

ePIC Validation WG Meeting Notes

ePIC Validation WG meetings are organized by the ePIC Validation Working Group every Tuesday at 11 am eastern.

- [Zoom link](#)
- [Indico agendas](#)

Resources

- [Mattermost epic_validation Channel](#)
- https://github.com/Al-ModCon/BaseData_Skills/tree/validate-orcid-ror-osti
 - Skills related to datacards
- https://epsciweb.jlab.org/epic_hydra/
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Topics for future meetings

- BIC plots discussion with Minho (3-June)

Goals

- Develop a working set of plots to benchmark. Start with BIC.
- Expand tasks for WG, identify co-convener

Deliverable	Tasks	People	Priority	Time to completion
Hydra	UI updates specific to ePIC	Torri/Raiqa	2.1	First prototype done
	User testing/feedback	Wouter + anyone but Torri	2.2	N/A
Image Generation (benchmark, TDR, etc)	Generation and validation	Derek/Minho +	1.1	
	New image types	Derek/Co-convener	1.2	
Datacards	Prototype	Torri +	3	

	datacard			
	Agent skills for datacard → Snakemakefile	Torri +	3.2	
	Agent skills for automatic card generation			
	Document and establish irrelevant fields for ePIC	Anyone	3.1	
	Integration with Rucio for PIDs	Torri	3.1	
Distributed CI on PanDA	Integration with GitLab (jacamar-ci) and/or Snakemake (plugin)	Wouter + Dmitry		
	Integration with distributed Rucio storage - snakemake plugin	Dmitry		
Other				

Meeting schedule

- Weekly on Tuesdays, 11 am EST

Meeting - Validation WG - 12pm Sep 29 2026

Attendees – Torri, Sakib, Andy, Wouter, Derek

Topic: New meeting time

Meetings are now weekly on Tuesdays at 11 am EST. Torri is going to make a mailing list (she promises)

Topic: MCEG

- Sakib will send list of relevant event generators to validation mailing list for visibility
- MCEG should live closer to production, while the CI system can determine whether we generate useful events in small test cases

Meeting - MCEG Validation WG - 12pm Sep 8 2026

Attendees – Torri, Holly, Sakib, Dimitry, Derek, Kolja, Andy

Topic:

Meeting - Validation WG - 12pm Aug 10 2026

Attendees – Torri,

Topic: VM for full Hydra deployment at JLab

- Ticket submitted

Topic: CILogon for authentication

- AI-based features have relied on authenticating users logging in to Hydra (labeling images).
- ePIC's front end does not require authentication, and not every ePIC user has (or should have) a jlab computing account, so the plan is to authenticate with CILogon

Topic: Hydra FE updates

- Dynamically generate links to hydra's pipeline images using URL parameter
- Sharing direct link to modal view of all images for a given pipeline by clicking "share" icon in modal

Meeting - Validation WG - 12pm July 20 2026

Attendees – Torri, Sakib, Dmitry

Topic: Meeting with Torre – Tuesdays seemingly work better. We will try and get a meeting scheduled for next week.

Topic: Hydra FE updates

- Dynamically generate links to hydra's pipeline images using URL parameter
- Sharing direct link to modal view of all images for a given pipeline by clicking "share" icon in modal

Meeting - Validation WG - 12pm July 13 2026

Attendees – Cancelled due to collaboration meeting

Topic: Hydra FE updates

- Dynamically generate links to hydra's pipeline images using URL parameter
- Sharing direct link to modal view of all images for a given pipeline by clicking "share" icon in modal

Meeting - Validation WG - 12pm July 6 2026

Attendees – Torri, Derek, Wouter, Minho

Topic: Image generation

- BIC plots: waiting on validation from Minho
- Tracking: Current scripts do not yet run over campaign data files. This will likely not happen before the collaboration meeting given how busy everyone is.
- Jets & HF: Initial subset of images produced by Derek (see how [here](#) have been added)
- Pipelines: added automatically

Topic: Datacards

- RHIC is using genesis datacards version 1 (led by Eric Lancon and Maxim P.)

