

# Winter-22 reconstruction status

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**Reconstruction and analysis meeting 10/02/2022**

- Started a “central” production of reconstructed ROOT trees with RECO quantities of the majority of data taken with LIME in the last year
- Winter-22 tag (based on “autumn-21” branch) for production aiming the needs of the vast majority of the analyses using images
  - saving RECO cluster quantities
  - saving non-zero suppressed pixels of clusters with *length*  $< 5$  cm, *integral*  $> 10^3$  counts (to suppress cosmics and fakes) to keep size under control
  - ensure reproducibility and bookkeeping of the produced quantities
- Special tasks can do private production of smaller datasets
- Event content:
  - documented in [this wiki page](#)
  - event size for LIME@LNF for typical runs with source + natural BKG is **~250 kb / event**
    - dominated by “reduced” pixels collection: 86%

- Documented in [this wiki page](#), with details

reco\_run04152\_3D.root (1.034 Mb, 4 events, 264.68 kb/event)

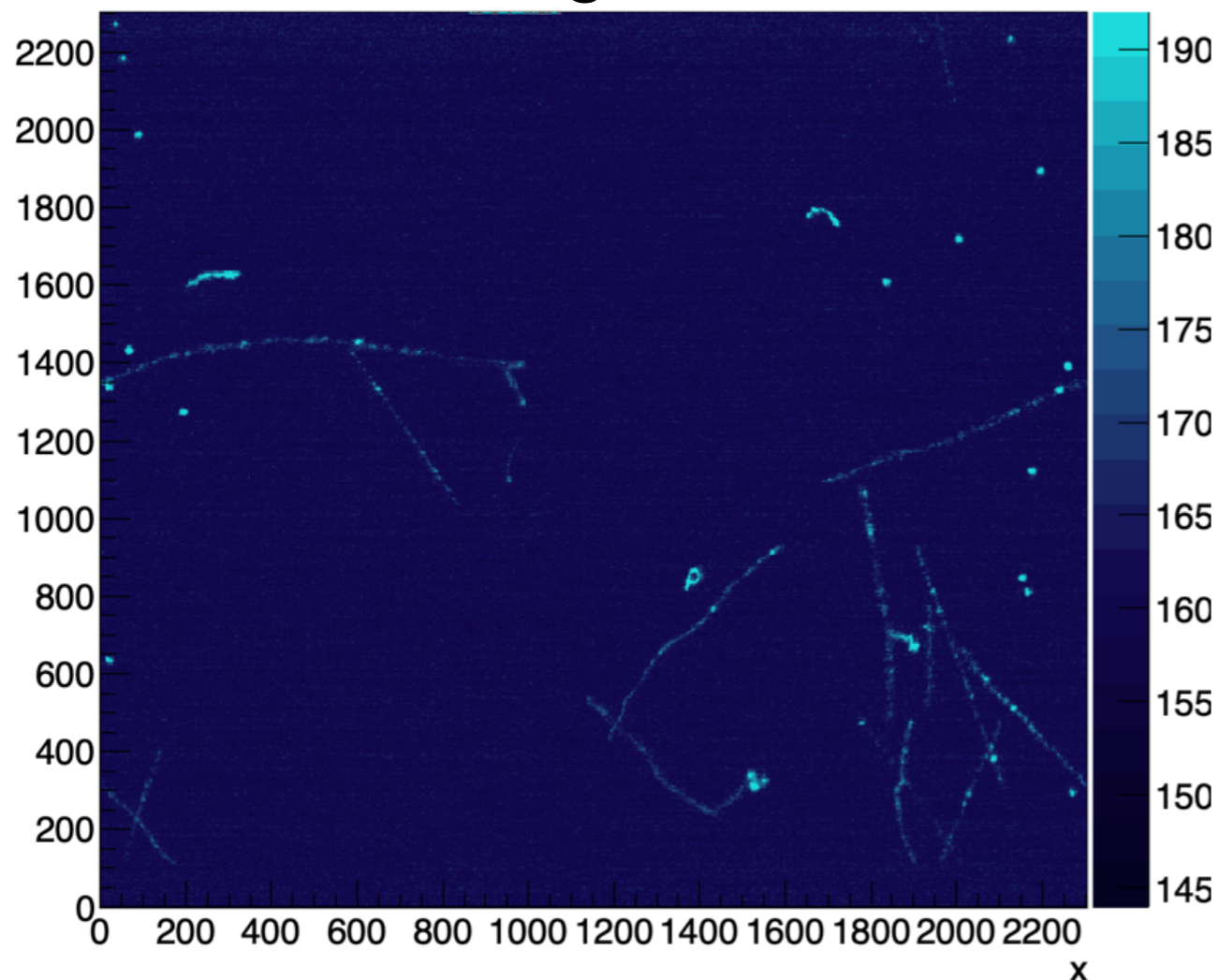
## Event data

collection	kind	vars	items/evt	kb/evt	b/item	plot	%	ascending cumulative %	descending cumulative %
<a href="#">redpix</a>	collection	4	92524.00	225.165	2.5		86.0%	86.0%	100.0%
<a href="#">sc</a>	collection	38	335.00	36.278	110.9		13.9%	99.8%	14.0%
<a href="#">cmos</a>	singleton	3	1.00	0.243	249.0		0.1%	99.9%	0.2%
<a href="#">pedestal</a>	variable	1	1.00	0.083	85.0		0.0%	99.9%	0.1%
<a href="#">event</a>	variable	1	1.00	0.076	78.0		0.0%	100.0%	0.1%
<a href="#">run</a>	variable	1	1.00	0.074	76.0		0.0%	100.0%	0.0%
All Events data				261.92			99.0% <sup>a</sup>		
Non per-event data or overhead				2.76			1.0% <sup>a</sup>		
File size				264.68					

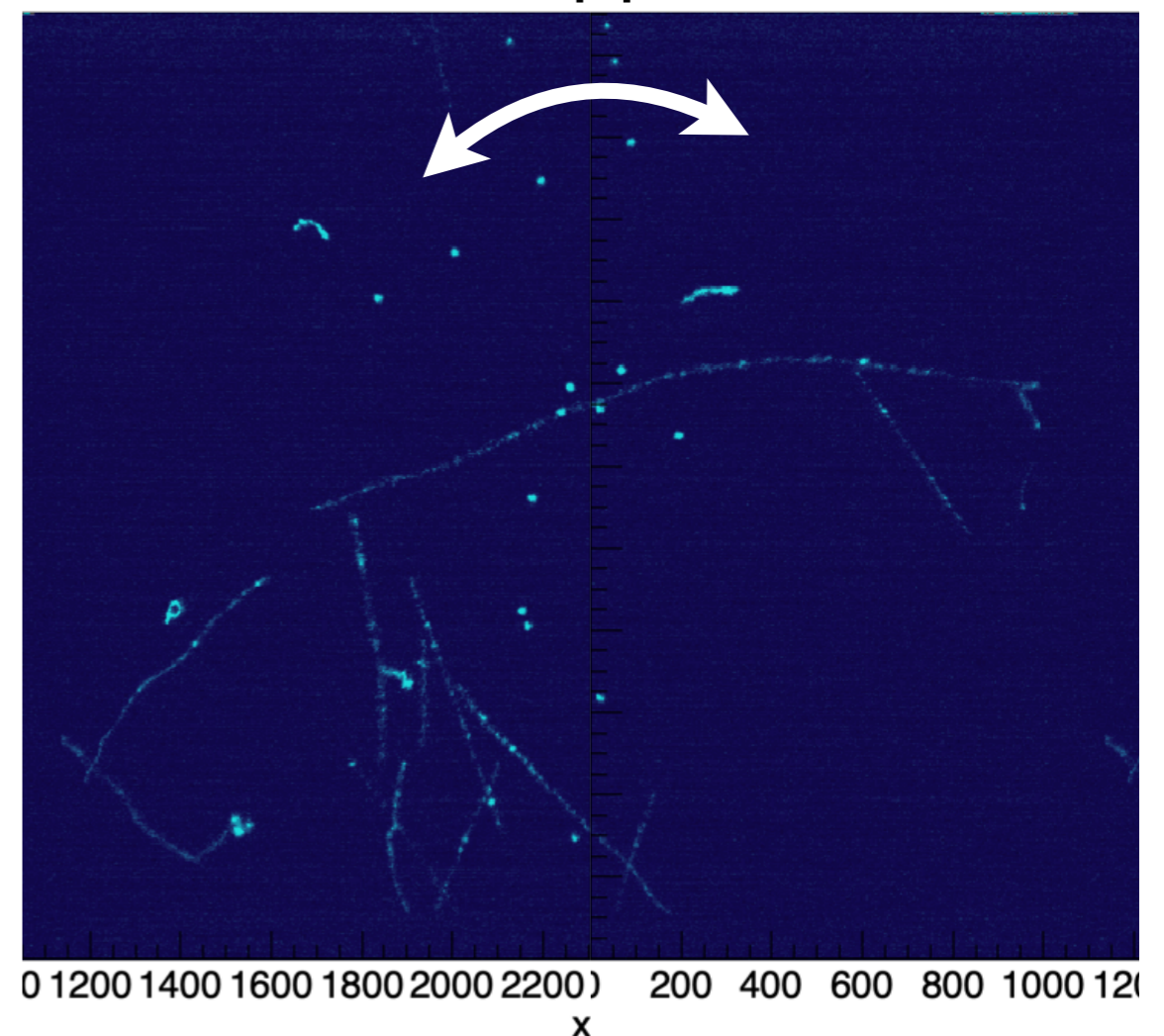
- Central productions will be listed in [this table](#), with links to the code used
  - N.B. for bookkeeping, the GIT hash of the tag is stored inside the ROOT file
- Once 100% done, RECO trees will be shared on the cloud.

