

## A ADQL usecases

### A.1 Use case 1.1

*Any raw interferometry observation containing target Fornax cluster*

Show me all observation identifiers satisfying:

- I. DataType = visibility
- II. Target Name = Fornax Cluster

```
SELECT obs_id FROM ivoa.ObSCORERadioExtended
WHERE dataproduct_type = 'visibility'
target_name = 'Fornax cluster'
```

### A.2 Use case 1.2

*Any dataset with minimum field of view larger than 0.5 degree*

Show me all datasets satisfying:

- I. Minimum FOV > 0.5 deg

```
SELECT * FROM ivoa.ObSCORERadioExtended
WHERE fov_min > 0.5
```

### A.3 Use case 1.3

*Any cube with absolute spectral resolution better than 1 Mhz and spectral range inside the 1 to 1.5 Ghz band*

Show me all datasets satisfying:

- I. Product type is cube
- II. spectral resolution better than 1Mhz
- III. lower spectral limit > 1Ghz
- IV. higher spectral limit < 1.5Ghz

```
SELECT * FROM ivoa.ObSCORERadioExtended
WHERE dataproduct_type = 'cube' AND
f_resolution < 1000 AND
f_min > 1000 AND
f_max < 1500
```

### A.4 Use case 1.4

*Any low frequency image or cube defined as smaller than 1 Ghz*

Show me all datasets satisfying:

I. Product type is image or cube

II. higher spectral limit < 1Ghz

```
SELECT * FROM ivoa.ObSCORERadioExtended
WHERE (datapROduct_type = 'image' OR
datapROduct_type = 'cube') AND
f_max < 1000
```

### A.5 Use case 1.5

*Any visibility dataset where maximum angular scale is larger than 0.5degrees*

Show me all datasets satisfying:

I. Product type is visibility

II. Maximum angular scale > 0.5 deg

```
SELECT * FROM ivoa.ObSCORERadioExtended
WHERE datapROduct_type = 'visibility' AND
max_angular_scale > 0.5
```

### A.6 Use case 1.6

*Any single dish dataset in raster mode around 3C 273*

Show me all datasets satisfying:

I. Instrument type is Single dish

II. Scan mode is raster

III. Target name = 3C 273 or

IV. position inside 3 arcmin around 187.2779159404900 +02.0523882305500

```
SELECT * FROM ivoa.ObSCORERadioExtended
WHERE instrument_type = 'SD' AND
scan_mode = 'raster' AND
(target_name = '3C 273' OR
CONTAINS(POINT(s_ra,s_dec),CIRCLE(187.2779159404900, +02.0523882305500,0.05)) = 1)
```

### A.7 Use case 1.7

*Any single dish or beam forming dataset with spectral range inside the 500 Mhz - 1Ghz band and in the Coma Cluster.*

Show me all datasets satisfying:

I. Instrument type is Single dish or beam forming

II. lower spectral limit > 500 Mhz

III. higher spectral limit < 1Ghz

IV. position inside 18 arcmin around 194.93502 +27.91246

```
SELECT * FROM ivoa.ObserveRadioExtended
WHERE (instrument_type = 'SD' OR
instrument_type = 'beamForming') AND
CONTAINS(POINT(s_ra,s_dec),CIRCLE(194.93502, +27.91246, 0.3) = 1
```

## A.8 Use case 1.8

*Any single dish or beam forming dataset with spectral range inside the 500 Mhz - 1Ghz band and in the Coma Cluster.*

Show me all datasets satisfying:

I. Instrument type is Single dish or beam forming

II. lower spectral limit > 500 Mhz

III. higher spectral limit < 1Ghz

IV. position inside 18 arcmin around 194.93502 +27.91246

```
SELECT * FROM ivoa.ObserveRadioExtended
WHERE (instrument_type = 'SD' OR
instrument_type = 'beamForming') AND
f_min > 500 AND
f_max < 1000 AND
CONTAINS(POINT(s_ra,s_dec),CIRCLE(194.93502, +27.91246, 0.3) = 1
```

## A.9 Use case 1.9

*Any visibility data of good quality from the uv distribution point of view*

Show me all datasets satisfying:

I. Product type = visibility

II. uv distribution filling factor > 0.7

III. uv distribution factor eccentricity < 0.1

```
SELECT * FROM ivoa.ObserveRadioExtended
WHERE dataproduct_type = 'visibility' AND
uv_distribution_fill > 0.7 AND
uv_distribution_ecc < 0.1
```

## A.10 Use case 1.10

*Any interferometry data of good quality and significant spatial resolution from the instrumental point of view*

Show me all datasets satisfying:

- I. Instrument type = visibility
- II. number of antennae > 40
- III. antenna maximum distance in meters > 5000

```
SELECT * FROM ivoa.ObserveRadioExtended
WHERE instrument_type = 'interferometry' AND
instrument_ant_number > 40 AND
instrument_ant_max_dist > 5000
```

## References

Dowler, P., Bonnarel, F., Michel, L. and Demleitner, M. (2015), 'IVOA DataLink Version 1.0', IVOA Recommendation 17 June 2015, arXiv:1509.06152.

<http://doi.org/10.5479/ADS/bib/2015ivoa.spec.0617D>

Louys, M., Tody, D., Dowler, P., Durand, D., Michel, L., Bonnarel, F., Micol, A. and IVOA DataModel Working Group (2017), 'Observation Data Model Core Components, its Implementation in the Table Access Protocol Version 1.1', IVOA Recommendation 09 May 2017.

<http://doi.org/10.5479/ADS/bib/2017ivoa.spec.0509L>