

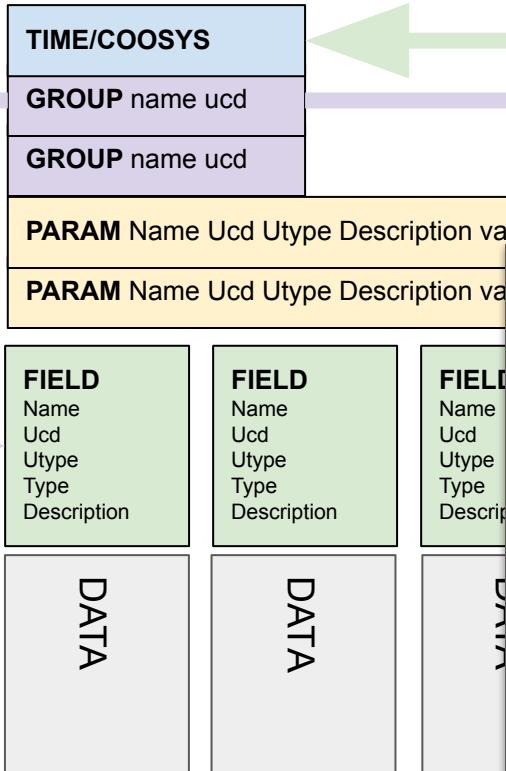
How Can Data Models Help to Enhance **Interoperability**

Scientists - Data providers - Developers
Model users have the floor

Interoperable Data

- **#1 Datasets contain all information required to be processed**
 - Display
 - Plot
 - Filtering
 - X match
 - Data sharing
 - ...
- **#2 Client must be able to understand this information without running provider-dependant code**

VOTable at a Glance



- **VOTable have anything we need to get a good interoperability level!**
- **Do we want more?**

Interoperability Feature	
Quantities well defined	Good
Role of the quantities well defined	Poor missing UCDs / UType flaw
The way quantities are nested	Poor group are little used
The way quantities relate each to other	Very poor no role - no multiple ref



Workshop step #1: Working on use cases January - April 2021

- column_grouping
- combined_data
- complex-shaped-obje
- identity
- native_frames
- orbital-system
- precise_astrometry
- simple_position
- standard_properties
- time-series

<https://github.com/ivoa/dm-usecases/>

main dm-usecases / usecases / time-series /

glemson adding timeseries mapping for vodml-mapper (#5)

- fb+ml-proposal
- mcd-implementation
- md-proposal
- modelinstanceinvot-mapping
- raw_data
- vodml-mapper

- Prerequisites
 - VOTable are annotated with MANGO using the ModelInstanceInvot syntax.

These 2 standards are applied on the use of workflow time. Requested enhancements are not taken into account until they are implemented. This will be done once all components will be

