

ZTF Lemaitre

Structure and vocabulary

Lemaitre : concepts and vocabulary

- **Goals**

- ZTF + SNLS + Subaru/HSC Hubble diagram
- Independent of previous measurements

- **New dataset**

- Improved homogeneity (3 surveys only)
- Same photometry pipeline
- Simple calibration scheme (12 bands)

- **New inference pipeline**

- SN modeling re-visited (NaCl)
- Distance inference revisited (EDRIS)
- No simulations in the inference chain (only as validation)

- **Extensive set of simulations "Data Challenges"**

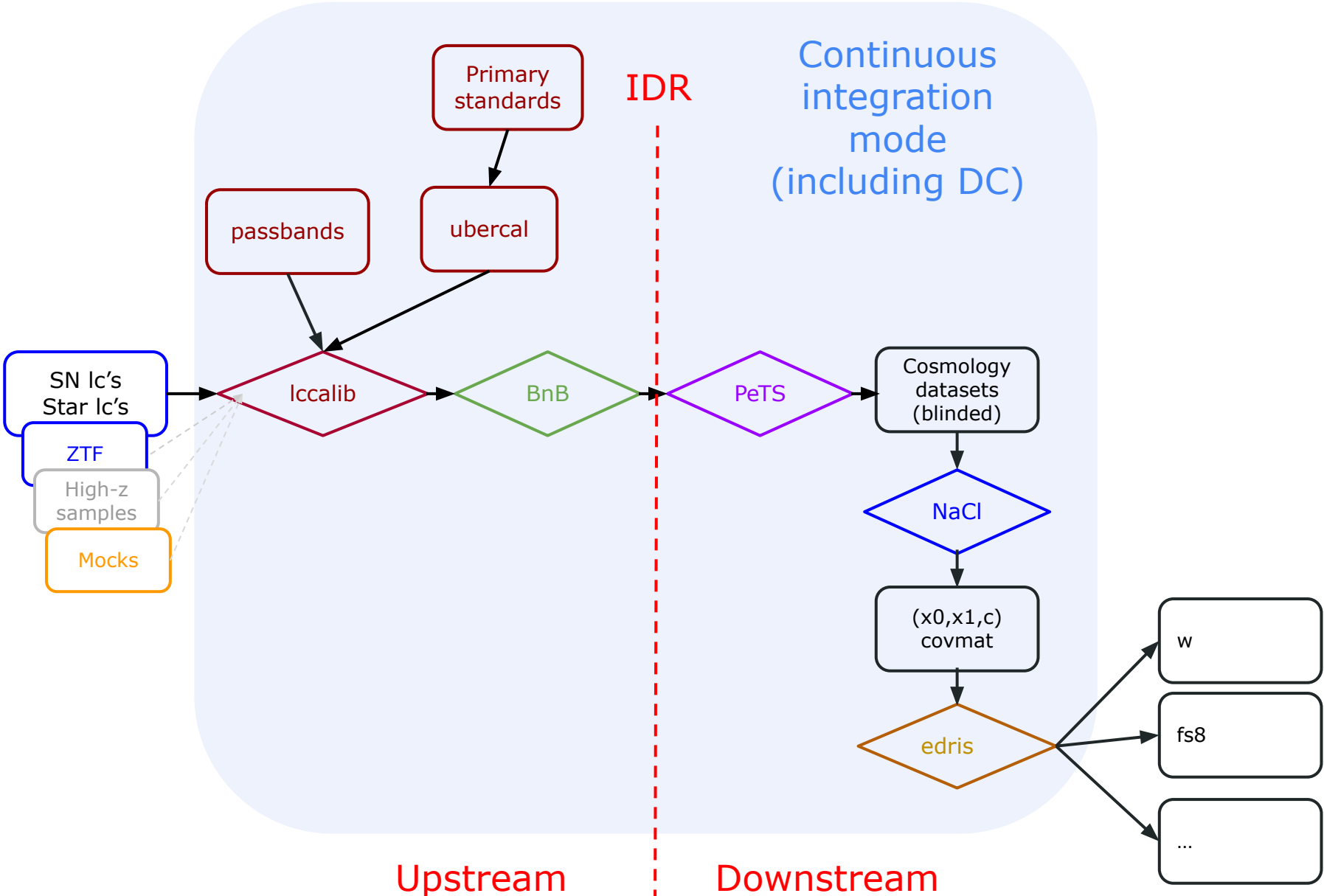
- DC1 (consistency of inference chain)
- DC2 (same as above, with selection functions)
- DC3 (same as above, with outliers + calibration uncertainties)
- DC4 (same as above, with astrophysical biases, dust, evolution, ...)
- DC5 (same as above, blind)

