

Data Challenges Update

Documentation here

#dr25_lemaitre_challenges channel

10th March 2025

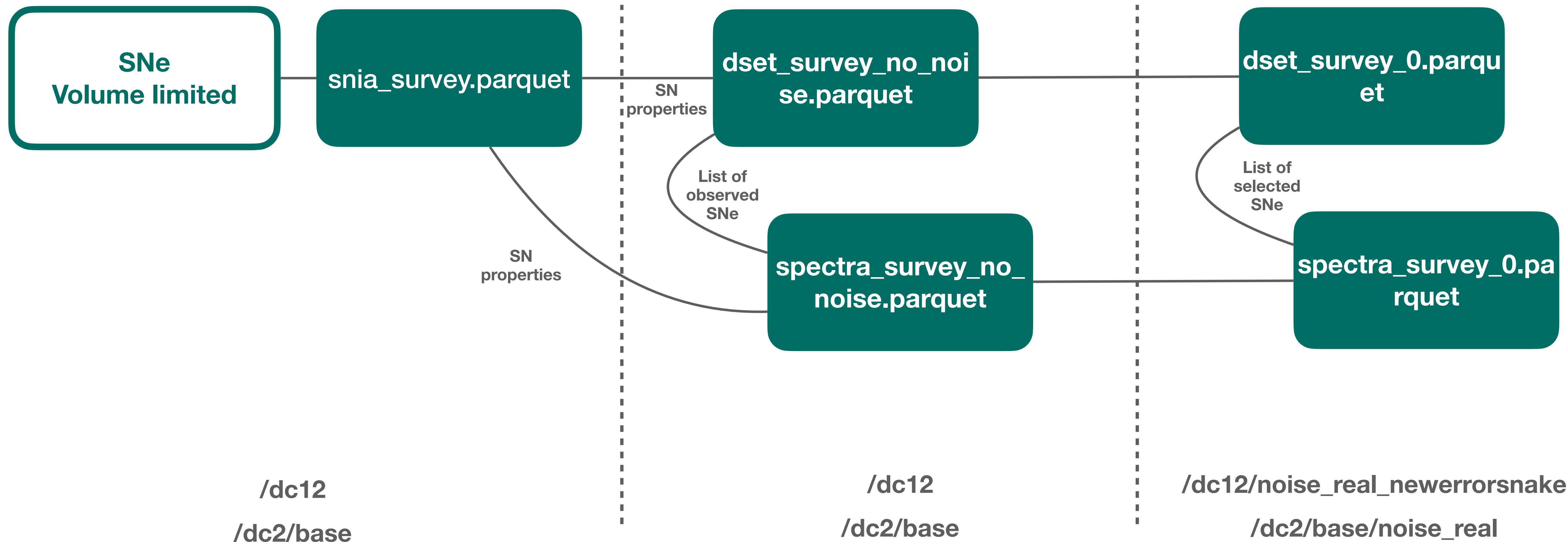
Data Challenges

Simulation setup

- **skysurvey**
- Runs on CC-IN2P3
- Outputs:
 - Simulated SNe
 - Lightcurves
 - Spectra
 - No SALT fits or selected sample with quality cuts

