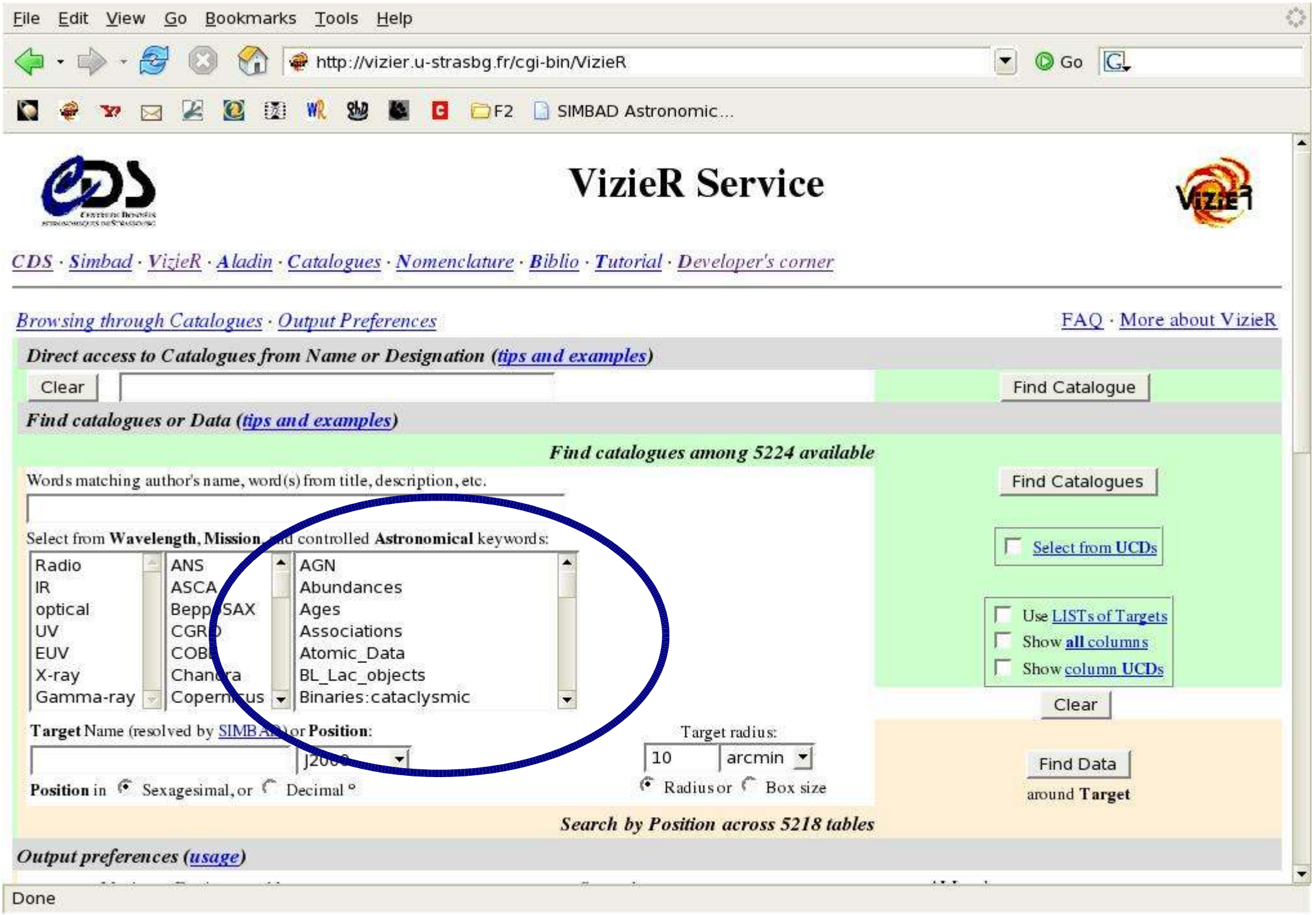
DS5

CDS report on Stage 02

Ontology use cases

- **Use the ontology of astronomical object types to query the registry**
- Case 1: ask the astronomer for an object type :
  - Using a short list of predefined keywords (as is available in VizieR)
  - Using annotations of concepts to find relevant concepts
  - Broaden / refine concept using ontology hierarchy (and related concepts) to in/decrease number of matching Resources


