

News

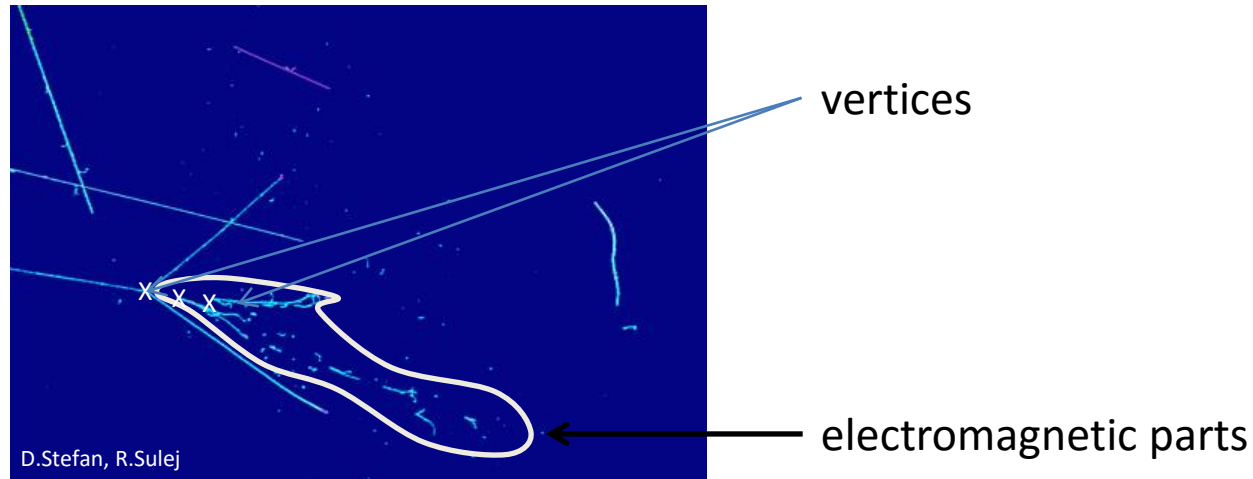
Dorota Stefan, CERN/NCBJ
ProtoDUNE Reconstruction Meeting, Oct 17

CNN-based reconstruction

- Important for most analysis, lots of experience from current developments, but still obstacles: data transfers and computing resources.
- Today talks:

Status of CNN for the reconstruction, Robert

MLJAR – Platform for building machine learning models, Piotr



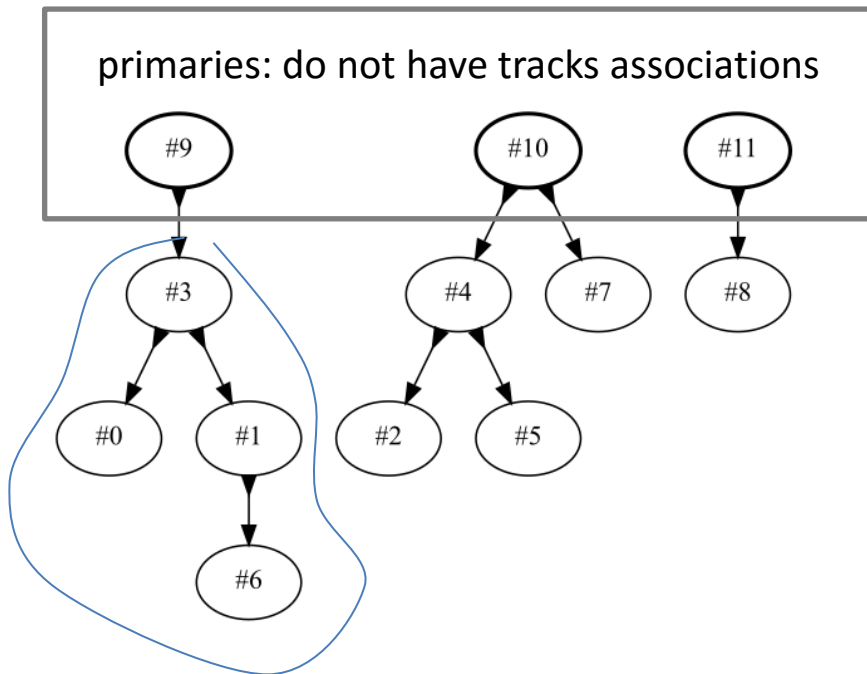
Kalman Filter for track direction reconstruction

Giuseppe Cerati: A Kalman Filter track fitter in LArSoft, LArSoft meeting, Oct 11,
<https://indico.fnal.gov/getFile.py/access?contribId=3&resId=0&materialId=slides&confId=13092>

