SpectralDM-2.0 Status

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The USVOA is recognized by the American Astronomical Society (AAS) as a Special Interest Group (SIG) of the Working Group on Astronomical Software (WGAS).

Recap

PR: 2014-03-09

RFC: 2014-05-13 => 2014-07-30

- http://wiki.ivoa.net/twiki/bin/view/IVOA/Spectral2RFC
- Minor comments on Char relationship description

TCG: 2014-08-01 => 2014-09-15

- DM, GWS approved
- DAL approved with note on minor typos
- AWG, SWG no comment (both have since approved)
- RWG extensive comments
- TIG on connection with SimDM/SimDAL (2015-Feb)

Presented status in Banff.

Actions from TCG Review

- TCG review comments
  - Address questions on twiki
- Document update
  - Correct noted typos
  - Incorporate RWG feedback items where appropriate
- Reference Implementations
  - Satisfy requirement for 2 interoperable reference implementations prior to move to Exec.
- Document updates submitted:
  - 2015-02-06: Addressed TCG review comments
  - 2015-05-28: Changes in response to:
    - request to update Architecture diagram
    - Marcus' implementer feedback of Feb 2015
    - Notes from my own implementation

Implementations (Library/App)

Spectral 2.0 aware library (speclib)

- Java library: https://github.com/ChandraCXC/speclib
  - Model agnostic core; provides read/write of modeled document in VOTable format.
  - Interprets instance against model spec. to correlate elements and fill in details (UType, UCD, datatype)
  - Designed to accommodate multiple model storage formats
  - 'old-style' UType based, but s/b able to migrate to vo-dml
  - Provides SDM2 object interfaces

Client application (speclist)

- Java web app.: https://github.com/ChandraCXC/speclist
  - Display spectral file content
  - Uses speclib to interpret and provide interfaces to content
  - Enables metadata browsing
  - Graphical display of spectrum data

Implementations (Serializaton)

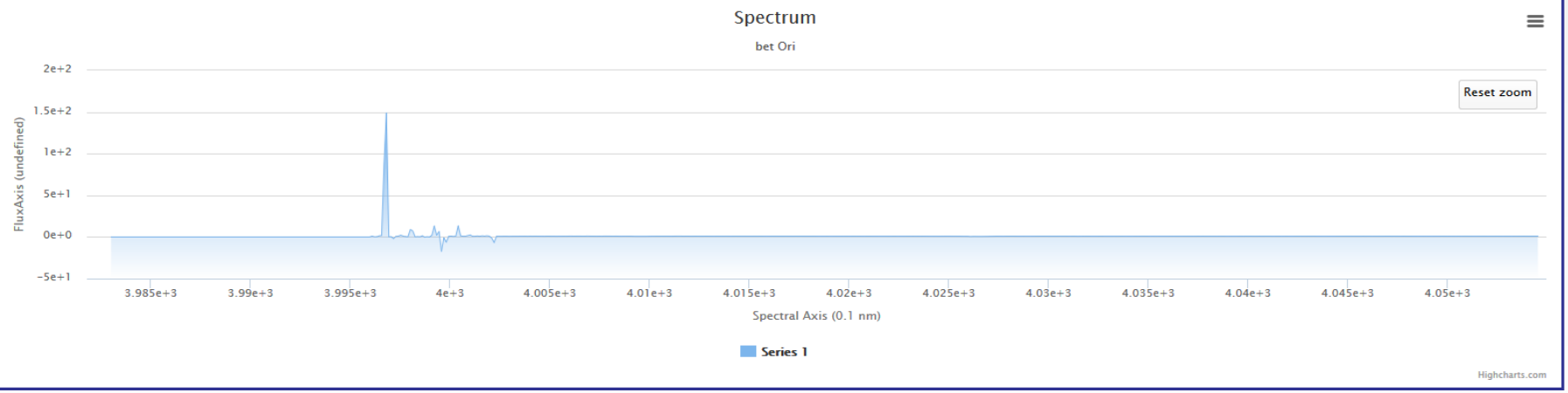
Serializations of Spectral 2.0

- Round trip unit test of speclib library, includes all elements of the model.
- DaCHs services produce SDM2 spectrum instances
  - Theoretical spectra (via theossa)
  - Observed spectra (via flashheros)
  - Partial coverage of SDM2 elements.

Demo

Toggle


```
{
    calibLevel: { },
  + characterization: { … },
  + coordSys: [ … ],
  + curation: { … },
  + dataID: { … },
  + dataModel: { … },
    dataProductSubtype: { },
  - dataProductType: {
        value: "Spectrum"
    },
  + derived: { … },
  + fluxSI: { … },
  + obsConfig: { … },
  + proposal: { … },
  + spectralSI: { … },
  + target: { … },
  + timeSI: { … }
}
```

Summary

- Implementations have been valuable to identify issues in each other, but neither has identified any significant flaw in the model itself.
  - Possible ambiguity regarding role of Group elements
  - PARAM + PARAMref == 1 instance or 2?
  - Possible addition of media-type information in doc
- Implementations do demonstrate
  - The model is implementable
  - Server/Client interoperability using the model is possible
- To move forward, it needs:
  - Approval by Registry Working Group
  - Approval by TCG Chairs
  - Approval by Exec

Concerns

Majority of comments now involve scope.

- TimeSeries: Framework in place, but not defined
- Echelle Spectra
- Normalized Spectra (Continuum, other?)
- Theoretical Spectra – relation to SimDM

These are outside the scope of the 2.0 goals

- Time to open project to address scope?
- Resources limited.. VOLUNTEERS WELCOME!