

# UCD services

# Outline :

- Current use of UCD
- Services for UCD1+
- Maintaining / upgrading UCD1+

# How UCD are used ?

UCD in tables (VOTable ucd attribute)

```
<FIELD name="Vmag" ... ucd="phot.mag;em.opt.V" />
```

Use in Aladin, AVO prototype:

- Find columns containing positions
- **Filters**

Filters: ability to select/change display of catalogue plane  
Can be done using column names or UCDs

- Select objects brighter than magnitude 16 (export selection!)
  - `$(phot.mag*) < 16`
- Draw circle proportional to ... magnitude
  - `draw circle(-$(phot.mag*))`
- Change color according to temperature
  - `draw rgb(255,255,$[phys.temperature*]) square`

ALADIN

Load... Save... VOPlot... Print... Help... Quit

J2000 14:02:51.84 +54:19:30.7 Field: 14:03:12.46 +54:20:53.0 12.9"x12.9'

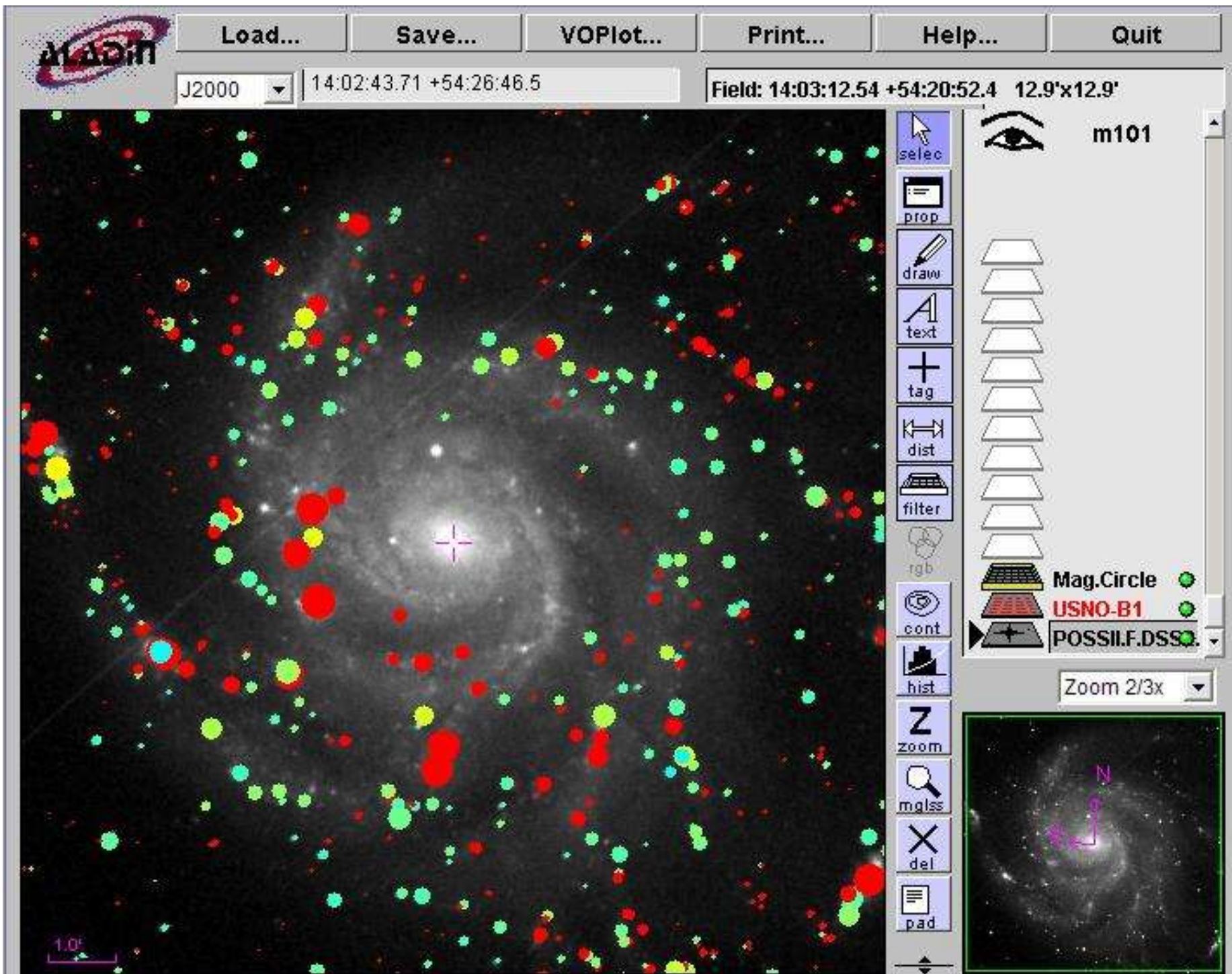
M101

select prop draw text tag dist filter rgb cont hist zoom mglss del pad

USNO-B1 POSSIL.F.DSS

Zoom 2/3x

1.0'



Why using UCDs ? I can do it with column names !

- With UCD we can build a list of **predefined** filters, that can apply to most catalogues
- Considering UCDs as strings, one can use wildcards : more flexible

And why not use utypes rather ?

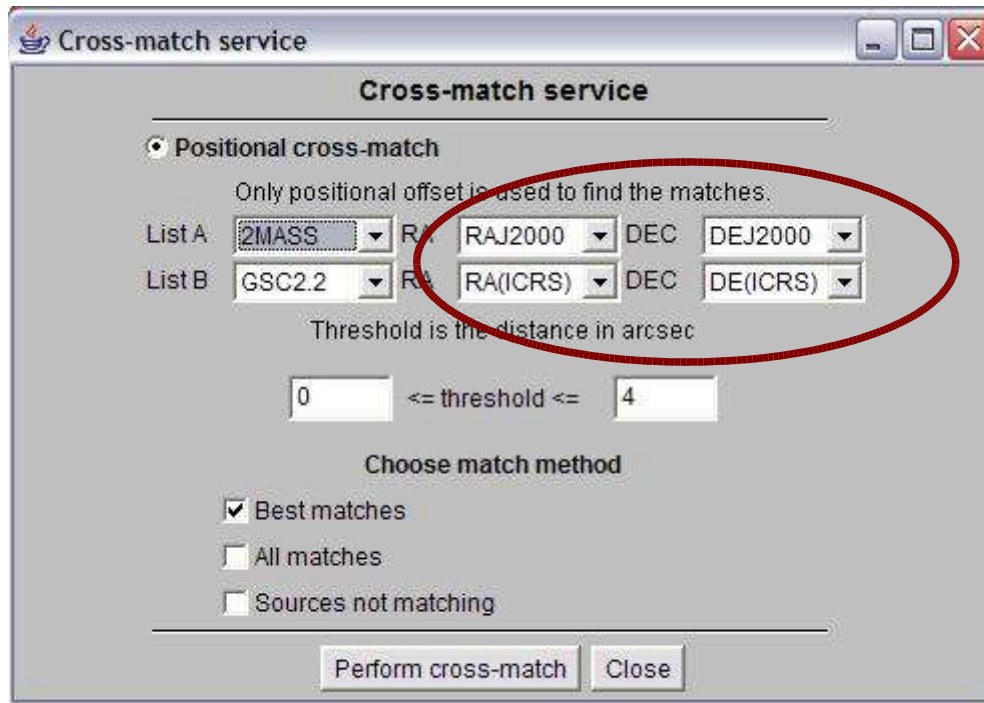
- Utypes are pointers to DM
- UCDs will certainly be less specific than DM attributes
- An exact mapping between two DM's parameters is not guaranteed, but a single UCD can describe two « close enough » parameters from two DM (« reasonable » level of description and « fuzzy match »)
- The « entry cost » for UCD description is lower than for DM

