LOUISIANA STATE UNIVERSITY

Status of WireCell Setup and Latest Image-Clustering Files

SBND Wirecell Meeting

Prabhjot Singh, 21 May 2026

Structure of Overall Progress

- High-level summary of progress
- Current status
- Next steps

Overall Progress

- I am trying to create latest wirecell reconstructed files using latest wirecell code version

- Current status:
  - Local wirecell setup successful
  - Tested and validated my imaging-clustering results with Haiwang's results
  - Produced latest wirecell reconstructed file
  - Generated latest file using active2view+masked2view

Overall Progress

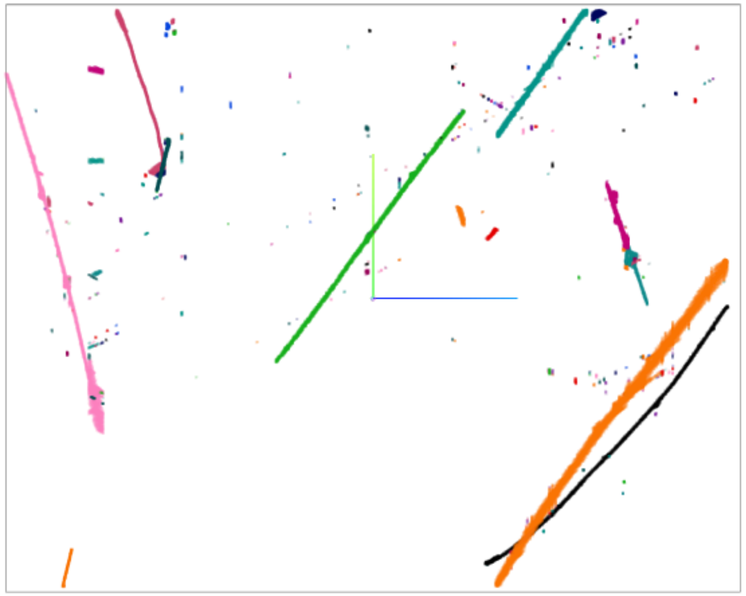
- Next steps:
  - Run new clusters through my cluster-evaluation tools
  - Check and report overall evaluation performance
  - Move to charge-light matching clusters
  - Again handscan clusters and run through evaluation tools

Current Status

My local setups

active2view
masked2view

https://www.phy.bnl.gov/twister/bee/set/88617847-7e1c-4404-a2b7-aba019903b22/event/3/



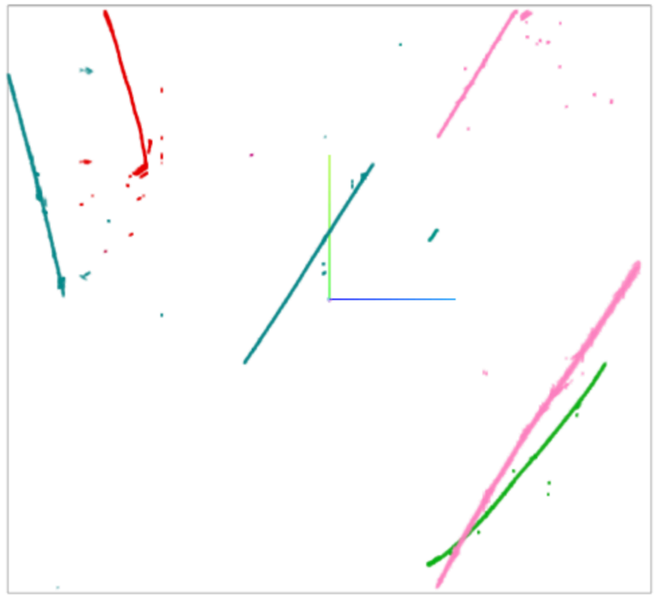
nthresholds: [3.6, 3.6, 3.6]
for planes 0, 1, and 2

