

(Exo-)Planetary Systems Data Model Meeting - introduction -

Marco Molinaro

INAF – OATs

Outline

- “Historical Intro”
- Who may be interested
- What are we doing here?



ASTERICS Wiki pages



Time Series for GAPS

June 2017

Trace: • [wp4exodm](#) • [wp4](#) • [wp4gapsinaf](#)

GAPS Time Series face-to-face Meeting

INAF-OAPd, Padova, 22/06/2017

[back to [ASTERICS DADI WP4](#) main wiki page]

Edit

open:wp4:wp4gapsinaf

Table of Contents

- [GAPS Time Series face-to-face Meeting](#)
 - [INAF-OAPd, Padova, 22/06/2017](#)
 - [Participants](#)
 - [Meeting Report](#)
 - [Use cases and metadata](#)

Edit

Participants

Name	Affiliation
Marco Molinaro	INAF-OATs
Andrea Bignamini	INAF-OATs
Serena Benatti	INAF-OAPd
Riccardo Claudi	INAF-OAPd

- Time Series is one of the GAPS products
- Time Domain is an IVOA priority
- Let's bring GAPS Time Series in the VO

Edit

Meeting Report

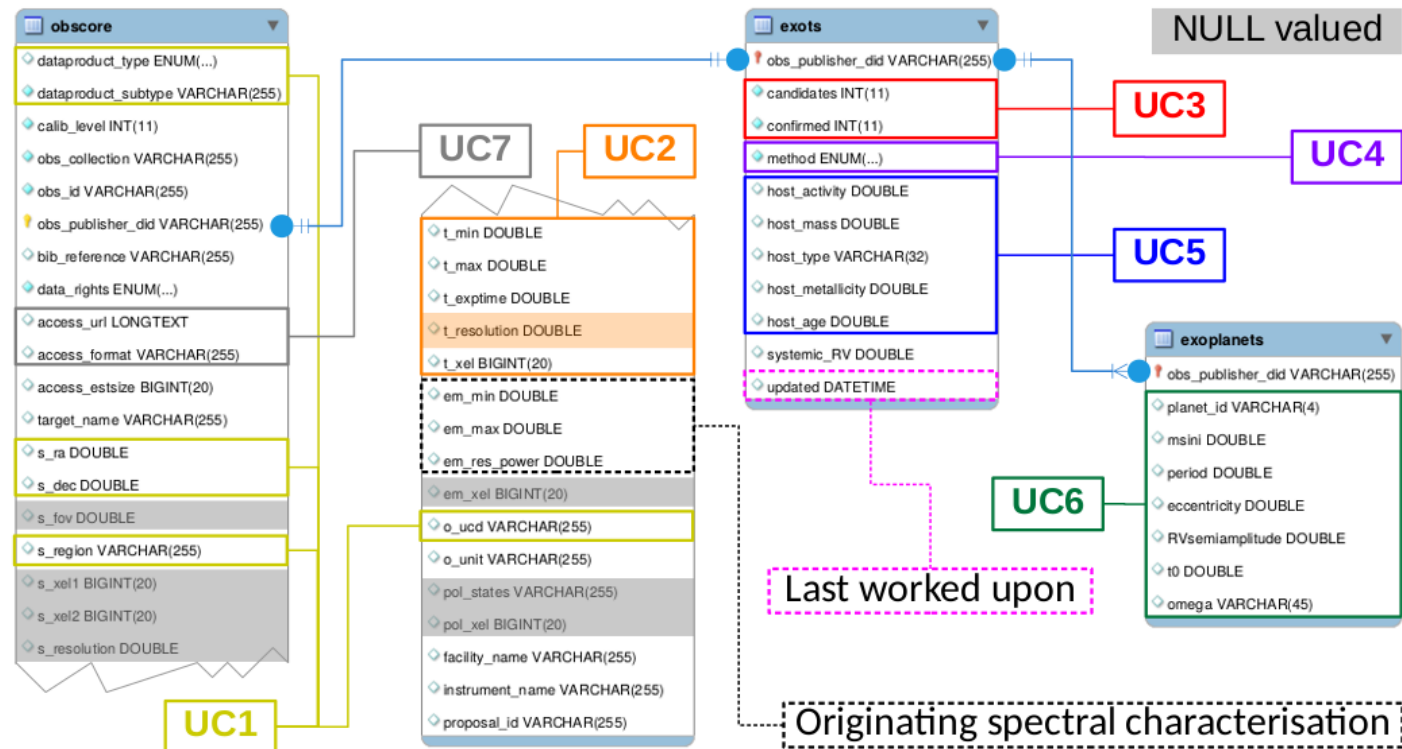
A face-to-face meeting has been held at INAF-OAPd (Padova, Italy) on Thursday the 22th of June 2017 to discuss the use cases and possible prototyping of a service to deploy dataset consisting of time series of radial velocity produced by the [GAPS](#) project when studying stellar systems for discovery of exoplanets.



