



# Applications Working Group

Closing Session

IVOA Interop, College Park, November 2018

Chair: Tom Donaldson

Vice-Chair: Raffaele D'Abrusco



# Program

| <u>Speaker</u>                          | <u>Title</u>                                                                                                             | <u>Material</u>     |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------|
| Brian Van Klaveren                      | Felis: Describing Catalogs in JSON-LD                                                                                    | <a href="#">pdf</a> |
| Thomas Boch                             | On the fly generation of JPEG <a href="#">HiPS</a> tiles                                                                 | <a href="#">pdf</a> |
| Matthieu Baumann                        | New Python and Javascript developments at CDS to query the MOCServer for quickly retrieving data collections of interest | <a href="#">pdf</a> |
| Mathieu Servillat                       | OPUS: a provenance enhanced job controller - A reference implementation for the Provenance DM                            | <a href="#">pdf</a> |
| Laurent Michel                          | Reading <a href="#">VODML</a> annotations with model-independent Java code                                               | <a href="#">pdf</a> |
| <u>Speaker</u>                          | <u>Title</u>                                                                                                             | <u>Material</u>     |
| Pierre Fernique                         | MOC standard 1.1 extension / ASCII MOCs                                                                                  | <a href="#">pdf</a> |
| Hendrik Heintz<br>for Markus Demleitner | Progress towards a <a href="#">VODataService</a> 1.2 WD                                                                  |                     |
| Pat Dowler                              | CADC lightweight OAI registry implementation                                                                             | <a href="#">pdf</a> |
| Brian Major                             | Updates on cadc-tap: an astroquery TAP client                                                                            | <a href="#">pdf</a> |
| Hendrik Heintz                          | Recent features implemented in PyVO                                                                                      | <a href="#">pdf</a> |
| Tom Donaldson                           | Python Development Discussion                                                                                            | <a href="#">pdf</a> |



## Themes

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- Python (Everywhere)
- VOTable (TDIG, DM)
  - [VODML](#) Mapping
  - TIMESYS
- HEALPix (Registry, DAL)
  - MOC
  - HiPS
- Authentication (DAL, GWS, Registry)
- Need to support cross-WG efforts



# Python

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- Many new developments
  - In Astropy, AstroQuery, PyVO, elsewhere
- Interesting discussion
  - Within the Astropy ecosystem,
    - Where does VO code belong?
      - Promote visibility of code
      - Avoid duplication
      - Avoid VO branding/naming/jargon?
    - Who should decide, and how? Consensus(?):
      - We (the IVOA as an organization) should **not** decide.
      - We (developers) should help decide within the open source processes of Astropy.



## VOTable

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- VO-DML Mapping
  - VO-DML-Lite proposal moves the discussion forward
    - [VODML Lite TS.pdf](#)
    - [VODML Lite JAVA API.pdf](#)
  - How to move forward?
    - Clarify syntax/semantics of VO-DML-Lite proposal, and exercise it on important use cases.
    - Need a prioritized list of use cases.
      - Does this exist? If not, how do we create it?
      - Need to drop less important use cases to handle important ones sooner.
- Proposed TIMESYS element ([Nebot TDIG Interop2018B-TIMESYS.pdf](#) )
- Those items require new VOTable version(s)
  - TIMESYS is straightforward change, so by itself could be done quickly.
  - How often can we roll out a new version? Don't want to break too many operational tools.
  - Are there other changes we should be considering?



# HEALPix

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- MOC
  - Moving forward with making ASCII MOC official: [MOC extension 1.1 Fernique.pdf](#)
    - Could use low-order MOCs to describe resource coverage in Registry
  - Astropy and JS support for MOC regions and queries: [cds.astroquery-discovery-widget.pdf](#)
- HiPS
  - On the fly generation of JPEG [HiPS](#) tiles: [Apps-TBoch-generation-jpeg-hips-tiles.pdf](#)
  - HiPSToFITS prototype (and ideas for SIAv2 & SODA next): [HiPStoFits Prototype IVOA.pdf](#)





## Authentication

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- DAL/GWS/Registry joint session devoted to this.
- Applications are obviously affected.
  - CADC TAP Python implementation: [cadc-tap.pdf](#)
  - General data access clients: TOPCAT?, Aladin?, Etc.
    - Need to discover what AuthN technique to use for a service
    - Hopefully can use 3<sup>rd</sup> party libraries in most cases