More thicker and more scatter bits
In my bee display for same events

Haiwang's bee

active2view
masked2view

https://www.phy.bnl.gov/twister/bee/set/e345cd3e-0bbf-4fb0-9bfa-bdfcb912e610/event/0/



nthresholds: [3.6, 3.6, 3.6]
for planes 0, 1, and 2

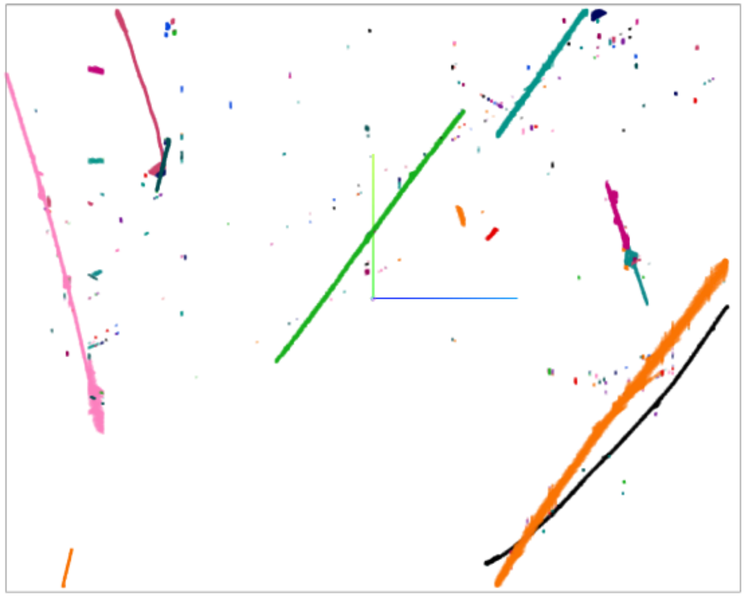
Starting point

Current Status

My local setups

active2view
masked2view

https://www.phy.bnl.gov/twister/bee/set/88617847-7e1c-4404-a2b7-aba019903b22/event/3/



nthresholds: [3.6, 3.6, 3.6]
for planes 0, 1, and 2

More thicker and more scatter bits
In my bee display for same events

Haiwang's bee

active2view
masked2view

https://www.phy.bnl.gov/twister/bee/set/e345cd3e-0bbf-4fb0-9bfa-bdfcb912e610/event/0/

nthresholds: [3.6, 3.6, 3.6]
for planes 0, 1, and 2

New Strategy

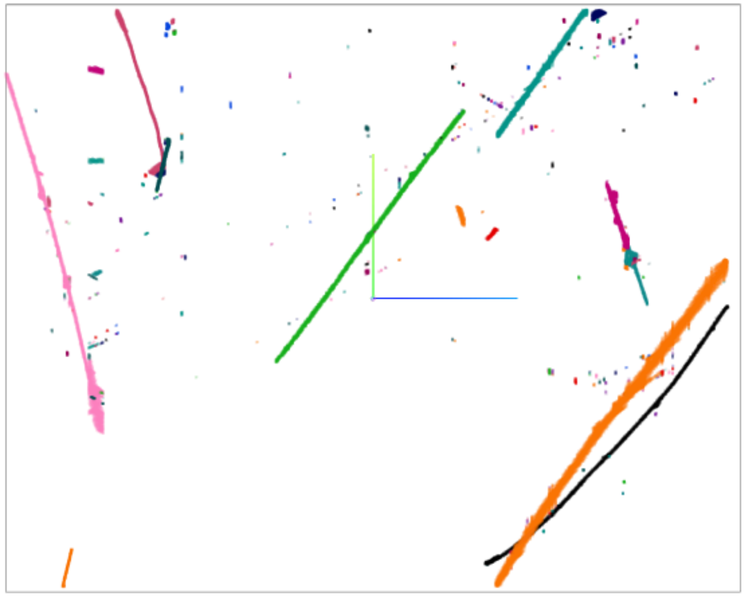
As my local setups (local wirecell toolkit, local larwirecell, local cfg, local data files) showed difference from what Haiwang has, we decided to use exactly what Haiwang's setups and local builds are

Current Status

My local setups

active2view
masked2view

https://www.phy.bnl.gov/twister/bee/set/88617847-7e1c-4404-a2b7-aba019903b22/event/3/