Mahmoud's talk

Dylan's talk

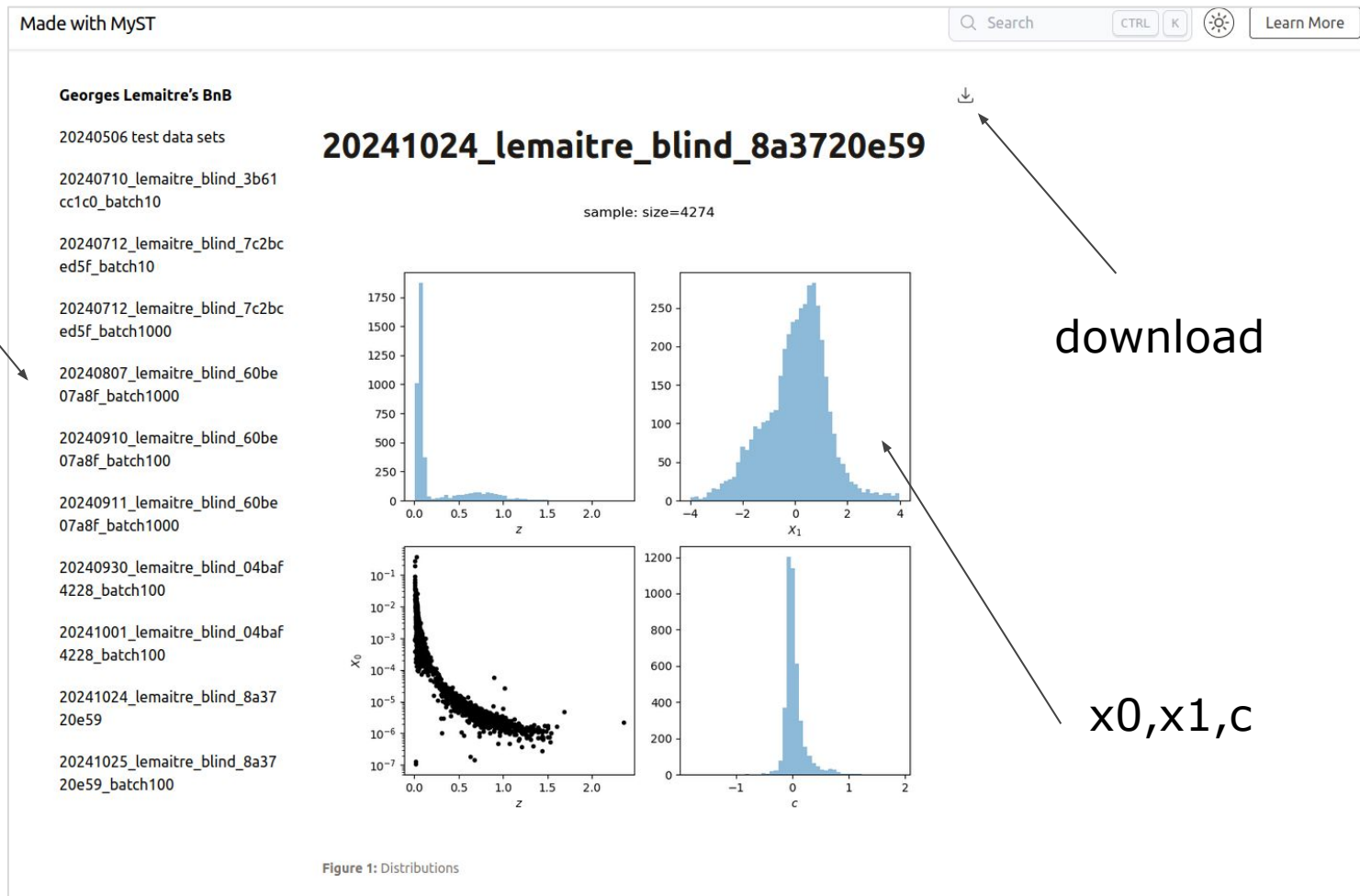
Madeleine's talk

DR2.5 Dataflow

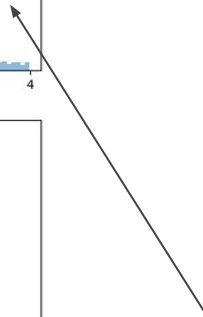
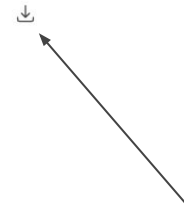
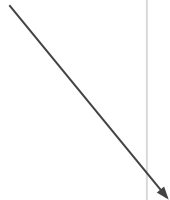


