

## CEVO CTA HEA DataModels September 1st 2021 2PM

### I) Participants

- Mark Allen (MA WP4 lead, CDS director)
- Catherine Boisson (CB, CTA consortium lead scientist at LUTH)
- François Bonnarel (FB CDS, CEVO task 2 coordinator)
- Cristiano Bozza (CB Salerno University, KM3net, OSSR Task 3.3 coordinator active to find common solutions for CTA and KM3Net)
- Matthias Fuessling (MF CTAO Science User Support System and Science Operations Support System coordinator)
- Gareth Hugues (GH CTAO Science Analysis platform developer )
- Bruno Khelifi (BK, gammapy project Principal Investigator)
- Karl Kosack (KK, CTAO Data Processing and Preservation System coordinator)
- Mireille Louys (ML CDS VO expert -datamodels, semantics- image processing teacher)
- Laurent Michel (LM IVOA DM WG chair, DM expert)
- Michelle Sanguillon (Msg LUP, CTA consortium development, Provenance expert)
- Jutta Schnabel (JS, KM3Net scientist and ESCAPE WP3 co-lead)
- Mathieu Servillat (MSv, Luth, CTA development, provenance lead expert)

### II) General CEVO context introduction (FB)

- See slides [here](#)

### III ) Summary of June the 25 th meeting (ML)

- See slides [here](#)

### IV) General discussion

- BK to ML : About metadata content : in gamma py we have 2 fits file which contain metadata , the obs-index-table with characterization of the observation and the hdu-index-table with description of files. We are currently writing the documentation.
  - FB : can we try to map that to ObsCore ? Or access it via DataLink ?
  - MSv : Actually we already did that for our HESS data prototype. It's pretty well working with Obscore. We had to add a couple of additional fields to the basic ObsCore table.
- MF : We cannot be to general. CTAO has basically 5 or 6 goals and datamodels is only one of them. Let's concentrate around this. We also should avoid to duplicate efforts with other initiatives around datamodels for CTA or HEA data. Here is a list
  - a recent meeting in WP3 explored commonalities between KM3net and CTA. What is interoperability for them ?
  - there is the open gamma ray data format initiative.
  - there are the VO datamodels and data formats and the mapping which was attempted.

- what to do for datacubes
  - o How do we fit all that together ?
- JS: What we do in WP3 is not in competition with CEVO work on that. The main goal (for us at KM3Net) is to have our astronomers aware on what'sv going on with interoperability data models.
- LM : I want to make you aware of the progress made by the DM WG on the validation of STC datamodels (actually Coords, Trans and Measurement) and integrated approach for cubes and catalogs as well as a common solution for annotation. We have good perspectives for Cube and catalog modelling using Mango.
  - MF : That's good news, but CTA lack manpower to go in Cube modelling. We are waiting from Laurent's proposal for discussion on that.
- MA: What is the open gamma ray format initiative ? Who is leading that ?
  - MF : There will be a meeting in two weeks from now. Maybe somebody from IVOA can participat
  - BK : yes ++ for IVOA Compatibility. How to formalise collaboration ?
  - MA : do it the other way. We invite BK to report on that at IVOA meeting.
  - Agreed.
- 2 questions to Matthias.
  - o Not possible to enlarge the scope of this meeting to WP3/WP5 topics. Did I understand correctly you point ?
    - MF : On the contrary, I don't want we disperse too much.
  - o Are you talking of datamodels or dataformats ? For us it's not the same
    - Yes let's concentrate on DataModels first. DataFormats is another story
  - o to all : what topics do we restrict on ?
- CB : We should go on what we started. Map our data products onto ivoa datamodels (Obscore et al) and check for commonalities.
- MF : This is a list of points where we are interested in. But we should concentrate only on a couple of them.
  - 1 ) the datamodel for DL3. With the open gamma ray format as a starting point.
  - 2 ) scenarii of usage. As Mireille said : What scientists would like to be able to do.
  - 3 ) Next steps for Provenance
  - 4 ) VoEVeent is maybe less critical for us at the moment. Could be more important in a multi-messenger context.
  - 5 ) Scheduling/ obs visibility : a lot exists. We should apply what exists and lack manpower
  - 6 ) transverse issue : how to implement datamodels and VO DAL services. How do we create HiPS and Moc
- JS: Strong interest in datamodels. (point 1). It needs a bit work from our side.
  - VoEvent is also important.
  - Provenance not so high.
  - Setting up VO infrastructure is not so important because we already did it .
- BK: there is not only DL3 products but also DL5/DL6 = maps, catalogs, etc.... This could be also common with other messengers : EGO/VIRGO or neutrino ; Start with FERMI-LAT catalogs. Is that VO consistent ? I guess not.
- KK : For the datamodel exercise, we didn't have a datamodel for DL3. That's a required input to map to IVOA ObsCore and related. I sketched rapidly something while we were talking. See [link](#).

## V) Workshop organization

- FB: How do we work ? Which partners ? Also Ego-virgo ?
- MF/ JS : simply make them aware and participate if they want.

- FB : VO experts ? UHEI for Dachs ? CDS + Laurent for datamodels ? CDS for HiPS and MOC ? UEDIN for VoEvent ?
- JS : Let's concentrate on a few topics first and make a work plan
- MF : let's have a preparation group to really prepare the workshop
- All : We plan a one day workshop before ADASS (week 43), and IVOA (week 44). Let's say week 41 or 42. This one will still be virtual. We will concentrate on points 1, 2 and maybe 6 in MF list. (datamodels, scientific scenarii and maybe infrastructure if time remains). Provenance effort has its own agenda (MSv et al). VoEvent and others have to be seen in another workshop later.
- Preparation group : MF,ML,KK , JS, FB.
- FB to send minutes, set up a google doc for the preparation group and create event/doodle for the workshop date.