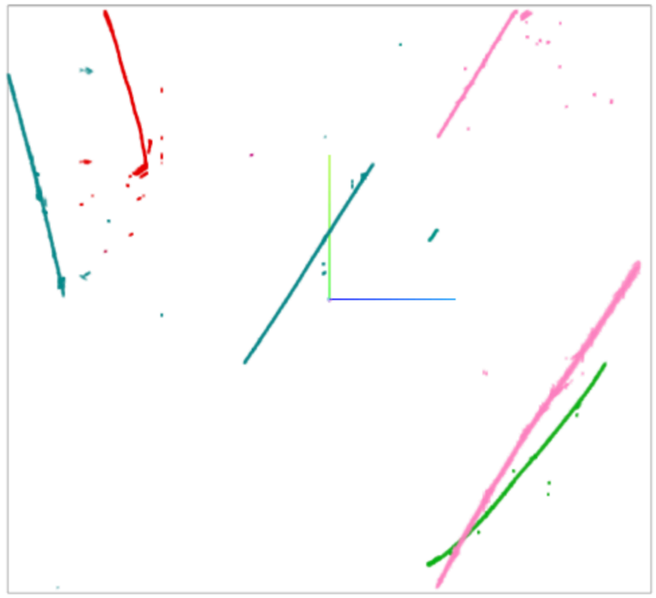
nthresholds: [3.6, 3.6, 3.6]
for planes 0, 1, and 2

More thicker and more scatter bits
In my bee display for same events

Haiwang's bee

active2view
masked2view

https://www.phy.bnl.gov/twister/bee/set/e345cd3e-0bbf-4fb0-9bfa-bdfcb912e610/event/0/

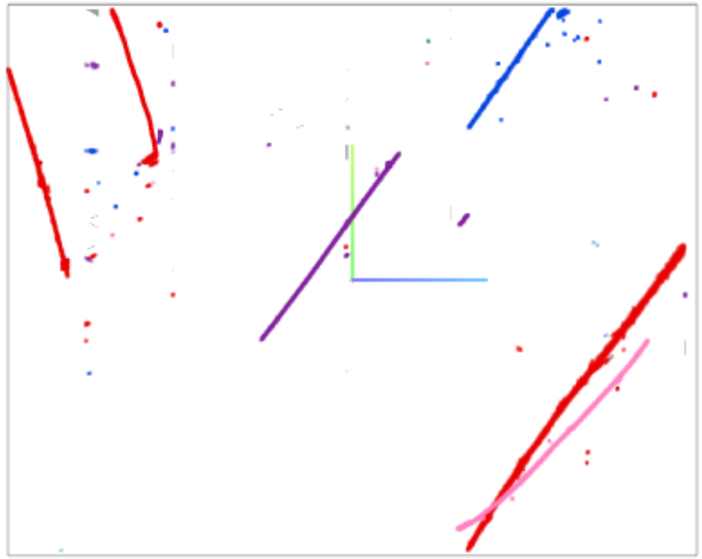


nthresholds: [3.6, 3.6, 3.6]
for planes 0, 1, and 2

Using Haiwang's setup

active2view
masked2view

https://www.phy.bnl.gov/twister/bee/set/f25fc34c-02fe-4d68-aff7-10f9e18297f0/event/3/



Now I have exactly what Haiwang had

Do you see any differences?

Moving Forward

- Our initial plan was to produce latest wirecell based files for cluster evaluation
- Our plan was also to sync changes in wirecell toolkit to what we have in sbnd wirecell version so that we can update sbnd version
- We wanted to do this both simultaneously
- Now we want to deconvolve this strategy

New Plan Moving Forward

Latest wirecell files and evaluation

- More urgent is to evaluate current clusters using latest wirecell based files for reconstruction performance
- We will put this to the front burner
- This requires me to use exactly what Haiwang has, his configurations, his data files, his libraries

New Plan Moving Forward

Latest wirecell files and evaluation

- More urgent is to evaluate current clusters using latest wirecell based files for reconstruction performance
- We will put this to the front burner
- This requires me to use exactly what Haiwang has, his configurations, his data files, his libraries

Sync sbnd wirecell version

- Important but not super urgent
- We can put these on back burner
- I will keep gradually working on this but will keep it independent from the left part
- Eventually we want this work and work on the left to produce same results
- This requires me to have my local builds separately from Haiwang

Backup