ADASS & IVOA Report

October 2017

Global view



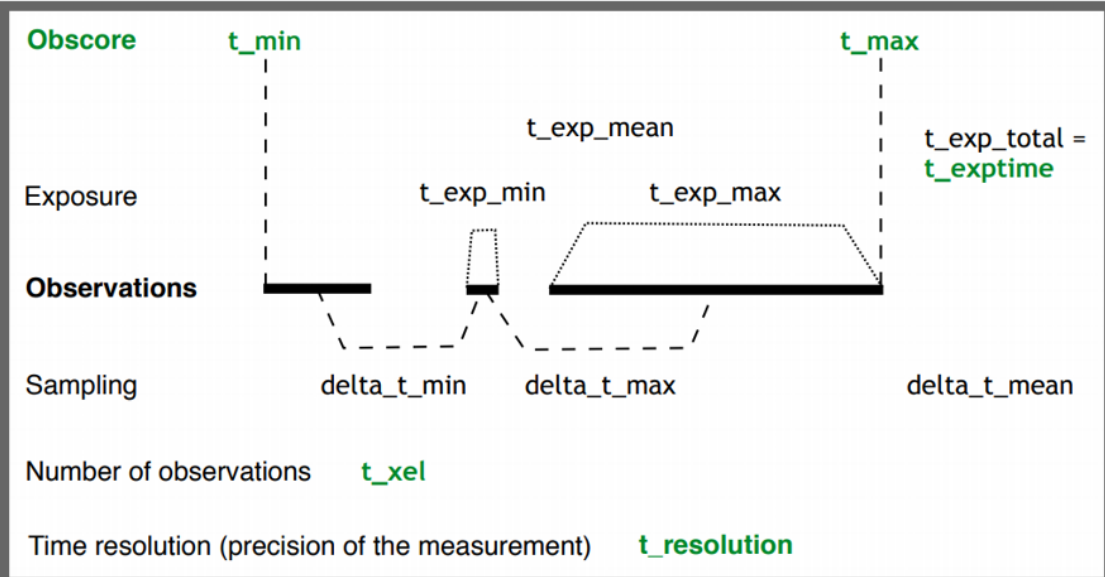
Use Case driven
 ObsCore based

DataSet
 Discovery
 approach

Time Axis Characterisation

Oct. 2017 – May 2018

Time Axis evolution



ObsCore
 Time Axis description
 is not enough

Not yet finalised. Details may fall into modelling.



Data Model for Planetary Systems

February 2018

(exoplanets) Data Model



exots	
obs_publisher_id	VARCHAR(255)
candidates	INT(11)
confirmed	INT(11)
method	ENUM(...)
host_activity	DOUBLE
host_mass	DOUBLE
host_type	VARCHAR(32)
host_metallicity	DOUBLE
host_age	DOUBLE
systemic_RV	DOUBLE
updated	DATETIME

- Allow specific exoplanets domain use cases and solution
- Re-usable
 - developed joining efforts within the community?
- Requires

exoplanets	
obs_publisher_id	VARCHAR(255)
planet_id	VARCHAR(4)
msini	DOUBLE
period	DOUBLE
eccentricity	DOUBLE
RVsemiampitude	DOUBLE
t0	DOUBLE
omega	VARCHAR(45)

- Some specific technical work
- ~complete science scenario

Describe stellar system components and their attributes in a common way



Stakeholders

- VO members
- GAPS
- Trieste “ARTECS” exo-atmosphere
- ASI-SSDC ExoplAn3T client application
- (EuroPlaNet)
- ...others...

A proposal...

- Let's try designing a preliminary model that describes a stellar system with planets
 - All the details we know about
 - All the details we use in our work
- Keeping in mind
 - We want to use it to find datasets with respect to the above metadata
 - We want to use it to write datasets annotating the components with the above metadata