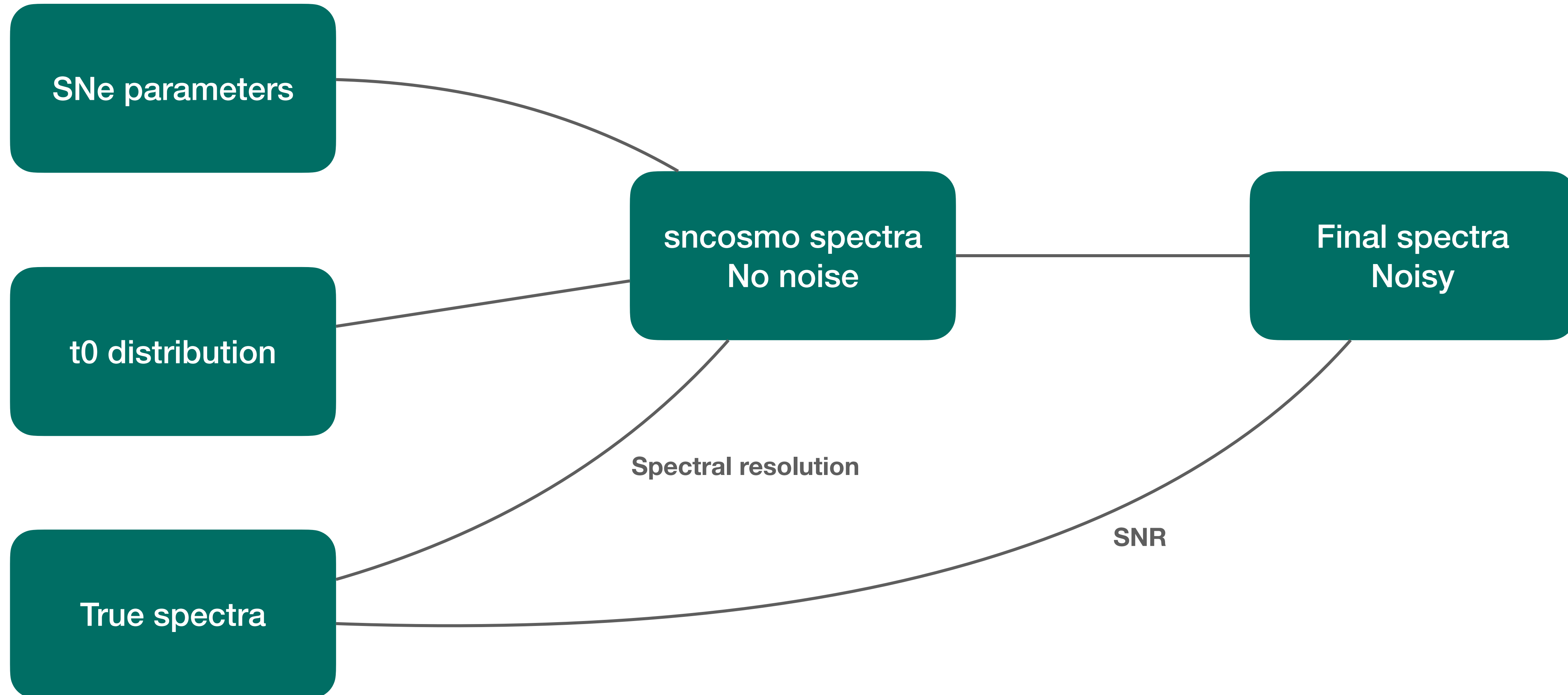
Data Challenges

Simulation setup



DC1

Spectra simulation



DC1

Changes since Barcelona

- Apply the magnitude cut before adding the intrinsic scatter
- New filters from sncosmo
- Redraw the intrinsic scatter at each step
- Errorsnake only on lightcurves + one errorsnake per night and band

DC2

Changes since Barcelona

- Only Gaussian distributions for stretch and colour
- Redraw the full volume-limited sample for each realisation
- Two versions:
 - EDRIS-like selection (sigmoid of magobs)
 - 'Realistic' selection

DC-PV

ZTF only

- Draw PV and positions on the sky from Uchuu mocks
- Realistic stretch and colour distributions + selection function from Amenouche+24
- Two versions:
 - 100 realisations with the same big Uchuu box ($z_{\text{max}} = 0.36$)
 - 27 realisations with the 27 small Uchuu boxes ($z_{\text{max}} = 0.1$), with Gaussian PV for $z > 0.1$

DC3

Plan

	Number of mocks	skysurvey	Data
Measurement outliers	10		
Peculiar las and core-collapse	10		
Filter zero-points	100		
Filter shifts	100		
Spatial variability of the filters	10		

Plan for the workshop?

- Make sure that everything is OK for DC1
- Look at DC2 outputs and make necessary adjustments (e.g. selection function parameters)