Lemaitre dataset

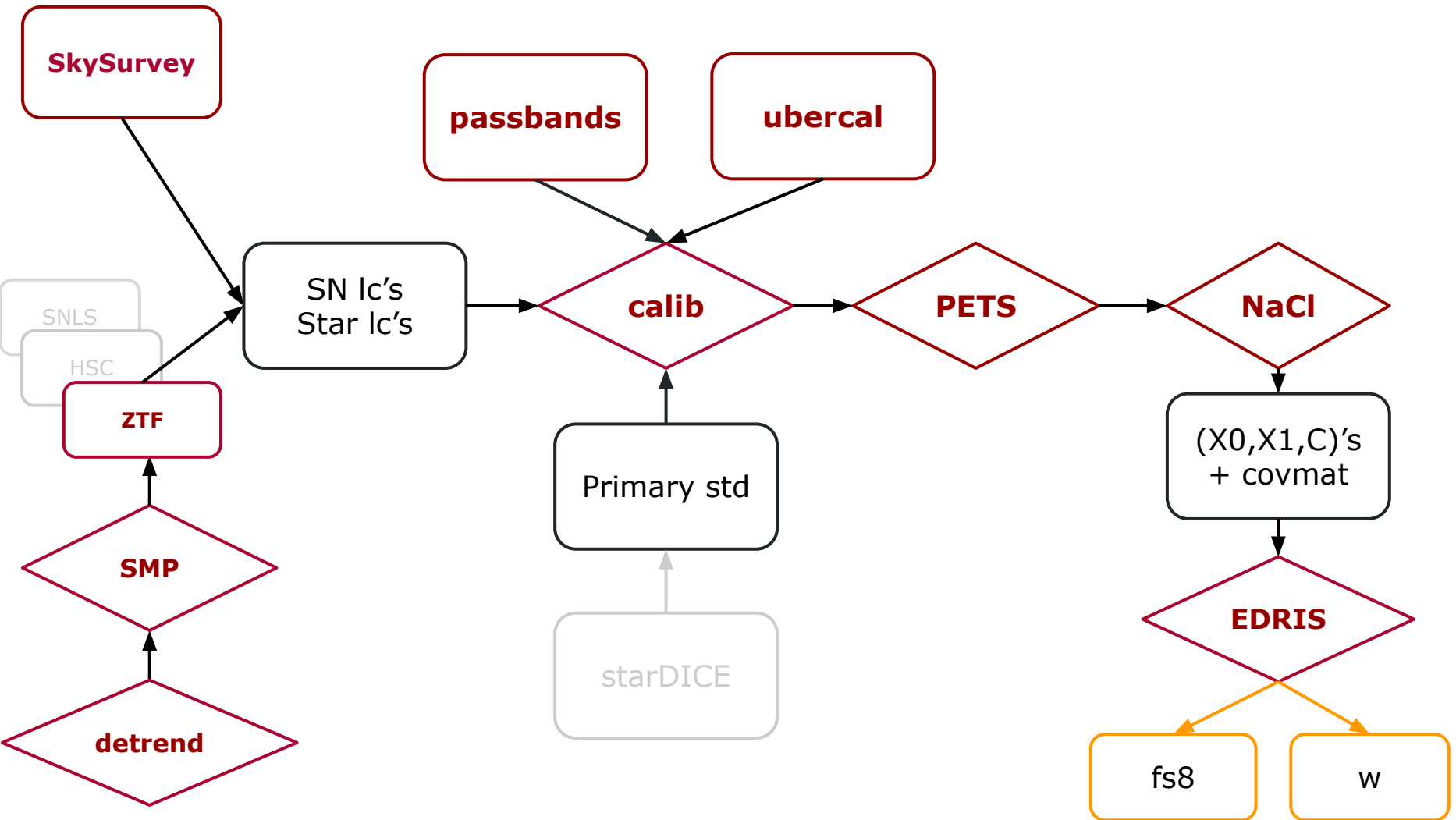
<https://lemaitre.pages.in2p3.fr/bnb/20241024-lemaitre-blind-8a3720e59>



