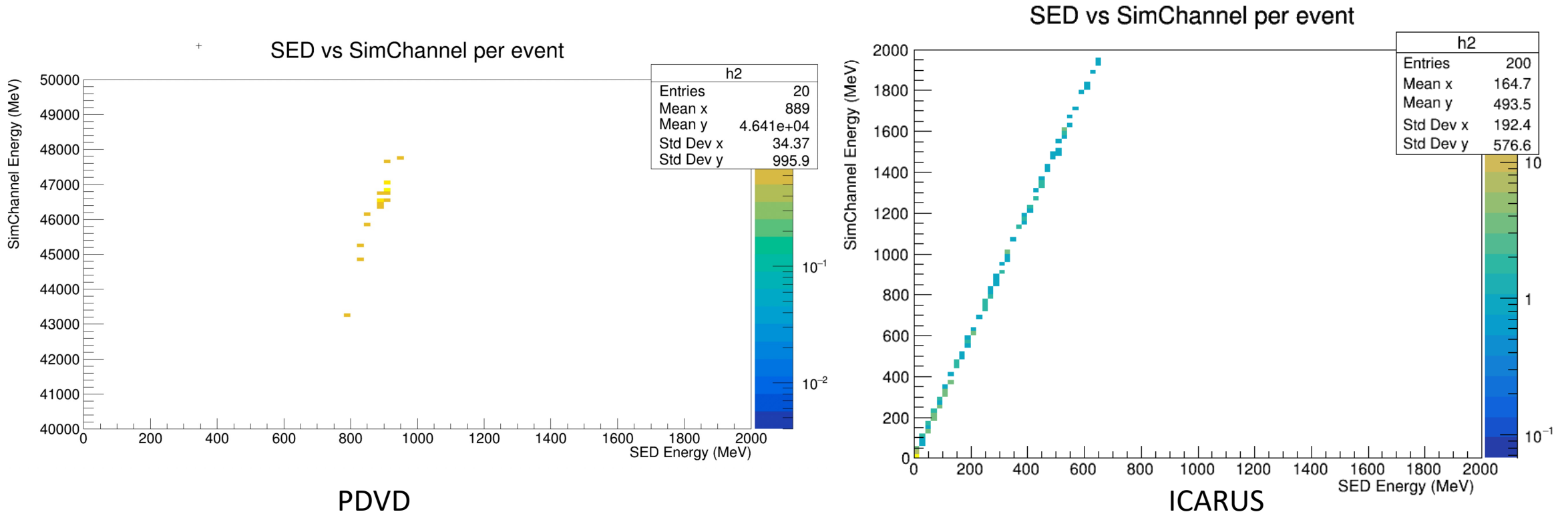


SimChannel-IDE energy issue



This is a general discrepancy in both DUNE and Pdunes

Large discrepancy between SimChannel IDE and SimEnergyDeposit energy sums. #470

New issue

Open



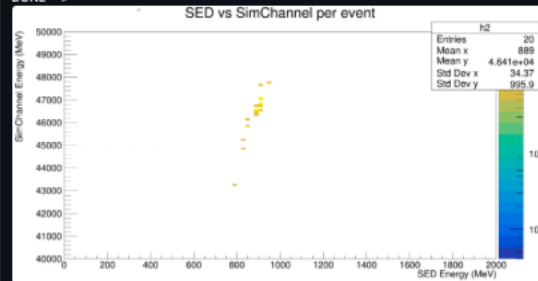
nvpm-lab opened 13 hours ago

While comparing true energy depositions at different stages of the simulation chain, I observed a significant discrepancy between the total energy recorded in SimEnergyDeposit and the summed energy from SimChannel IDEs.

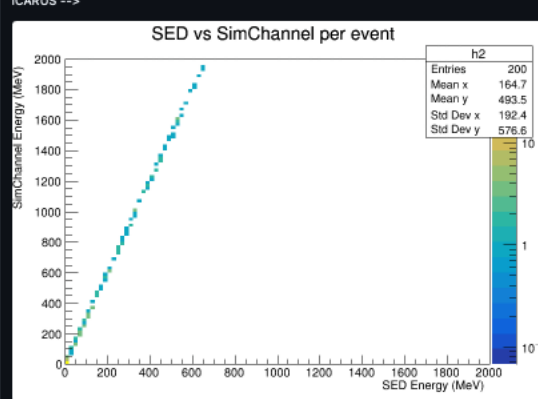
Observed behavior:

- The total energy from SimEnergyDeposit appears physically consistent with expectations for the simulated particle.
- However, summing the energy over all IDEs in SimChannel yields a value that is larger by more than an order of magnitude ($\sim O(40-50\times)$).
- This discrepancy is not observed when examining the same quantity in ICARUS data.
- Comparison plots are included below (note the y-axis scale).

DUNE -->



ICARUS -->



1

Assignees

No one assigned

Labels

No labels

Type

No type

Projects

No projects

Milestone

No milestone

Relationships

None yet

Development

No branches or pull requests

Notifications

Customize

Subscribe

You're not receiving notifications from this thread.

