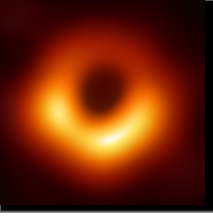
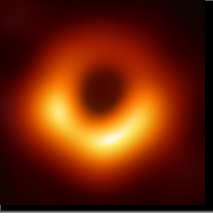
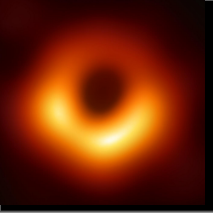


Source/Catalog Focused Session



Sources: One Big Paradox in the VO

- **Studying sources covers most of research activities in astrophysics**
  - A source is something in the sky which emits signals we can detect.
- **Lots of astrophysical data are source-related**
  - A good deal for the VO!
- **However:**
  - No VO source model, nor DAL protocol based on sources
  - We have models orbiting the sources but none capable of landing.
    - Spectral, Time Series, photDM

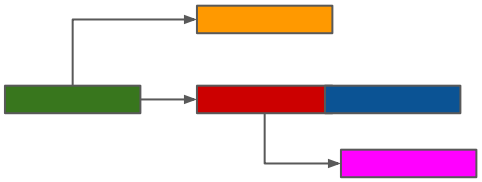


What has been done right now

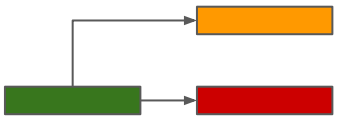
- **Some earlier proposals.**
  - 2006 Catalog data model *P. Osuna et al*.
    - https://wiki.ivoa.net/twiki/bin/view/IVOA/IVAODMCatalogsWP
  - 2016 Source DM *G. Lemson et al.,*
    - https://volute.g-vo.org/svn/trunk/projects/dm/SourceDM
  - 2016 Source DM *J. Salgado et al.*
    - *https://wiki.ivoa.net/twiki/bin/view/IVOA/SourceDataModel*
  - 2018 Hack-a-Thon VODML *DMWG*
    - https://wiki.ivoa.net/twiki/bin/view/IVOA/InterOpMay2018VODML
  - 2018 Large survey poll *LM FB*
    - https://wiki.ivoa.net/twiki/bin/view/IVOA/SourceDM

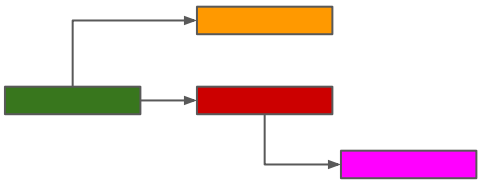
2 Approaches

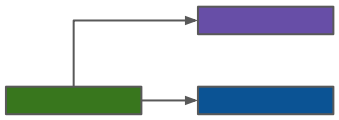
- **A classical model**
  - Based some use cases
  - Likely not optimum to support a large variety of data

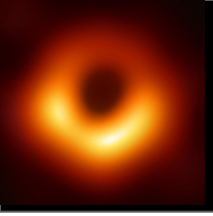


- **A core model extendable with quantities**
  - Just need to modelize all desirable quantities (STC Meas)
  - Can fit with various domain-specific requirements





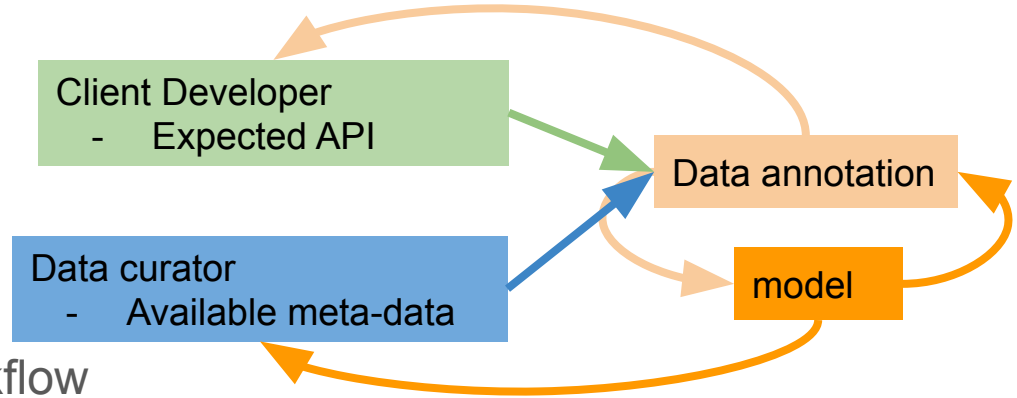


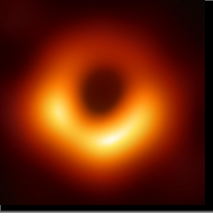


Some Open Questions

- **Issues**
  - Which common template to model quantities?
  - How to annotate those quantities in VOTable, in AstorPy?
  - How could clients discover available quantities?
  - Is it possible to annotate TAP responses?
  - Is data annotation affordable for catalog archives?
  - ...

- **Method**
  - Getting scientific requirements
  - Getting clients requirements
  - Getting curator requirements
  - Iterating on those requirements to converge on a complete workflow





https://wiki.ivoa.net/twiki/bin/view/IVOA/SourceCatalogs