- Arithmetic operations on column contents

$$\$(phot.mag;em.opt.B) - \$(phot.mag;em.opt.R) > 1.5$$

USNO-B1.0	RAJ2000	DEJ2000	e RAdeg	e DEdeg	Epoch	pmRA	pmDE	Ndet	B1mag	R1mag	B2mag
	deg	deg	mas	mas	yr	mas/yr	mas/yr		mag	mag	mag
1799-0000001	001.420862	+89.949364	143	105	1979.9	-16	6	5	17.82	15.34	17.32
1799-0000002	001.541095	+89.918403	100	36	1979.9	-4	-8	5	17.52	16.13	17.39
1799-0000003	001.833034	+89.915850	999	999	1967.8	42	480	3	20.93	19.49	
1799-0000004	005.804225	+89.928117	999	124	1975.4	0	0	2	21.03		
1799-0000005	006.031287	+89.916248	77	82	1983.2	2	18	3		19.74	
1799-0000006	008.001603	+89.927481	295	999	1982.8	240	76	3	21.00		21.74
1799-0000007	009.091020	+89.932489	89	126	1979.9	0	0	5	19.16	17.71	18.52
1799-0000008	009.837914	+89.913964	999	999	1982.9	424	-222	3		19.54	
1799-0000009	009.948606	+89.912887	191	160	1998.7	0	0	2			
1799-0000010	010.110984	+89.912912	177	71	1983.0	-6	8	3		19.37	
1799-0000011	010.288634	+89.977167	82	47	1979.9	-14	4	5	17.85	16.60	18.47
1799-0000012	012.034475	+89.955928	477	71	1982.9	-538	14	3	20.53		
1799-0000013	013.806700	+89.958295	999	350	1975.9	0	0	2	21.05		
1799-0000014	014.068156	+89.960084	90	45	1979.9	-14	-4	5	15.68	13.44	15.67

- Use for the cross-match plugin



Find columns with positions automatically

« BEST GUESS »

- Use in registry: locate catalogues based on contents
  - User says : « B magnitude »
  - Gets resolved in: phot.mag;em.opt.B
  - Relevant datasets located
  - Load data in, e.g. SED tool (best guess)
  - ...



# UCD1+ services

What to do with the reference list of UCDs ?

Q	phot.flux.bol	bolometric flux
Q	phot.fluxDens	density monochromatic flux continuum Jy, W/m2 per wl/freq/energ
Q	phot.fluxDens.sb	flux density surface brightness
Q	phot.limbDark	limb-darkening
Q	phot.mag	magnitude
Q	phot.mag.bc	bolometric correction
Q	phot.mag.bol	bolometric magnitude
Q	phot.mag.distMod	distance modulus
Q	phot.mag.reddFree	reddening-free dereddened
Q	phot.mag.sb	surface brightness magnitude
Q	phot.sb	surface brightness
Q	phys.SFR	SFR star formation rate
Q	phys.absorption	extinction absorption
Q	phys.absorption.coeff	absorption extinction opacity coefficient
Q	phys.absorption.gal	galactic extinction absorption
Q	phys.absorption.gf	gaunt factors
Q	phys.absorption.opticalDepth	optical depth tau
Q	phys.abund	abundance
Q	phys.abund.Fe	metallicity Fe/H abundance
Q	phys.abund.X	hydrogen abundance
Q	phys.abund.Y	helium abundance
Q	phys.abund.Z	metallicity abundance
Q	phys.acceleration	acceleration
Q	phys.albedo	albedo reflectance

Set up the same kind of tools that were developed for UCD1:

