

# Description and discovery of VizieR Resources in VO registries

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Sébastien Derriere



## CATALOGUE

Metadata

TABLE 1




TABLE 2

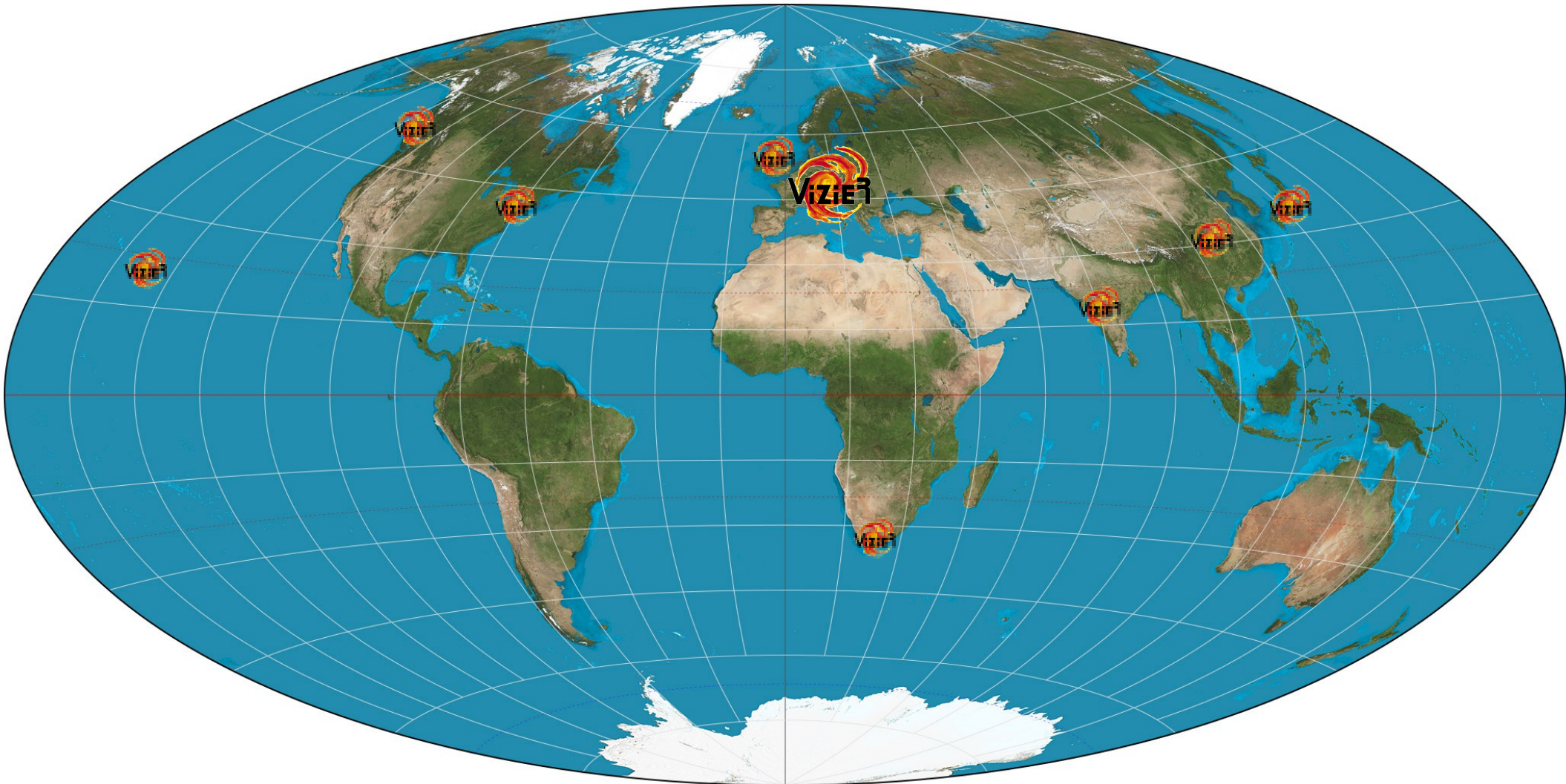


TABLE 3



- 14,600 catalogues
  - 31,000 tables (15,400 with coordinates  )
    - 10s to  $10^9$  rows
  - 466,000 columns
- + 1000 catalogues / year

# □ VizieR mirrors



# □ VizieR mirrors

- VizieR main site in Strasbourg, France
- 8 other mirror sites
  - Not all catalogues on all mirrors (very large cats)

# VizieR metadata

- Each catalogue has a standardized ReadMe
- UCDs attached to columns

I/265 Second Cape Photographic Catalogue (CPC2) (Zacharias+, 1999)

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The second Cape photographic catalogue on the Hipparcos system.

