

Data Models WG

- Session 1
 - XML Schema Guidelines
 - Converging the Models
 - Observation and Characterization
- Session 2
 - Catalogs
 - Spacetime Coordinates
 - Interoperability Experiments

Spacetime Coordinates (STC)

- V1.0 proposal on twiki since July
- Relatively little comment received
- All in favor say aye?

STC 1

- The CoordSystem object: what frame are we in?

```
<coordSys id="CS">  
  <timeFrame><TT/><GEOCENTER/></timeFrame>  
  <spaceFrame><ICRS/><BARYCENTER/><SPHERICAL naxes="2"/></spaceFrame>  
  <spectralFrame><HELIOCENTER/></spectralFrame>  
</coordSys>
```

STC 2

- The Coordinate object: a single named coordinate value with error, or a resolution, or a sampling precision or a combination of these

```
<ScalarCoordinate unit="nT">  
<name>B</name><CValue>5.0</CValue><CError>0.2</CError>  
</ScalarCoordinate>  
  
<ScalarCoordinate unit="MHz">  
<name>frequency</name><CResolution>10.2</CResolution>  
</ScalarCoordinate>
```

STC 3

- Specialized Coordinate objects

```
<Position unit="deg">
  <name>ICRS</name>
  <CValue2>14.382 -20.182</CValue2>
  <CError2>0.182 -1.201</CError2>
</Position>

<Time>
  <TimeInstant>
    <TimeScale>TT</TimeScale><ISOTime>2004-Sep-30T05:30:00.0123</ISOTime>
  </TimeInstant>
</Time>

<Time unit="d">
  <TimeInstant>
    <TimeScale>TDB</TimeScale><MJDTIME>28503.21231</MJDTIME>
  </TimeInstant>
  <CError>0.28</CError>
</Time>
```

STC 4

- Coords object: the aggregation

```
<coords coord_system_id="CS">
  <Time unit="d">
    <name>Time</name>
    <TimeInstant>
      <TimeScale>TDB</TimeScale><MJDTime>28503.21231</MJDTime>
    </TimeInstant>
    <CError>0.28</CError>
  </Time>
  <Position unit="deg">
    <name>ICRS</name>
    <CValue2>14.382 -20.182</CValue2> <CError2>0.182 -1.201</CError2>
  </Position>
  <Spectral unit="Angstrom">
    <name>Wavelength</name><CValue>4402.3</CValue>
  </Spectral>
</coords>
```

Interoperability Experiments

- From UML to XML to CODE!
- Interoperability tests:
 - Exchange model metadata between groups
 - Volunteers?
 - Demo use cases?
- Guidelines for publishing data