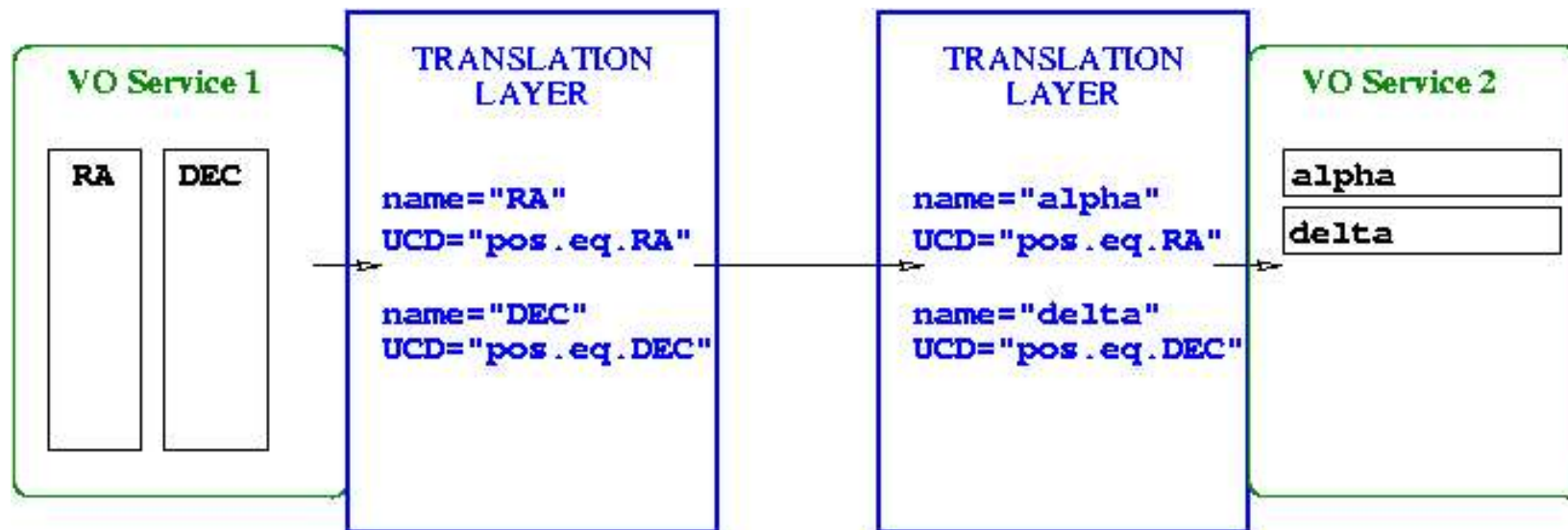


- Explore the list of words
- Convert plain text into relevant words/ucd
- Assign ucd to a dataset

# Transition from UCD to UCD1+ :

UCD for data providers :

- Translation table between UCD1 and UCD1+
- No need for UCDs internally (translation layer)



UCD for data consumers ?

Usage cost is low because they are just strings.

# Feedback form on UCD1+ :

**Comments on UCDs**

AVO · ESO · ST-ECF · AstroGrid · CDS · Terapix · Jodrell Bank

You can leave on this page feedback on UCDs.  
For example, suggest the creation of new UCDs, or propose to modify or remove existing ones.  
The comments on this page can be reviewed and commented by people from the UCD steering comitee. These contributions will be used to gradually improve the UCD1+.

Please check first the [existing list](#) of UCD1+.

- Click on the <Answer> button to vote (for or against) existing suggestions.
- [Click here](#) to add a new comment on this page.

The last comments are listed below. Green backgrounds are for suggested new UCDs, orange corresponds to modifications, and red to suppressions.  
You can reload this page, sorting contributions by

UCD	Definition	Remarks	Sugg. by	Date	Answer
?	Use this form to send feedback on UCDs...		<a href="#">Sebastien Derriere</a>	2004/05/18 18:16:48	<input type="button" value="answer"/>
meta.cryptic	This can be used for very exotic quantities, when no proper UCD exists	This replaces meta.bull***	<a href="#">Sebastien Derriere</a>	2004/05/19 18:25:22	<input type="button" value="answer"/>
	You can reply to suggestions		<a href="#">Sebastien Derriere</a>	2004/05/19 18:25:58	Yes
src.veloc.orbit		There is already src.orbital.veloc for this concept !	<a href="#">Andrea Preite</a> <a href="#">Martinez</a>	2004/05/19 18:36:43	<input type="button" value="answer"/>

[Add an entry to this list](#)

# Feedback form on UCD1+ :

- Addition / deletion / modification of UCDs
- Answer online
- Automated email notification for new suggestions (to UCD board members)
- Sort by date, submitter, ...
  
- Technical support for the board in charge of maintaining UCD
  
- Volunteers to test ucd1+ on their datasets ?
- Volunteers to be part of the board
  - One month discussion period to achieve list of words 1.0?
  - Questions to be discussed on UCD VO-list
    - × phot.color;em.opt.B;em.opt.V ?
    - × em.line.Halpha ?