Zacharias N., Zacharias M.I., De Vegt C.

<Astron. J. 117, 2895 (1999)>

=1999AJ....117.2895Z

ADC\_Keywords: Photographic catalog ; Surveys ; Positional data

Keywords: astrometry - catalogs

Abstract:

The Second Cape Photographic Catalogue (CPC2) is an astrometric, photographic catalog covering the entire Southern Hemisphere to a limiting magnitude of about 10.5. The Hipparcos Catalogue has been used for a new, plate-by-plate, rigorous reduction. A significant improvement over the release 1 version of the data was achieved. With an average accuracy of 53 mas and a mean epoch of 1968, the CPC2 is a key catalog for proper-motion determination. This release 2 of the CPC2 contains high-quality positions of 266629 stars and an appendix of 8040 other stars. Catalog reduction and construction details are given, as well as a description of the final product, which is available from the US Naval Observatory.

File Summary:

FileName	Lrecl	Records	Explanations
ReadMe	80	.	This file
cpc2main.dat	55	266629	CPC2 main catalogue
cpc2app.dat	55	8040	CPC2 appendix

See also:

I/239 : The Hipparcos and Tycho Catalogues (ESA 1997)

I/4 : Cape photographic catalogue (Stoy+, 1968)

I/85 : CPC2. Provisional catalogue (-40{deg}<=DE<=-52{deg} (Nicholson+ 1984)

Byte-by-byte Description of file: cpc2\*.dat


Bytes	Format	Units	Label	Explanations
1- 6	I6	---	CPC2	CPC2 star identification number (CPC2 FFNNNN in Simbad)
8- 10	I3	0.1mag	Ptv	Photographic photovisual magnitude (530-640nm)
12- 21	I10	mas	RAmas	Right ascension at epoch EpRA-1900 (ICRS)
24- 32	I9	mas	SPDmas	Declination +90{deg} at epoch EpDE-1900 (ICRS)
34- 36	I3	mas	e_RAmas	Formal standard error in RAcos(decl.)
38- 40	I3	mas	e_SPDmas	Formal standard error in declination
42- 43	I2	---	Nu	Number of images used (plates)
45- 49	I5	10-3yr	EpRA-1900	Mean epoch of RA (-1900)
51- 55	I5	10-3yr	EpDE-1900	Mean epoch of declination (-1900)

History: From ApJS electronic version



(End)

James Marcout, Patricia Bauer [CDS] 14-Sep-1999

# □ VizieR metadata

- Spectral coverage
  - Coarse band description
- Spatial coverage
  - MOC for tables with sky coordinates 

# □ Current description of Resources

- **1 catalogue = 1 Resource**
- One ivo identifier
- vs:CatalogService type
- Curation, content : from ReadMe
- Multiple capabilities
  - 1 WebBrowser interface
  - 1 ParamHTTP interface : base query returning VOTable
  - 1 ConeSearch for each Table with coordinates 
- 1 MOC at the catalogue level 

# VizieR Resource

```
<ri:Resource xsi:type="vs:CatalogService" created="2000-08-30T23:55:18"
  updated="2015-05-09T14:00:00" status="active">
  <validationLevel validatedBy="ivo://CDS.VizieR">1</validationLevel>
  <title>Second Cape Photographic Catalogue (CPC2) (Zacharias+, 1999)</title>
  <shortName>I/265</shortName>
  <identifier>ivo://CDS.VizieR/I/265</identifier>
  <curation ... />
  <content>
    <subject>Positional_Data</subject>
    <description>The Second Cape Photographic Catalogue (CPC2) is an astrometric,
    photographic catalog covering the entire Southern Hemisphere to a limiting
    magnitude of about 10.5. The Hipparcos Catalogue has been used for a new,
    plate-by-plate, rigorous reduction. A significant improvement over the release
    1 version of the data was achieved. With an average accuracy of 53 mas and a
    mean epoch of 1968, the CPC2 is a key catalog for proper-motion determination.
    This release 2 of the CPC2 contains high-quality positions of 266629 stars and
    an appendix of 8040 other stars. Catalog reduction and construction details
    are given, as well as a description of the final product, which is available
    from the US Naval Observatory. </description>
    <source format="bibcode">1999AJ....117.2895Z</source>
    <referenceURL>http://cdsarc.u-strasbg.fr/cgi-bin/Cat?I/265</referenceURL>
    <type>Catalog</type>
    <contentLevel>Research</contentLevel>
  </content>
  <rights>public</rights>
```