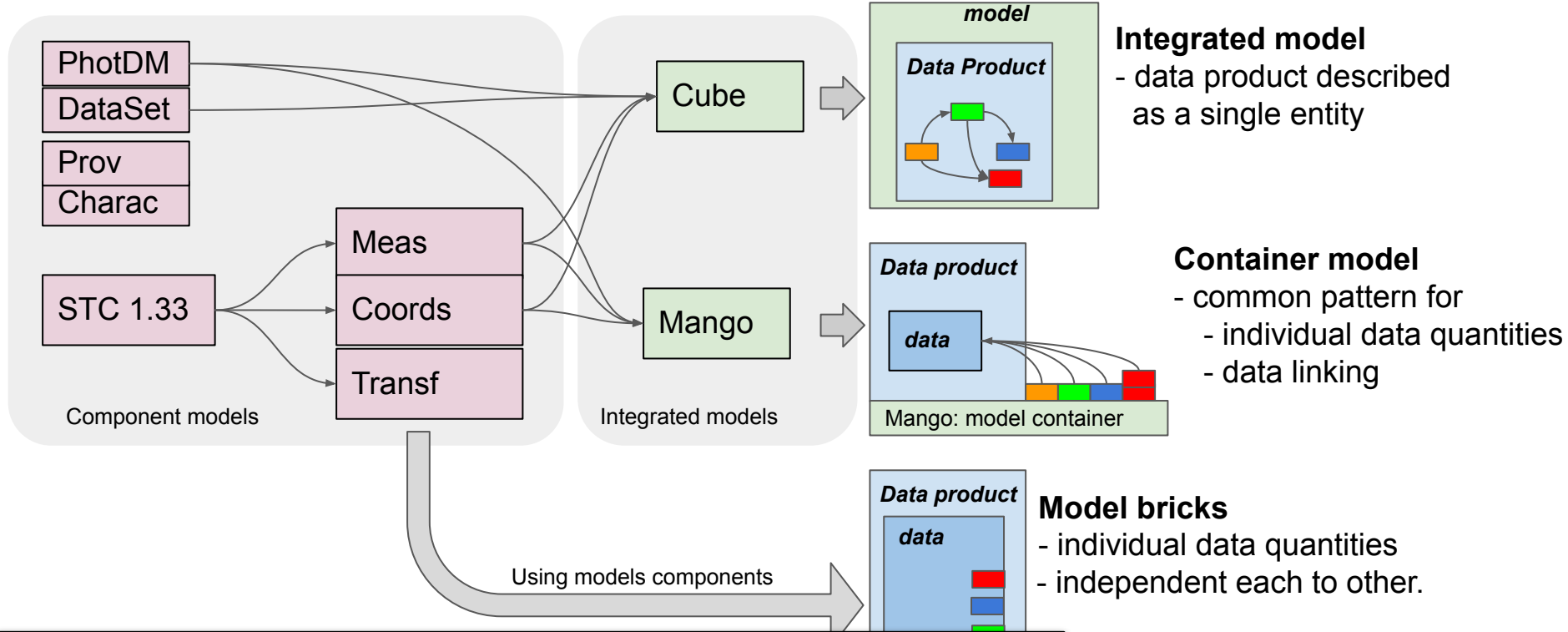
not properly set so far.

- What is that dependant axes [question](#) #12 opened on 5 Mar by Imichel 52
- Baseline use cases #36 opened on 16 Apr by mademlel 38
- Impact on the model change [question](#) #24 opened on 24 Mar by Imichel 33
- VODML Mapping vs ModelInstanceInvot [documentation](#) #23 opened on 24 Mar by Imichel 27
- MANGO Annotation Scope #18 opened on 19 Mar by Imichel 20
- Using UCD in models [documentation](#) #15 opened on 12 Mar by Imichel 16
- Proper motions: modeling #9 opened on 4 Mar by mcdittmar 7
- Role of the roles #45 opened 28 days ago by Imichel 7
- Minimal provenance in VOTable output #37 opened on 16 Apr by gilleslandais 7
- Column Groups: Question on coordinate systems involved #8 opened on 4 Mar by mcdittmar 5
- MANGO model #38 opened on 20 Apr by glemson 5

Reading the MANGO annotation block

```
from client.parser.mango_browser import MangoBrowser
mango_browser = MangoBrowser(votable_path)
```

Workshop step #2: Pre-interop meeting: May 17



<https://wiki.ivoa.net/twiki/bin/view/IVOA/Dm2021>

Workshop step #3: Interop Sessions

- **Model users have the floor**
 - No model diagrams
 - No XML
 - Developer point of view
 - Science cases
- **Expected returns for the community**
 - Connection between modeler and model users
 - New model cases
 - Vision of where the model developments could end up.

Agenda

Session #1 Model users have the floor

Time: [Wednesday May 26 15:00 UTC](#)

Speaker	Title	Time	Material
Laurent Michel	Introduction	8'	
Jesus Salgado	Data Models: Homogeneous view for heterogeneous data	10+3	
Jean Michel Glorian	A developer's point of view on the use of models in the votable	12+3	
Matthias Fuessling	Science case requirement for CTA	10+3	

Moderator: [Jesus](#), Notetaker: [Jesus](#), notes: [Etherpad link](#)

Session #2 Model users have the floor

Time: [Thursday May 27 15:00 UTC](#)