- Because of a bug in the Midas => ROOT TH2 conversion the “RAW” data images were shifted for some runs
  - luckily, the original data were saved, and they have been re-converted and the correct files updated on the cloud

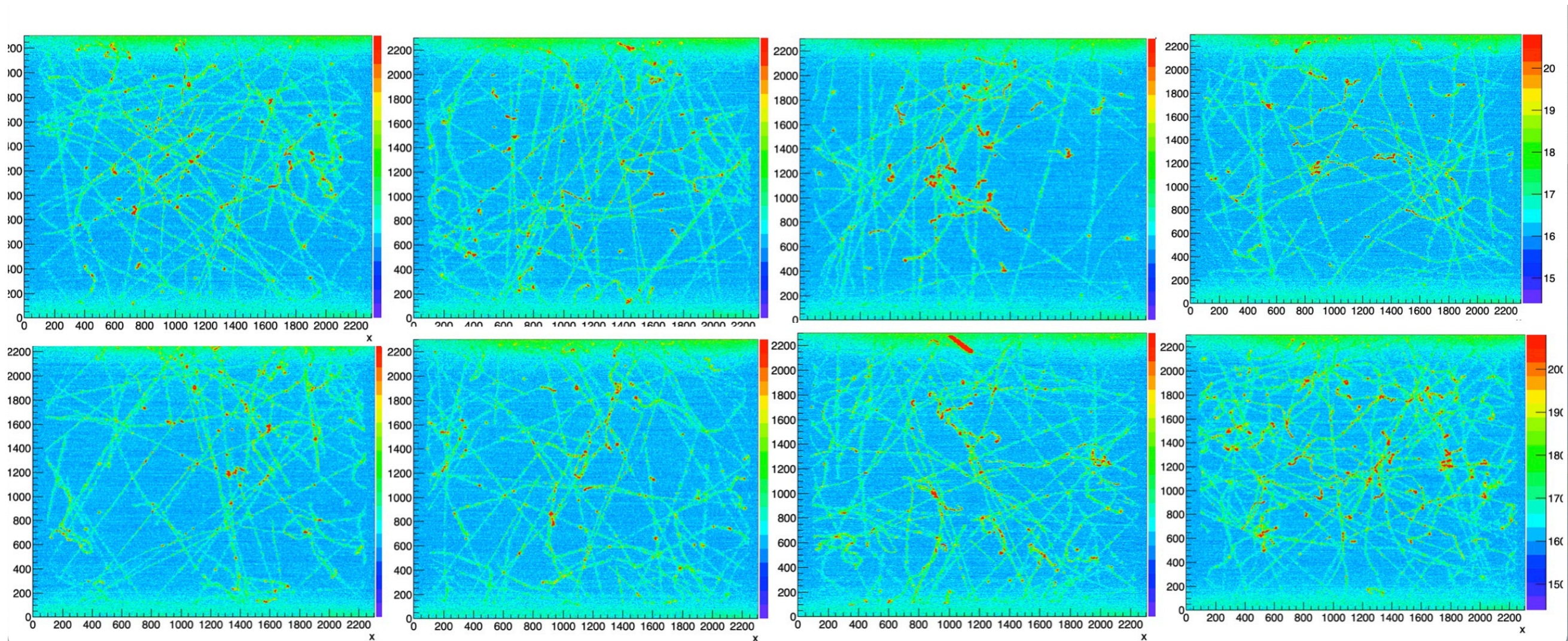
Original



Swapped



- Data affected were runs [5780 - 6341]
- Re-running the reconstruction on the corrected files



- From Davide's table and plan

Runs	Description	PMT	People interested	RECO status
3631-3700	55Fe :Zscan at different Edrift - Pedestal and Cosmics	No		
3737-3805	Neutrons - Pedestal and Cosmics	No	Emanuele and Flaminia	90%
4119-4190	55Fe: Zscan and VGEM1 scan (Donatella's Thesis)	No	Donatella and Giulia	NO NEED
4416-4469	55Fe: Zscan and VGEM1 scan + BKG	Yes	David and Luca	100%
4490-4504	Multi-source Cu: Zscan and VGEM1 scan + BKG	Yes	Samuele and Emanuele	100%
5790-5860	Multi-source High Statistics	No	Samuele and Emanuele	50%
5861-5911	55Fe: VGEM1 scan / BKG + High Statistics + Water Cooling	No	Rita Joanna and Emanuele	50%
6121-6141	Titanium + BKG High Statistics	Yes	Atul and Davide	50%
6143-6290	Calcium + Pedestal Very High Statistics	Yes	Atul and Davide	100%
6291-6313	55Fe: VGEM1 scan + BKG + ORCA BT	No	Brazilian Team	NO NEED
6314-6339	55Fe: VGEM1 scan + BKG + ORCA QUEST	No	Brazilian Team	NO NEED
6340-6362	55Fe: VGEM1 scan + BKG + Sensor Board	No	Brazilian Team	NO NEED
Several	Long Term Stability	Yes	Rita and Giovanni	100%

**Enjoy !**