Topic: Validation WG 3 year plan

- Get one concrete metric from MCEG incorporated

Topic: Integration with production

- Schedule separate meeting with Torre and Production WG (not on a Monday for Torre and Torri's schedules)

No Meeting - Validation WG - 12pm June 29 2026

Meeting - Validation WG - 12pm June 22 2026

Attendees – Torri, Holly, Sakib, Derek, Minho, Dmitry K

Topic: Hydra

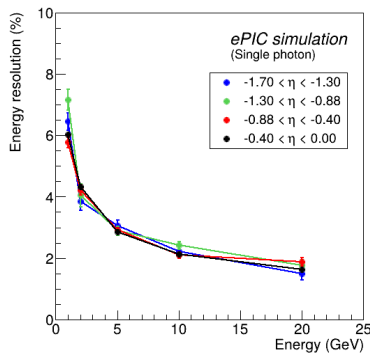
- Pipeline images are added via cron job every ~30 minutes
- To do: make UI component for metadata.json visible
- Metadata.json currently contains:

```
{
  "CI_COMMIT_REF_NAME": "master",
  "CI_COMMIT_SHA": "47fb632bba346daecf60c06e7a8d034cee2d2304",
  "CI_PIPELINE_ID": "144807",
  "CI_PIPELINE_SOURCE": "trigger",
  "CI_PROJECT_ID": "399",
  "GITHUB_REPOSITORY": "eic/detector_benchmarks",
  "GITHUB_SHA": "47fb632bba346daecf60c06e7a8d034cee2d2304",
  "GITHUB_PR": "",
  "PIPELINE_NAME": "eic/detector_benchmarks: master\n"
}
```
- We need to get back in touch with Sylvester/Maria/Minho regarding BIC plots.

Topic: Image Generation

- Identify minimal set of required information to reproduce a given plot
 - Input data and how many files

```
TString infile =
Form("%s/%s_%dGeV_%s.00*.eicrecon.edm4eic.root",
      path.Data(), par.Data(), mom0,
      ang.Data());
```
 - *Current* ROOT macro / script for generation
 - Pulled from epic-tdr-bic repository
 - Container version used
 - 2602 - stable
 - In principle, Hydra can store this information if we want the ability for users to go to Hydra, click on a plot, and see how it was generated.



Waiting for Minho to regenerate this plot for comparison

Topic: Datacards

- Genesis has a new datacard template

Topic: Monte Carlo Event Generator Validation

Topic: Validation WG Three Year Plan

- Holly sent around [this document](#) where we should outline and specify our goals and activities over the next 3 years

Action Items:

- Torri: update Three Year Plan docs, new front end component for metadata.json info

Meeting - MC Validation WG - 10:30 am June 16 2026

Attendees- Torri, Holly, Derek, Markus, Andy, Torre, Dmitry K

This is an off cycle meeting with Andy Buckley regarding MC event generator validation.

Brief introduction to ePIC working groups and conveners

Brief introduction to Hydra and its use cases

Action Items:

Meeting - Validation WG - 12pm June 15 2026

Attendees – Torri, Derek, Wouter, Dmitry, Sakib, Minho

Topic: Hydra

- Raiqa updated the UI to account for pipelines and campaigns (instead of run numbers).

Find the deployment here: [Plot Browser](#)

- To do: make UI component for metadata.json visible
- Metadata.json currently contains:

```
{
  "CI_COMMIT_REF_NAME": "master",
  "CI_COMMIT_SHA":
  "47fb632bba346daecf60c06e7a8d034cee2d2304",
  "CI_PIPELINE_ID": "144807",
  "CI_PIPELINE_SOURCE": "trigger",
  "CI_PROJECT_ID": "399",
  "GITHUB_REPOSITORY": "eic/detector_benchmarks",
  "GITHUB_SHA":
  "47fb632bba346daecf60c06e7a8d034cee2d2304",
  "GITHUB_PR": "",
  "PIPELINE_NAME": "eic/detector_benchmarks: master\n"
}
```

- Let us know your feedback please!
- We need to get back in touch with Sylvester/Maria/Minho regarding BIC plots.

Topic: Production + Validation

Topic: Datacards

- Genesis has a new datacard template

Topic: Monte Carlo Event Generator Validation

- Meeting tomorrow, 10:30 ET with Andy Buckley from Glasgow, all are welcome to attend

Topic: Validation WG Three Year Plan

- Holly sent around [this document](#) where we should outline and specify our goals and activities over the next 3 years

Action Items:

- **Torri:** Validate BIC plots with appropriate container, update Three Year Plan docs, new front end component for metadata.json info
- **Derek:** Add either Jets and HF plots and/or PWG plots to complement the BIC

Meeting - Validation WG - 12pm June 8 2026

Attendees – Torri, Thomas, Derek, Dmitrii, Sakib

Announcements: ePIC software WGs had strong representation at CHEP.

