



## ADQL 2.1

Astronomy Data Query Language

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## Whitespace and comments

Imported text from errata

*“The rules on where whitespace is allowed and required are as in SQL92; essentially, any <token> may be followed by a <separator>.”*

It doesn't mention comments .. is that OK ?

Text added, svn 5217





## TIMESTAMP

TIMESTAMP was added to maintain compatibility with VOTable

Constructor syntax was defined to match geom constructors

```
SELECT .. WHERE obs_creation_date > TIMESTAMP('2015-01-01')
```

Needs text recommending when to use TIMESTAMP vs more accurate types

Is this for 'low resolution' values ?

Format allows milliseconds

```
YYYY-MM-DD['T'hh:mm:ss[.SSS]]
```

Discussed in May interop  
Agreed to keep this in 2.1.

TODO – volunteers to help with text ?



## STC REGION

Import the text from TAP 1.0 as an appendix in ADQL 2.1

TAP 1.0 has a whole section on this – do we want all of this ?

### 6 Use of STC-S in TAP (informative)

- 6.1 Simple STC-S BNF
- 6.2 Example ICRS circle
- 6.3 Example Galactic position
- 6.4 Example Cartesian BOX
- 6.5 Example Local BOX
- 6.6 Example Unconnected POLYGONs
- 6.7 Example POLYGON with a hole
- 6.8 Dynamic STC-S values (string concat)

Balance – how much is enough ?

Too much detail or not enough ?

Discussed in May interop  
Agreement to adopt the text from TAP

TODO – volunteers to vet the text

## Data types and xtypes

Add a prefix or not ?

Prefix xtypes only ?

Prefix DALI xtypes too ?

CHAR

INTEGER

DOUBLE

TIMESTAMP

POINT

CIRCLE

BLOB

REGION

CHAR

INTEGER

DOUBLE

TIMESTAMP

POINT

CIRCLE

ADQL:BLOB

ADQL:REGION

CHAR

INTEGER

DOUBLE

DALI:TIMESTAMP

DALI:POINT

DALI:CIRCLE

ADQL:BLOB

ADQL:REGION



## Boolean functions

The intention was to replace

```
SELECT .. WHERE 1 = CONTAINS(...)
```

With user friendly

```
SELECT .. WHERE CONTAINS(...)
```

Gain – simpler queries

Cost – obscure error messages when we get it wrong

Discussed in May interop  
No clear conclusion





## Set operations

UNION, EXCEPT, INTERSECT

Questions about the accuracy of the BNF

- Need to hear from implementors.
- Please send suggested fixes.
- Is it “good enough” for 2.1 ?

Discussed in May interop  
Needs a second pair of eyes to review BNF

TODO - volunteers to review BNF ?





## String functions

Request from existing implementations

Probably harmless

UPPER

Probably not ready for 2.1, bounce to 2.2

STR\_LEN

SUB\_STR ..

PEG grammar in 3.x is more important

TODO







## SQL comparison

Requested by new developers

Appendix listing the differences between ADQL and SQL

Probably not ready for 2.1, bounce to 3.x ?

PEG grammar in 3.x is more important

TODO – not yet





## Next steps

Only accepting minor changes for 2.1

Work in progress for 2+ independent implementations

Non-trivial changes will get bounced to 2.2

Version 3.x will have PEG grammar

TODO – more implementations ?





## Questions for 3.0

Partial implementation of geometry functions ?

Only allowed in specific locations (first part of WHERE clause) ?

Expect this will be easier to define in PEG.

If so, what restrictions do we want to apply ?

<https://ned.ipac.caltech.edu/Documents/Guides/Interface/TAP>

[https://irsa.ipac.caltech.edu/docs/program\\_interface/planck\\_api.html](https://irsa.ipac.caltech.edu/docs/program_interface/planck_api.html)

TODO – what changes do you need ?





## Questions for 3.0

Partial implementation of JOINS ?

Only allowed between specific tables ?

Expect this will be easier to define in PEG.

If so, what restrictions do we want to apply ?

TODO – what changes do you need ?