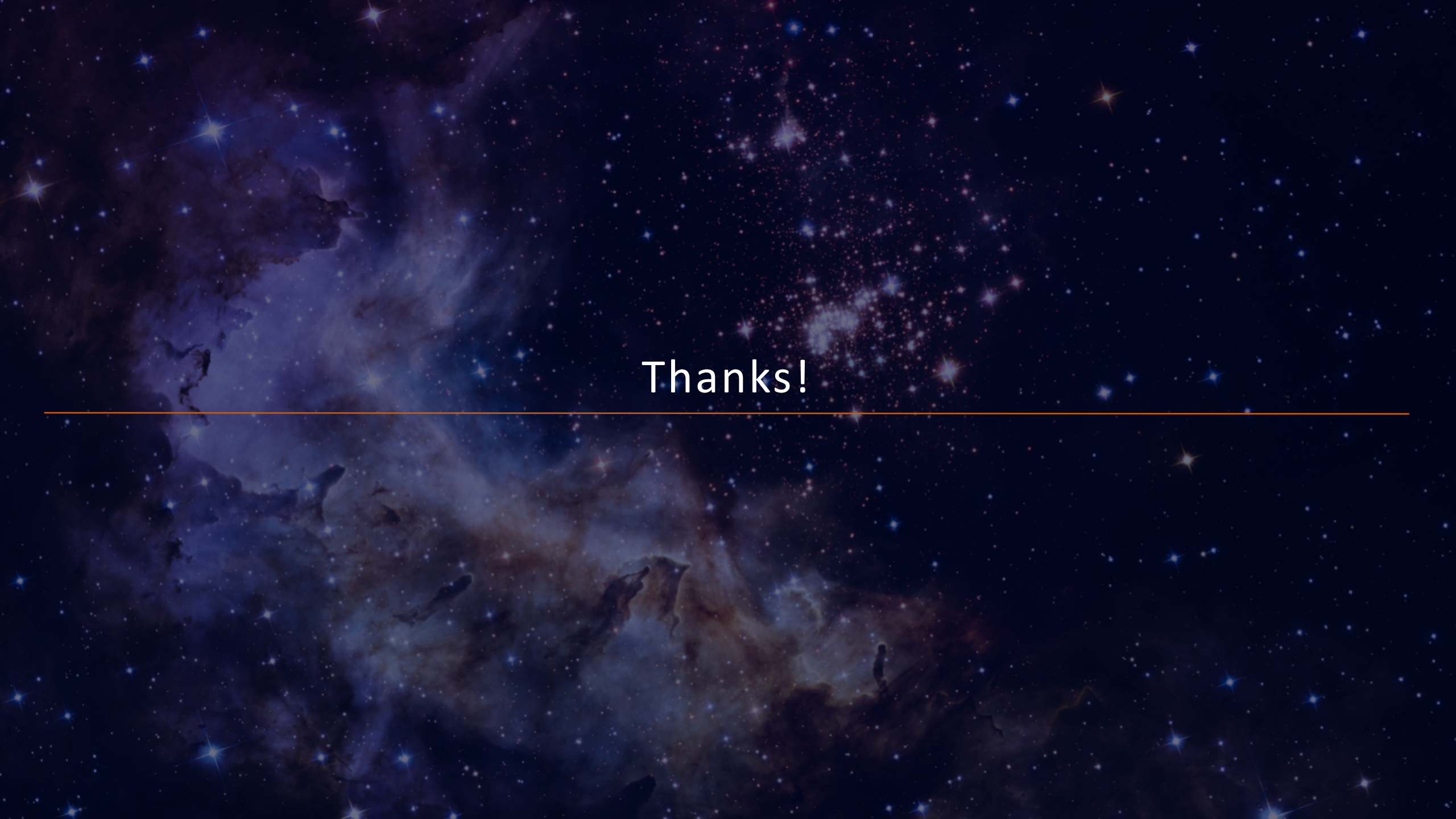


## Need to support cross-WG efforts

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- Communication
  - Mail list: [apps@ivoa.net](mailto:apps@ivoa.net)
    - Subscribe at <http://mail.ivoa.net/mailman/listinfo/apps>
  - Info and lists for all groups: <http://www.ivoa.net/members/>
  - Slack channel: [#applications](https://ivoa.slack.com)



A deep blue and black night sky filled with numerous stars of varying colors, including bright blue and white ones. A large, ethereal nebula with wispy, cloud-like structures in shades of blue, purple, and brownish-gold is visible on the left side of the frame. The word "Thanks!" is written in a clean, white, sans-serif font in the center of the image. A thin, horizontal orange line spans the width of the image just below the text.

Thanks!