Topic: Benchmark Images

- Wouter requested tracking_performance_dis plots from the CI system be added
- Sakib requested the same plots (from the campaigns) to be added
 - Should be automatically generated
- Holly requested feedback from Maria and Sylvester regarding BIC benchmark plots

Topic: Hydra

- **Back end**
 - Database updates to account for new dropdown elements on the front end were updated
 - Previously, Hydra would parse the _path_ to the images to determine dropdown structure. This will clearly fail if there isn't a clear run period, run number structure
 - Solution - use Groups
 - Images in ePIC can be grouped at various levels (e.g., CI, campaign, detector benchmarks, physics benchmarks)
 - Assign each plot type (e.g., tracking_performance_008) to Tracking group
 - SuperGroup: A group that contains another group
 - E.g., CI contains Tracking
 - Crawler (script that adds references to images into database) has been modified to look for the latest pipeline in the database and then search the filesystems for images from larger pipelines
 - Ticket filed to redirect users from eic.jlab.org -> epsciweb.jlab.org
- **Front end:**
 - Dropdown structure:
 - SuperGroups (Campaign or CI)
 - Groups (Tracking)
 - Plot Types (tracking_performance_008)
- **Action items**
 - DisplayNames for the following plots:
 - Tracking_performance_dis_00[4-8]. Png
 -

Topic: Datacards

- No updates from Genesis people about inconsistencies in their documentation, lower priority at the moment.

Topic: production + validation

- **Action Items:**

Meeting - Validation WG - 12pm May 18 2026

Attendees – Dmitrii, Torri

Announcements: No meeting next week due to CHEP

Topic: Hydra

- For right now we will likely make a custom UI for Hydra's FE (a fork)
- Wouter asked to add tracking performance CI plots to plot browser (FE will have two groups of images: campaign and CI), user's can pick what they are interested in looking at.

Topic: Datacards

- Working with Diana to clear up some confusion on how genesis mission datacards are filled out for "not applicable" sections. In some instances, it says to leave entire sections blank but this is inconsistent with their own documentation for interpreting "blank" entries.

Meeting - Validation WG - 12pm May 11 2026

Attendees –

Topic: Datacards

- **Not applicable designation:** PII, security (CUI markings, handling instructions, export controls, declassification), compliance (irb_approved, security_review)

Topic: Hydra

Meeting - Validation WG - 12pm May 4 2026

Attendees - Wouter, Holly, Torri, Derek, Dmitrii

- Tasks for contributing to data card effort
- Benchmarks
- TDR plots
- Need people to contribute/help
- Could others pick a plot and try to reproduce it?

Topic: Datacards

- For the time being, it makes sense to continue to use Genesis mission datacard templates despite them containing a number of fields not useful for ePIC

- With the end goal of automating the generation of these, the irrelevant fields can stay because end users will not be filling them in nor interacting with them, and machines can know to ignore them without problem
- To Wouter's point, this also eliminates any need for tracking new versions or linking ePIC datacards → Genesis datacards and vice versa.
- It is preferable to store datacards adjacent to the production campaigns
- We will need to interface with Anil + Prod WG to identify a persistent identifier (probably from Rucio) to include in the datacards
- We can and should automate the generation of datacards.
 - End users should not have to manually fill out a datacard
- We can and should automate Snakefile generation from the datacards, with end users simply providing a relevant macro

Topic: Image Generation

- It is not enough to just have a macro in a repo to reproduce a given plot
- We should figure out why we cannot reproduce Minho's bic tdr plot before routing images to Hydra
 - Derek will sanity check my work
 - We can, in parallel, identify new plots to reproduce and send to Hydra
 - Hydra will just be used for finding and viewing images – we do not need labeling features or any ML models

Topic: Hydra

- ePIC's Hydra deployment needs a "new" user interface to represent campaigns (basically a non-run number identifier)
- This will essentially be a fork of Hydra's front end only, the backend database schema will remain the same as standard Hydra databases.
 - This will make enabling new features easier in the future

Topic: Timing and availability - for the time being, Torri is 100% funded via operations, which includes ePIC and Hydra projects.

Immediate Action Items:

1. Have Derek sanity check my attempt to reproduce Minho's TDR plots
 - a. Once reproducible, send to Hydra
2. Identify irrelevant portions of Genesis mission datacards
 - a. Annotate them as "not applicable"