-Hertogenbosch, Netherlands
A Coruña, Spain
A Estrada, Spain
Aa en Hunze, Netherlands
Informazioni sulla locazione corrente
Latitudine: N 45° 39' 0.00"
Longitudine: E 13° 46' 12.00"
Altitudine: 16 m
Nome/Città Trieste
Nazione: Italy
Pianeta: Earth
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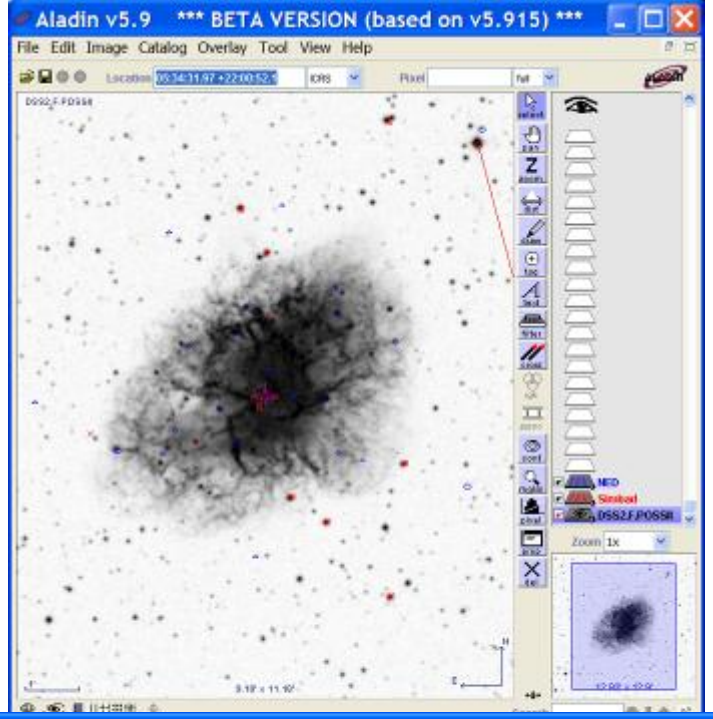
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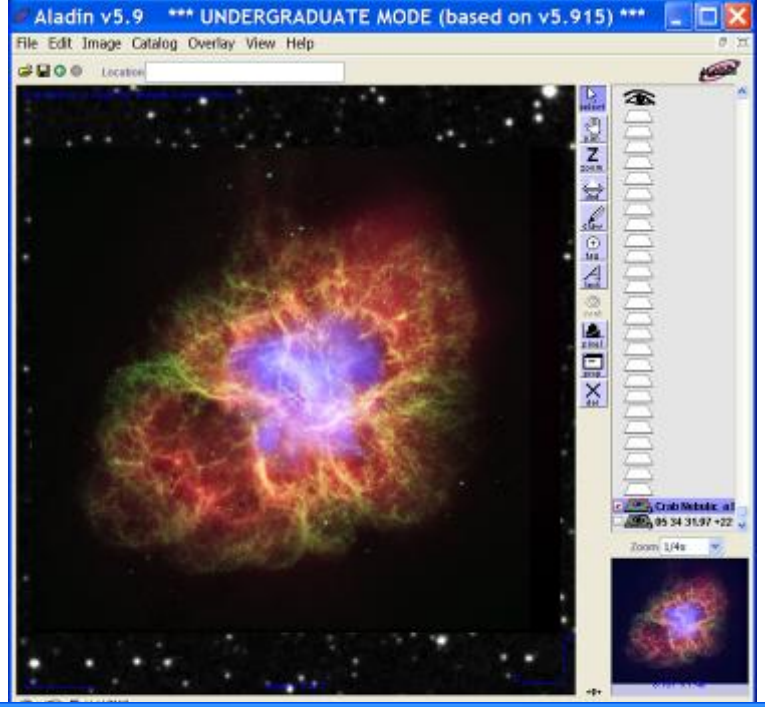
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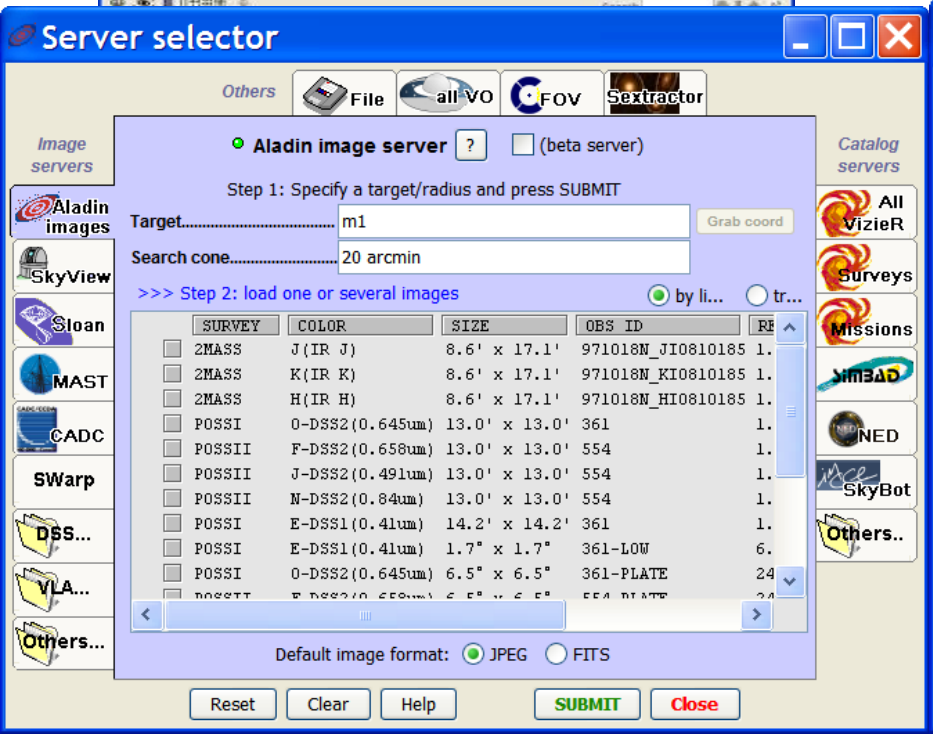
Server selector
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POSSII N-DSS2(0.84um) 13.0' x 13.0' 554
POSSI E-DSS1(0.41um) 14.2' x 14.2' 361