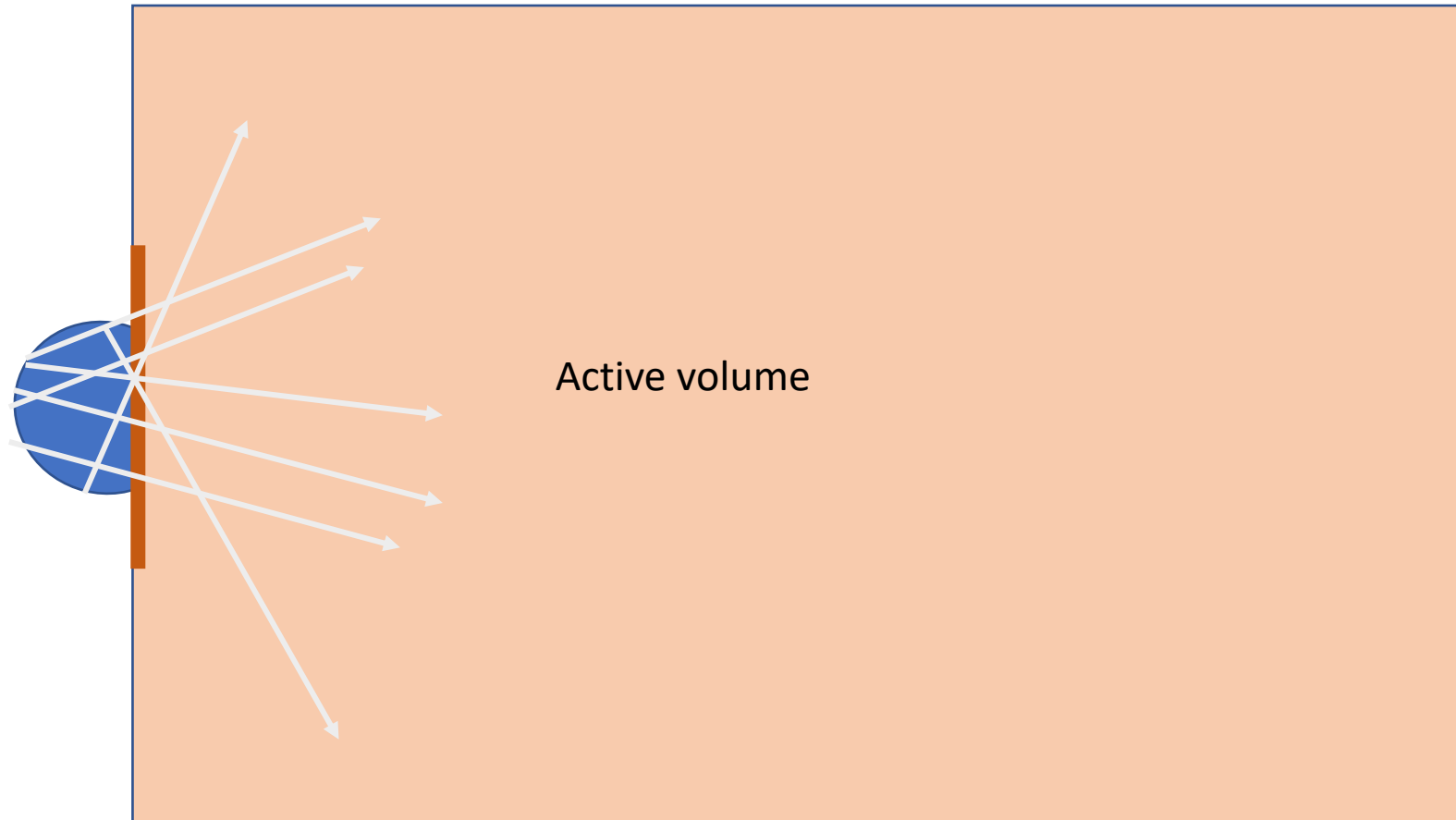
Participants



Give feedback

- This is now raised as an issue in wirecell-toolkit
- Working with Haiwang to fix this at the earliest
- Not an issue due to my jsonnet or fcl files