# VizieR Resources

```
<capability>
  <interface xsi:type="vr:WebBrowser">
    <accessURL use="full">http://vizier.u-strasbg.fr/cgi-bin/VizieR-2?-source=I/265</accessURL>
  </interface>
</capability>
<capability>
  <interface xsi:type="vs:ParamHTTP">
    <accessURL use="base">http://vizier.u-strasbg.fr/viz-bin/votable/-dtd/-A?-source=I/265</accessURL>
    <queryType>GET</queryType>
    <resultType>text/xml+votable</resultType>
  </interface>
</capability>
<capability xsi:type="cs:ConeSearch" standardID="ivo://ivoa.net/std/ConeSearch">
<description>Cone search capability for table I/265/cpc2main (CPC2 main catalogue)</description>
  <interface xsi:type="vs:ParamHTTP" role="std">
    <accessURL use="base">http://vizier.u-strasbg.fr/viz-bin/votable/-A?-out.all&-source=I%2F265%2Fcpc2main&</accessURL>
    <queryType>GET</queryType>
    <resultType>text/xml+votable</resultType>
  </interface>
  <maxSR>180</maxSR>
  <maxRecords>9999</maxRecords>
  <verbosity>>true</verbosity>
  <testQuery>
    <ra>45.04394531249999</ra>
    <dec>0.24246333228778008</dec>
    <sr>0.028629053431811713</sr>
  </testQuery>
</capability>
<capability xsi:type="cs:ConeSearch" standardID="ivo://ivoa.net/std/ConeSearch" <description>Cone search capability
  <interface xsi:type="vs:ParamHTTP" role="std"> <accessURL use="base">http://vizier.u-strasbg.fr/viz-bin/votable
    <queryType>GET</queryType>
    <resultType>text/xml+votable</resultType>
  </interface>
  <maxSR>180</maxSR>
  <maxRecords>9999</maxRecords>
  <verbosity>>true</verbosity>
  <testQuery>
    <ra>44.93408203124999</ra>
    <dec>0.634145923360648</dec>
    <sr>0.028629053431811713</sr>
  </testQuery>
</capability>
```

# □ VizieR Resources

```
<coverage>
  <footprint ivo-id="ivo://mocivod">http://alasky.u-strasbg.fr/footprints/cats/vizier/I/265?produc
  <waveband>Optical</waveband>
</coverage>
```

```
<table>      <name>I/265/cpc2main</name>
  <description>CPC2 main catalogue</description>
  <column>      <name>recno</name>
    <description>Record number assigned by the VizieR team. Should Not be used for identification.
    <unit> </unit>
    <ucd>meta.record</ucd>
  </column>
  <column .../>
</table>
```

```
<table>      <name>I/265/cpc2app</name>
  <description>CPC2 appendix</description>
  <column>      <name>recno</name>
    <description>Record number assigned by the VizieR team. Should Not be used for identification.
    <unit> </unit>
    <ucd>meta.record</ucd>
  </column>
  <column ... />
```

# □ Problems with current scheme

- One Resource contains
  - Several ConeSearch capabilities
  - Several Table descriptions
- ... but no way to link one ConeSearch to its table description !
- MOC at table level not provided
  - and we'd have the same missing link to Table
- No link to VizieR TAP service
  - ONE Resource for VizieR TAP, with full schema
- Mirror sites not described at all

# □ VizieR resource discovery

- Do any of the following (and, or)
  - Find catalogues from keywords, authors, bibcode
  - Catalogue « name »
  - Content-based query (UCD)
  - By spatial coverage
  - Time coverage(?)
  - Service type : ConeSearch, TAP, web form...

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# □ Resources at the Table level

- Changing to 1 table = 1 resource
  - Unambiguous association of columns descriptions with single ConeSearch capability
  - Fine-grained description : possible to identify a table by ivo-id
  - MOC coverage at Table level
- What to do with catalogues ? Keep, delete ?
  - Avoid duplication of (curation, content) metadata
  - Link Catalogue and Table Resources ?
  - Deleting current resources : impact ?

# □ Impact on VO registries

- VizieR resources represent 90 % of registry contents !
- Resource update → nearly full OAI reharvest
- Moving from catalogue to table
  - 14,000 deprecated identifiers (current resources)
  - 31,000 new identifiers
- Adding spatial tables to current catalogues
  - Add 15,400 resources
- Within each capability, list interfaces for mirrors
  - How do tools manage multiple interfaces ?