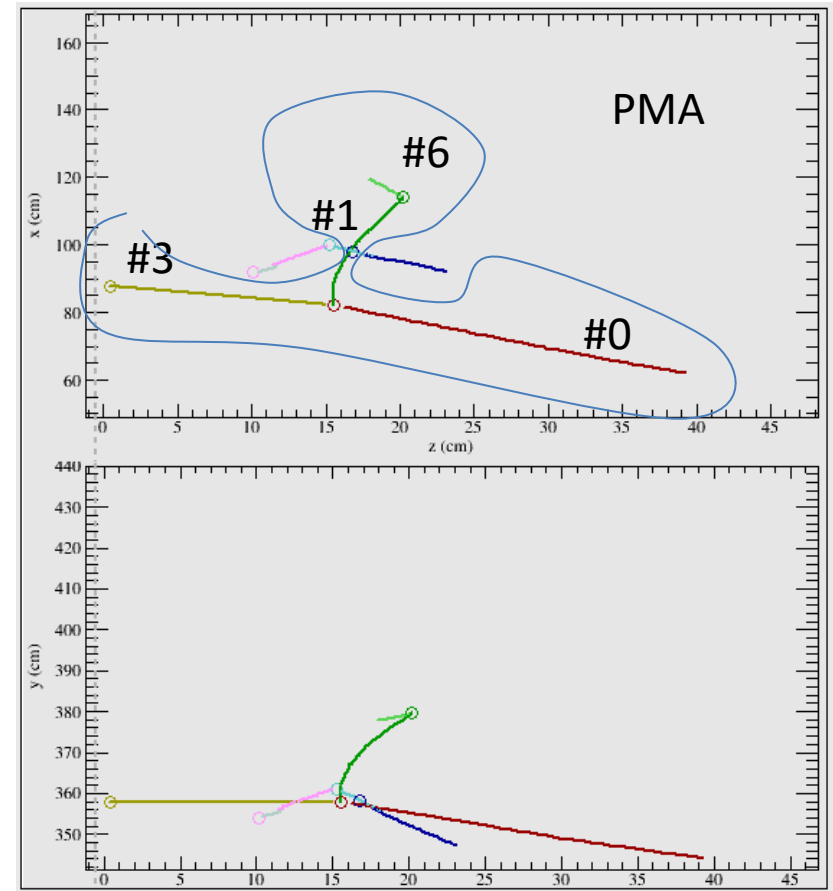
- Work on Filter Kalman as a final fit of initial track directions: module in larreco/TrackFinder, algorithm in larreco/RecoAlg.
- Compared inputs from: pmatrack, pandoraNu and trackkalmanhit.

Hierarchy of particles

- Hierarchy of particles useful for many analyses: particle multiplicity, cross sections.
- Example of pmtrack output and DumpPFParticles module (written by Gianluca Petrillo) on 2GeV pion in ProtoDUNE → Stefania Bordoni working on topology reconstruction efficiency checks.



- Ongoing work: merging event fragments.



Part of MCC7 in CERN

- Subscribe to CENF-General: <https://e-groups.cern.ch/e-groups/EgroupsSearchForm.do>
- CENF-General as Primary Group: <https://resources.web.cern.ch/resources/Manage/Linux/Settings.aspx>

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username[]lxplus.cern.ch
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eosfusebind
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xrd eospublic dirlist /eos/neutplatform/experiments/protoDUNE/mcpro/MCC7
```

```
dr--(018) 0 2016-09-19 12:29:15 /eos/neutplatform/experiments/protoDUNE/mcpro/MCC7/cosmics
dr--(018) 0 2016-09-08 13:15:11 /eos/neutplatform/experiments/protoDUNE/mcpro/MCC7/electrons
dr--(018) 0 2016-09-08 13:06:59 /eos/neutplatform/experiments/protoDUNE/mcpro/MCC7/kaons
dr--(018) 0 2016-09-08 13:08:05 /eos/neutplatform/experiments/protoDUNE/mcpro/MCC7/muons
dr--(018) 0 2016-09-08 13:07:35 /eos/neutplatform/experiments/protoDUNE/mcpro/MCC7/pions
dr--(018) 0 2016-09-08 13:06:22 /eos/neutplatform/experiments/protoDUNE/mcpro/MCC7/protons
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/eos/neutplatform/experiments/protoDUNE/mcpro/MCC7/cosmics/reco:
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```

→ Even if you have done two above steps it can happen that you will not be able to list directories or copy files: neutplatform is trying to solve this issue.