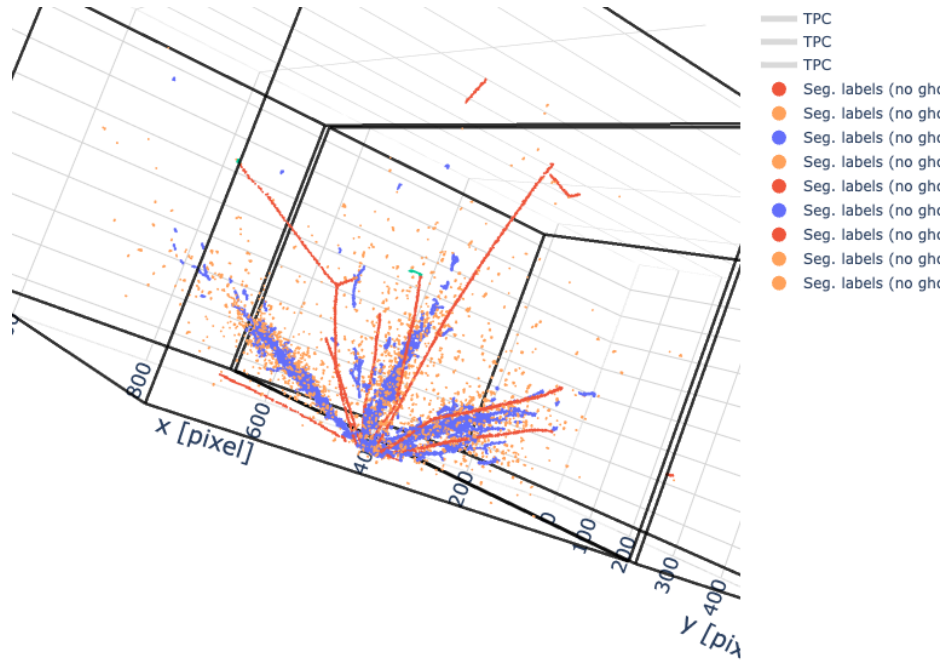
MPV generator for pdunes



Configurable parameters

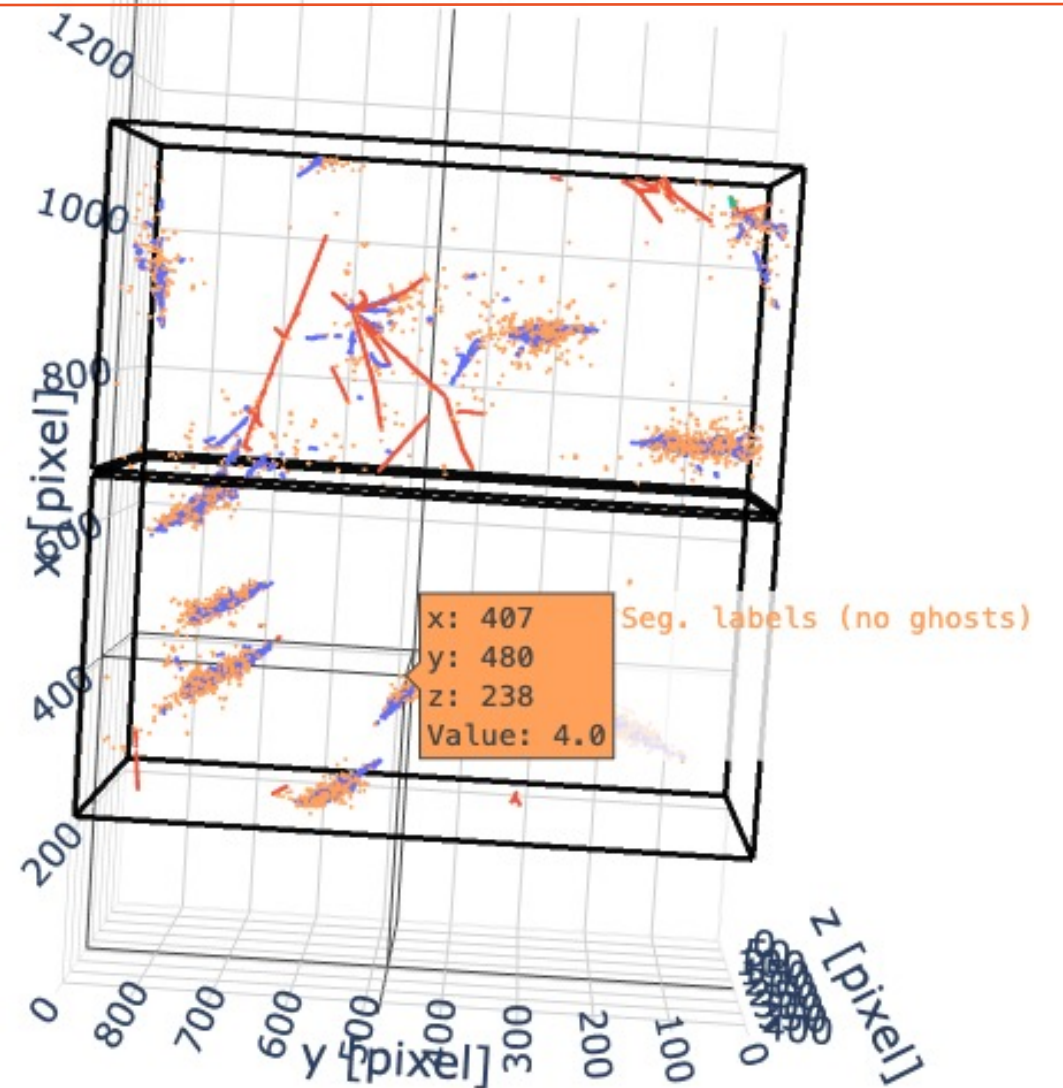
BeamMode: true
BeamEntrance: [94.8, 142.6, 0.7]
BeamRadius: 15.0
BeamTargetRadius: 10.0
BeamInwardDirection: [0.0, 0.0, 1.0]

It looks like this!



BeamMode: true

<https://github.com/LArSoft/larsim/pull/168>



BeamMode: false