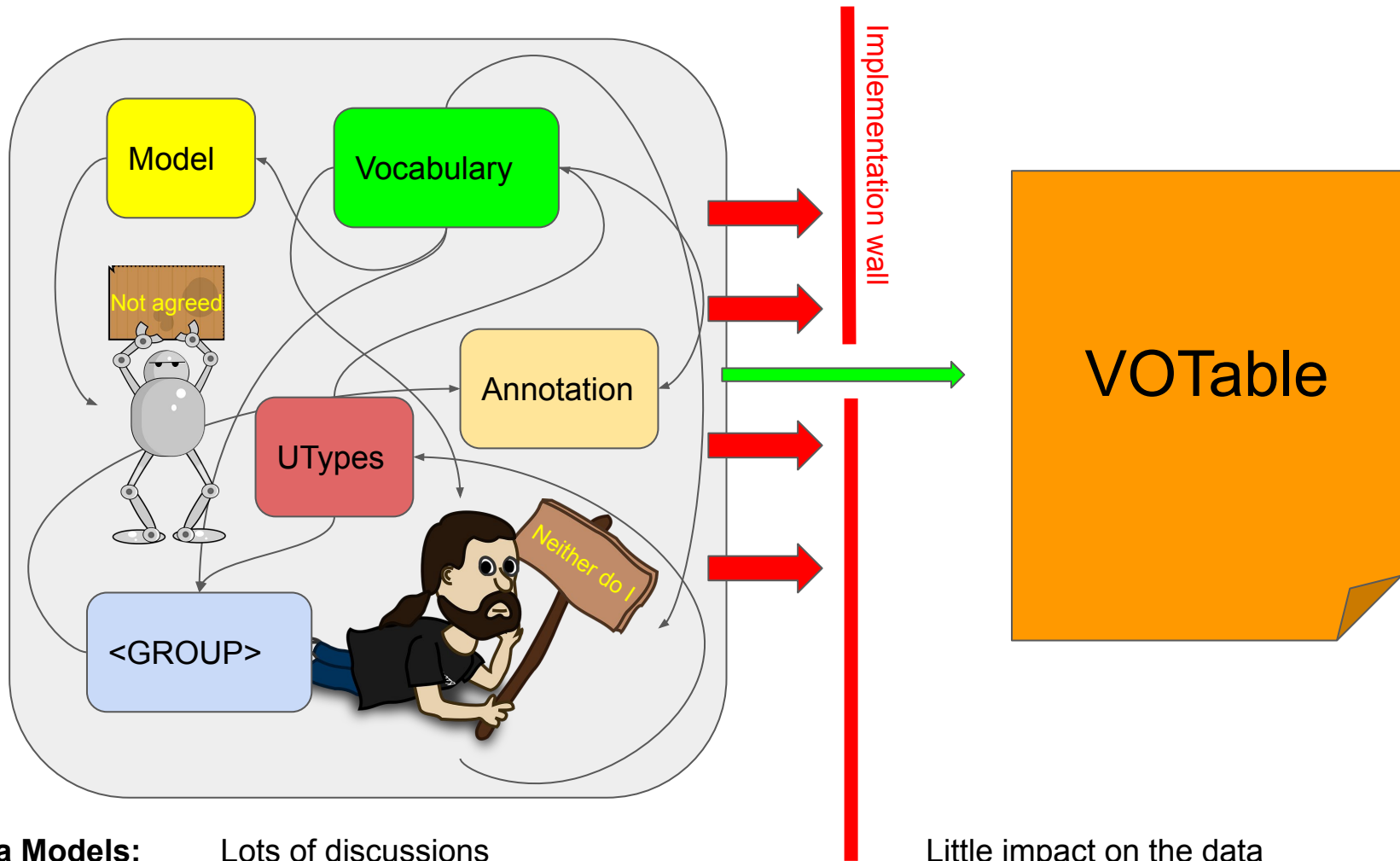
Speaker	Title	Time	Material
Laurent Michel	Introduction	4'	
Gilles Landais	Annotated VOTable in VizieR	12+3	
Ian Evans	Chandra Science and DMs (TBD)	12+3	
Jean Marc Petit	Asteroids: astrometry, photometry, dynamics, survey modelling	10+3	
Laurent Michel	Binding PyVO with MANGO	10+3	

Moderator: [Jesus](#), Notetaker: [Jesus](#), notes: [Etherpad link](#)

Session #3 Let's talk mapping syntax

Time: [Friday May 26 15:00 UTC](#)