POSSI E-DSS1(0.41um) 1.7° x 1.7° 361-LOW
POSSI O-DSS2(0.645um) 6.5° x 6.5° 361-PLATE
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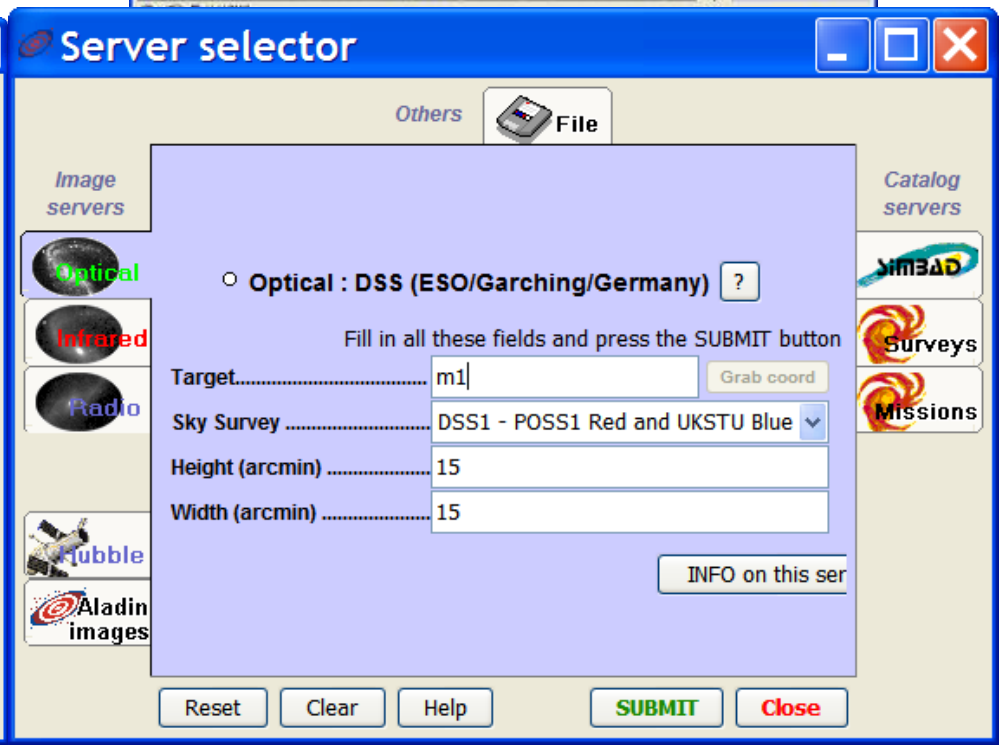
Server selector
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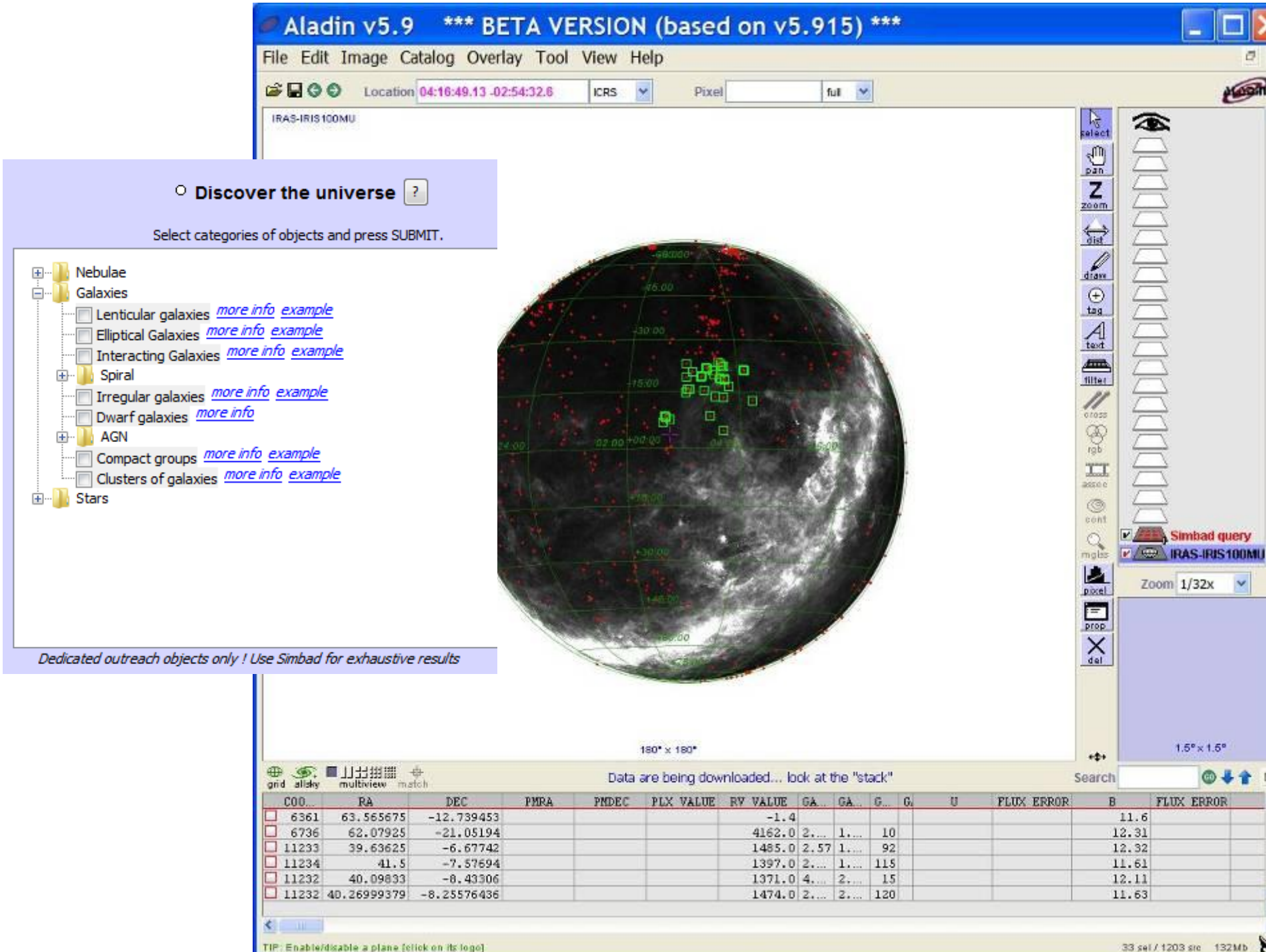
Aladin v5.9 *** BETA VERSION (based on v5.915) ***
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IRAS-IRIS100MU
Discover the universe ?
Select categories of objects and press SUBMIT.
Nebulae
Galaxies
Lenticular galaxies more info example
Elliptical Galaxies more info example
Interacting Galaxies more info example
Spiral
Irregular galaxies more info example
Dwarf galaxies more info
AGN
Compact groups more info example
Clusters of galaxies more info example
Stars
Dedicated outreach objects only ! Use Simbad for exhaustive results
Simbad query
IRAS-IRIS100MU
Zoom 1/32x
180° x 180°
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Data are being downloaded... look at the "stack"
Search
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6736 62.07925 -21.05194 4162.0 2.... 1.... 10 12.31
11233 39.63625 -6.67742 1485.0 2.57 1.... 92 12.32
11234 41.5 -7.57694 1397.0 2.... 1.... 115 11.61
11232 40.09833 -8.43306 1371.0 4.... 2.... 15 12.11
11232 40.26999379 -8.25576436 1474.0 2.... 2.... 120 11.63
TIP: Enable/disable a plane [click on its logo]
33 sel / 1203 src 132Mb