

# PF Work Planning | Potential Development Strategy



- **Goal:** *actually* have implementation in by next collaboration meeting
    - **Only doable if we have additional people doing development!**
    - Will write technical note after implementation complete
  - More people means we can parallelize development
    - **Development threads:**
      - › PFA-1
      - › PFA0 (paused until JANA2 2.4.3)
      - › PFA1
      - › PFA2
      - › PFA3
  - **Strategy:**
    - 1) Flag EMCal vs. HCal clusters with Cell ID for now
      - › **Target:** 25.10.0
    - 2) Develop threads proceed in parallel, aiming to complete at roughly same time
      - › Each developer *also* creates, submits benchmark for thread (see slides 6, 7)
      - › **Target:** 25.12.0
    - 3) Final PR to tie threads together into PFA1pha
      - › **Target:** 26.01.0
- 👉 **Note:** targets listed are target campaigns, erring on cautious side

# PF Work Planning | Task List (1/3)



Tasks	Issue/PR/Note	Est. labor time*	Assignee
<b>PFA-1:</b> deprecate MatchClusters, replace w/ pure reco equivalent	<a href="#">EICrecon#1956</a>	3 weeks	Tristan
<b>PFA0(a):</b> complete merge/splitter update (requires JANA2 2.4.3)	<a href="#">EICrecon#1699</a>	2 weeks	Derek
<b>PFA0(b):</b> implement track-protocluster link promotion algorithm	<a href="#">EICrecon#1886</a>	3 weeks	<b>OPEN</b>
<b>PFA1(a):</b> revive and finish track-cluster subtractor	<a href="#">EICrecon#1627</a> (ready for review)	2 weeks	Derek
<b>PFA1(b):</b> track-cluster converter (synergy w/ PFA-1)	To-do	1 week	<b>OPEN</b>
<b>EDM:</b> flagging ecal vs. hcal clusters	<a href="#">EDM4eic#104</a> , <a href="#">EDM4eic#122</a>	1 week	Tyler, Derek, Dima, Shujie
<b>PFA2:</b> implement calo remnant combiner	To-do	3 weeks	<b>OPEN</b>
<b>PFA3:</b> implement particle regressor/convertor	To-do	3 weeks	<b>OPEN</b>

\* Assuming 50% FTE, including code review time

# PF Work Planning | Task List (2/3)



Tasks	Issue/PR/Note	Est. labor time*	Assignee
<b>PFA-1 Benchmark</b> - <b>input:</b> Sum eClust, sum pTrk, nClust, nTrk, E/p matched clusters, sum eGenPar, eGenPar, nGenPar - <b>output:</b> Sum eRecPar, eRecPar, ePar, nRecPar, nPar, PES/R of reco pars	To-do	1 week	OPEN
<b>PFA0 Benchmark</b> - <b>input:</b> Sum eClust, eClust, pTrk, nTrk, nClust, E/p matched clusters - <b>output:</b> Sum eSMClust, eSMClust, nSMClust, E/p SM clust, dRct SM	Some work done	1 week	Olaiya, Derek
<b>PFA1 Benchmark</b> - <b>input:</b> Sum eClust, eClust, sum pTrk, pTrk, nTrk, nClust, E/p matched clusters, sum pChrgPar, pChrgPar, nChrgPar - <b>output (expected):</b> sum eEXClust, eEXClust, nEXClust, E/p EX clust, dRct EX - <b>output (remnant):</b> sum eREClust, eREClust, nREClust - <b>output:</b> sum eEXClust + eREClust	To-do	1 week	OPEN

\* Assuming 50% FTE, including code review time

○ **Notes:**

- PES/R = Particle Energy Scale/Resolution
- SM = Split/Merge, EX = Expected, RE = Remnant
- dRct = distance b/n cluster & matched track

# PF Work Planning | Task List (2/3)



Tasks	Issue/PR/Note	Est. labor time*	Assignee
<b>PFA2 Benchmark</b> - <b>input:</b> sum eREClust (EM, H), eREClust (EM, H), nREClust (EM, H), sum eNeuPar, eNeuPar, nNeuPar - <b>output:</b> sum eRecPar, nRecPar	To-do	1 week	OPEN
<b>PFA3:</b> - <b>input:</b> Sum eClust, sum pTrk, nClust, nTrk, E/p matched clusters, sum eGenPar, eGenPar, nGenPar - <b>output:</b> Sum eRecPar, eRecPar, ePar, nRecPar, nPar, PES/R of reco pars	To-do	1 week	OPEN
<b>PHYS Benchmark:</b> JES/R	To-do (just need wiring)	2 days	Dener
<b>PHYS Benchmark<sup>(a,b)</sup>:</b> Jets - E, mass, FFs (jt, z), Substructure (dRcst, angularity, EECs)	To-do	4 days	Dener
<b>PHYS Benchmark<sup>(a)</sup>:</b> Events - TEECs, NECs	NECs in progress (see <a href="#">here</a> )	3 weeks	Derek (NECs)

\* Assuming 50% FTE, including code review time

a) Desirable, but not required

b) Could do inclusive, HF-tagged, etc.

## Notes:

– EM = “Electromagnetic”, H = “Hadronic

– dRcst = constituent delta-R