



uTypes and ADQL

Uniform querying and Data Model pointers

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*** Identifiers

- ❑ Identify a value in a model by its path
- ❑ Resolve to a unique value (or array ?)
- ❑ Can be read directly from the model
- ❑ Apply to UML and XML based models



ADQL Queries

- ❑ SELECT black.box1, black.box2 WHERE ...

- ❑ Delimiter or Domain name ?
 - #black.box1# (or @@ \$\$ %% :: ??)

 - ***.black.box1 or ***:black.box1

 - FROM SpectrumDM AS sdm



Hierarchical Example

□ tables

- table @type
 - name
 - columns
 - column @type
 - name
 - column ...
- table ...



uTypes Style

- ~~db:tables.table~~
- db:tables.table.name
- ~~db:tables.table(0).name~~
- ~~db:tables.table(0)[@type]~~



XPath Style

- ~~tables/table~~
- tables/table/name
- tables/table/@type
- ~~tables/table[0]/name~~
- tables/table/@xsi:type



Apache Commons

- ~~tables.table~~
- tables.table.name
- tables.table(0).name
- tables.table(0)[@type]
- tables.table(4).columns.column.name
- tables.table(4).columns.column(2).name



Required Elements

- ❑ Element separator => .
- ❑ Attribute identifier => @
- ❑ Iteration sequence => (n)
- ❑ Namespace support => ns:
 - Fixed and registered ?



VOTable Results

□ If array resolving identifiers are allowed :

- Delimiter ? (@ # \$ % ?)
 - Standard “space” delimiter works only for numeric and token values
- Groups ? Sub-table ? Ref-table ?



Extra Filtering

❑ Column name of the “images” table ?

- `vor:table[name="images"].column.name`
- `vor:table[name="images"].column(2).name`
- `vor:table[name="images"].column[ucd="pos.eq.ra"].name`

❑ URL endpoint of the SSA capability ?

- `vor:capability[@standardID="ivo://ivoa.net/std/SSA"].interface.accessURL`
- `vor:capability[@xsi:type="SimpleSpectralAccess"].interface.accessURL(0)`