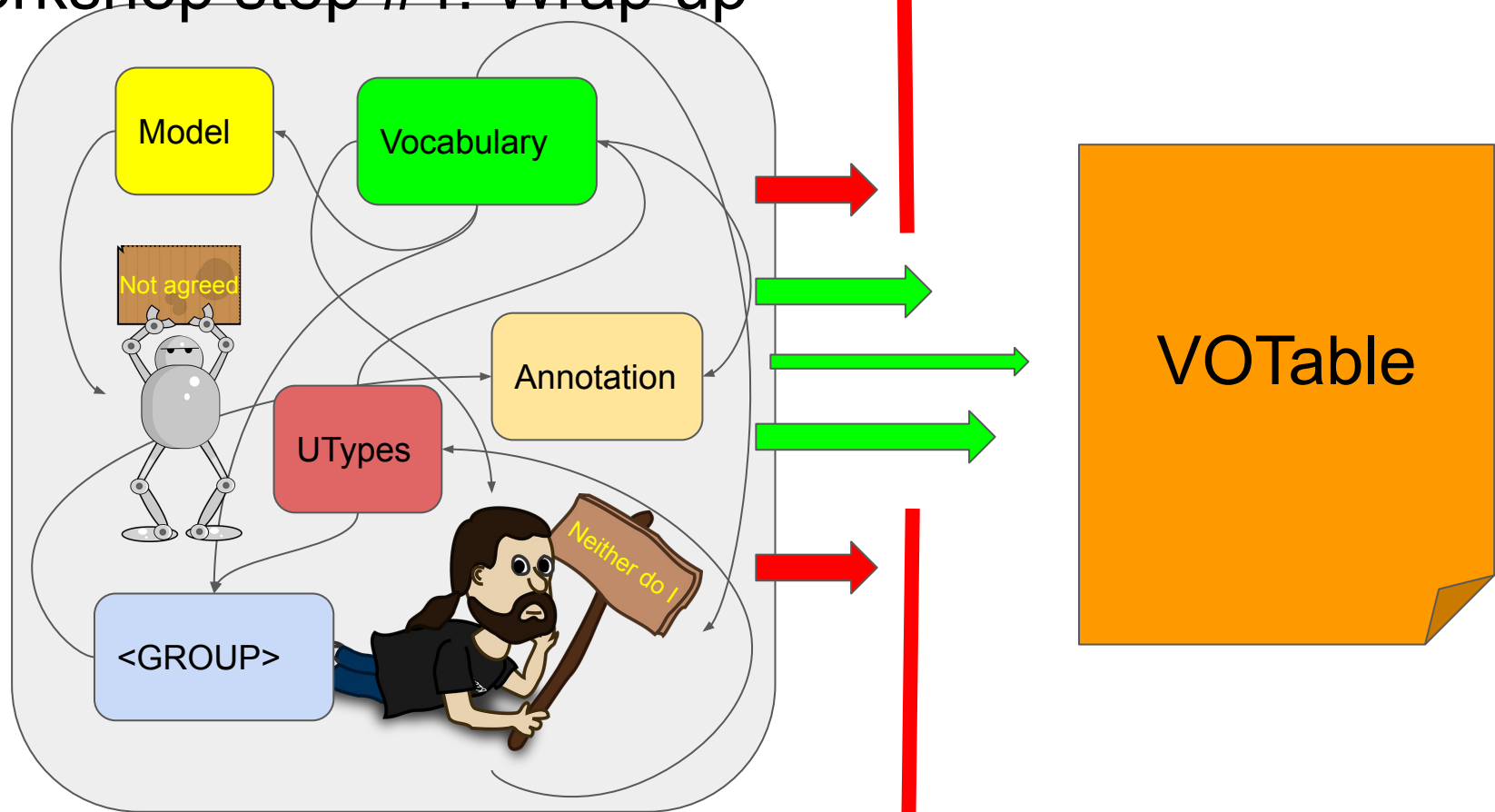
Speaker	Title	Time	Material
Laurent Michel	Introduction	5'	
Gerard Lemson		10+3	
Laurent Michel		10+3	
Mark Cresitello Dittmar	Summary	10+3	
Gerard Lemson	VODML mapper tool	10+3	



Data Models: Lots of discussions

Little impact on the data

Workshop step #4: Wrap up



Data Models: Less discussions

Bigger impact on the data