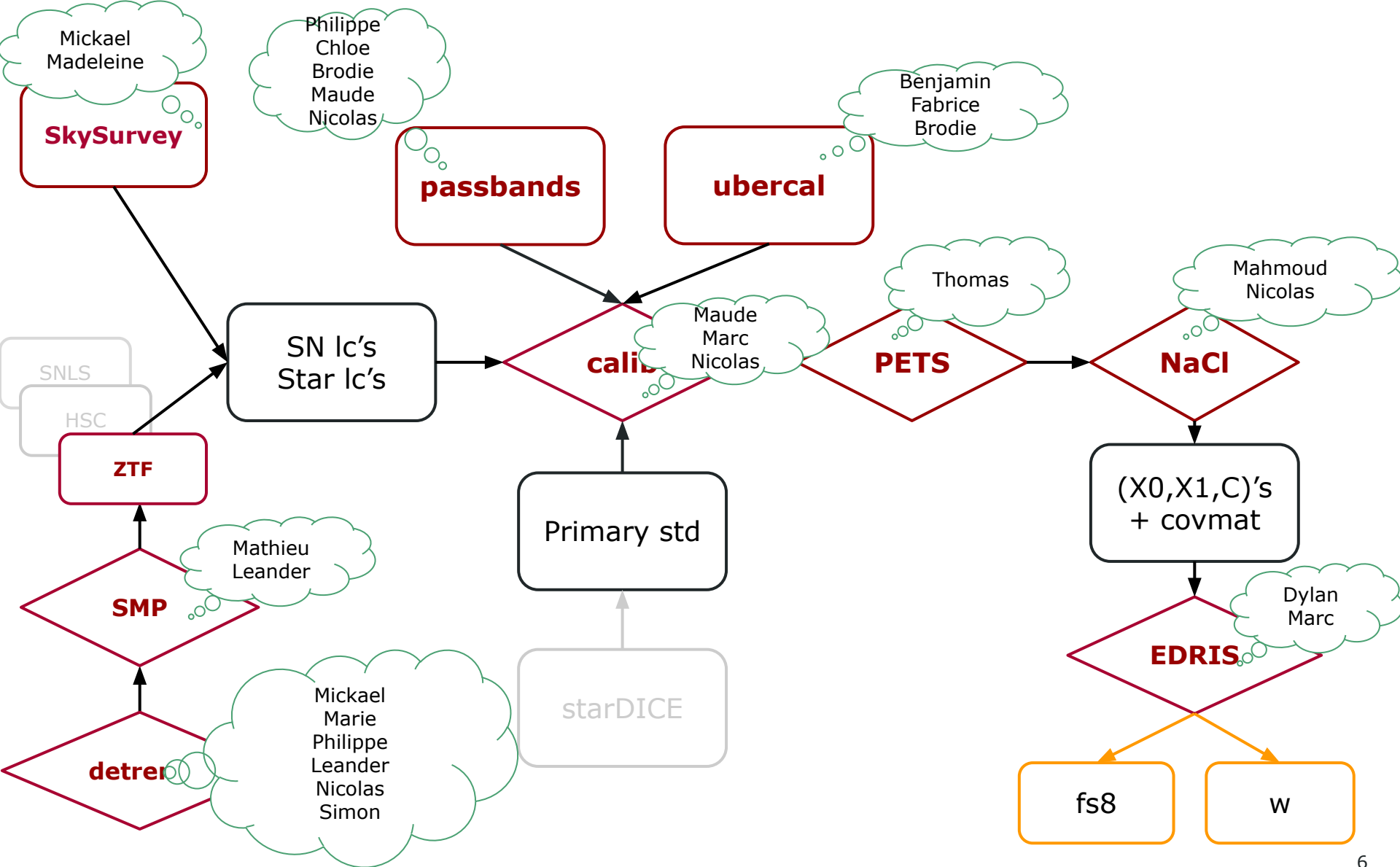
Previous releases



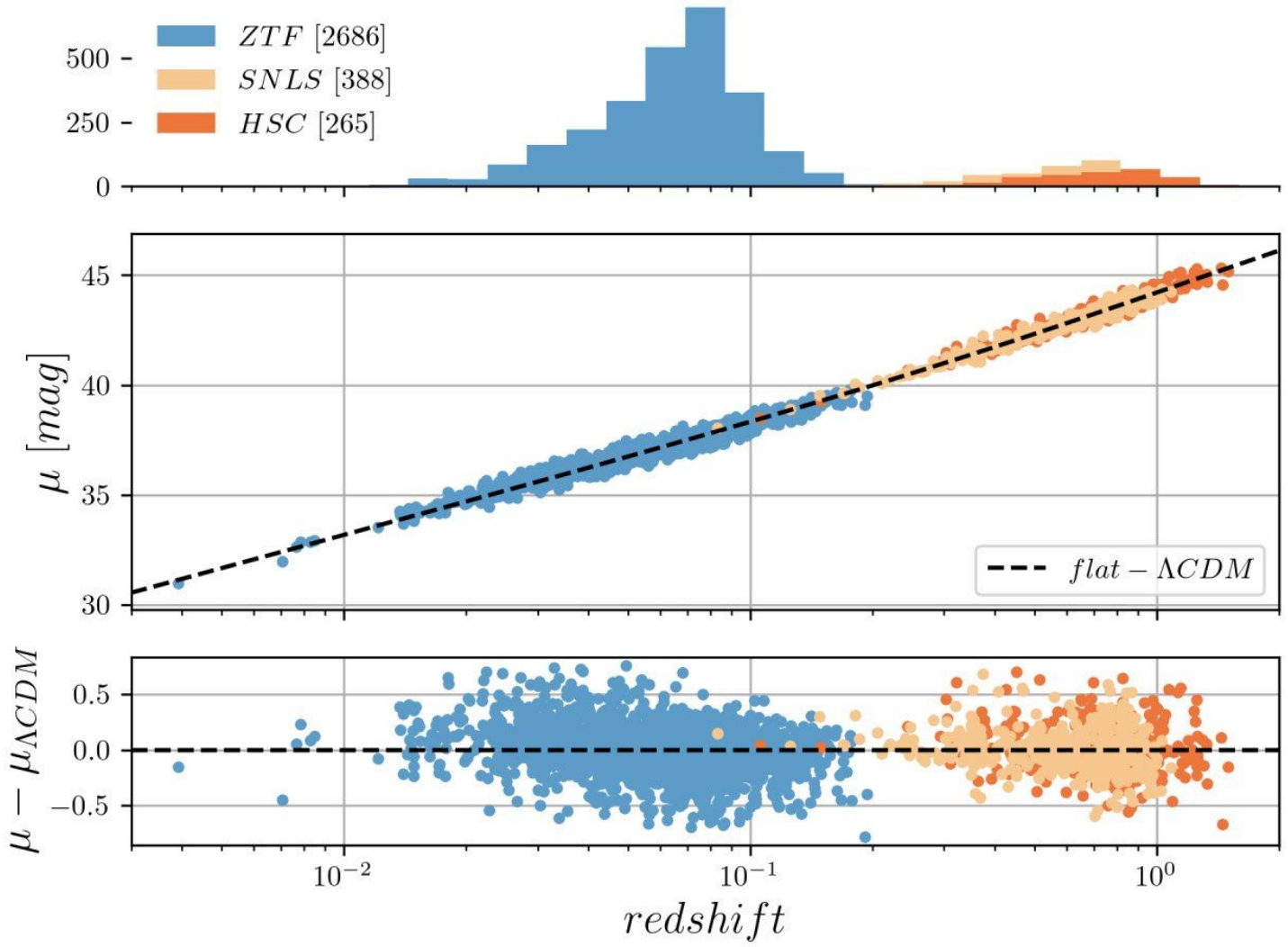
Lemaitre pipeline



How do we get there ?



Latest Lemaitre diagram



Datasets

- SNLS5 ready / recalibrated
 - Ongoing work on improved filter model
 - (CCD-to-CCD QE variations)
 - Data will not change
- Subaru/HSC
 - Final reprocessing of LC's will start this month
 - (small production)
 - Dataset will be updated in ~ January
- ZTF
 - DR2.5 story
 - Data will be updated in ~ February

Data challenges

- DC1 and DC2 mocks have been produced
 - 100 mocks each
- DC1 analysis in progress
 - Some impedance matching was necessary
 - NaCl had to be made resistant to “outliers”
 - See Mahmoud’s talk
- DC2 analysis about to start
 - A pre-DC2 currently ongoing (see Dylan’s talk)
- DC3 expected for ~ January

Lemaitre-related papers