File Edit View Go Bookmarks Tools Help
http://vizier.u-strasbg.fr/cgi-bin/VizieR
Go
F2
SIMBAD Astronomic...
VizieR Service
CDS · Simbad · VizieR · Aladin · Catalogues · Nomenclature · Biblio · Tutorial · Developer's corner
Browsing through Catalogues · Output Preferences
FAQ · More about VizieR
Direct access to Catalogues from Name or Designation (tips and examples)
Clear
Find Catalogue
Find catalogues or Data (tips and examples)
Find catalogues among 5224 available
Words matching author's name, word(s) from title, description, etc.
Find Catalogues
Select from Wavelength, Mission, and controlled Astronomical keywords:
Radio
IR
optical
UV
EUV
X-ray
Gamma-ray
ANS
ASCA
Beppo SAX
CGRO
COBE
Chandra
Copernicus
AGN
Abundances
Ages
Associations
Atomic_Data
BL_Lac_objects
Binaries:cataclysmic
Select from UCDs
Use LISTs of Targets
Show all columns
Show column UCDs
Clear
Target Name (resolved by SIMBAD) or Position:
J2000
Position in Sexagesimal, or Decimal °
Target radius:
10
arcmin
Radius or Box size
Find Data
around Target
Search by Position across 5218 tables
Output preferences (usage)
Done

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xsi:type="vs:TabularSkyService" xsi:schemaLocation="http://www.ivoa.net/xml/VOResource/v0.10
http://www.ivoa.net/xml/VOResource/VOResource-v0.10.xsd
http://www.ivoa.net/xml/VODataService/v0.5 http://www.ivoa.net/xml/VODataService/VODataService-
v0.5.xsd http://www.ivoa.net/xml/ConeSearch/v0.3
http://www.ivoa.net/xml/ConeSearch/ConeSearch-v0.3.xsd">
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    <creator>
      <name>Gregorini L., de Ruiter H.R., Parma P., Sadler E.M., Vettolani G., Ekers R.D.</name>
    </creator>
    <contributor>Patricia Bauer [CDS]</contributor>
    <date role="creation">1997-12-09T18:24:16Z</date>
    <version>14-Oct-1994</version>
    <contact>
      <name>CDS support team</name>
      <address>CDS, Observatoire de Strasbourg, 11 rue de l'Universite, F-67000 Strasbourg, France</address>
      <email>question@simbad.u-strasbg.fr</email>
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Ontology use cases

- Case 2 : use a reasoner to classify a query in the ontology and find subsuming concepts – and Resources!
  - I want catalogues of
    - Extragalactic, variable sources
    - With measurements of radio centimetric data
  - The reasoner finds equivalent concepts in the ontology and discovers extra relationships
    - Galaxies, Radio-galaxies, Radio Sources, Pulsars, ...

Ontology use cases

- Multiple object types assignment in SIMBAD4
  - SIMBAD4 allows a source to have multiple object types (V*, Y*O, Red, Radio)
  - Use the ontology to check consistency of new entries made in SIMBAD :
    - Check cardinalities and structure relations for composite objects
    - Suggest additional classifications based on measurements, etc

Ontology of object types

- Slow progress because no extra staff hired yet
- Alexandre Richard will start working @CDS on april 1, 2006 (INAF)
- Large part of SIMBAD object types have been included, focusing on :
  - Hierarchical description of composite objects
  - Emission in various parts of the spectrum
- Test of various reasoners (racer, Fact++)
- More on this during the demo

Object Names recognition

- Goal: identify object names in literature, automatically!
- 3 students have made a training period in collaboration on this topic (Nancy, CDS)
- Study and specifications have been made:
  - Text formatting: HTML, PDF, ... to ASCII
  - Tagging (using Dic. of nomenclature, etc)
  - Tool for documentalists to add links, entries in SIMBAD, etc...