

CERN-DESY Fast Sim meeting

DESY Update

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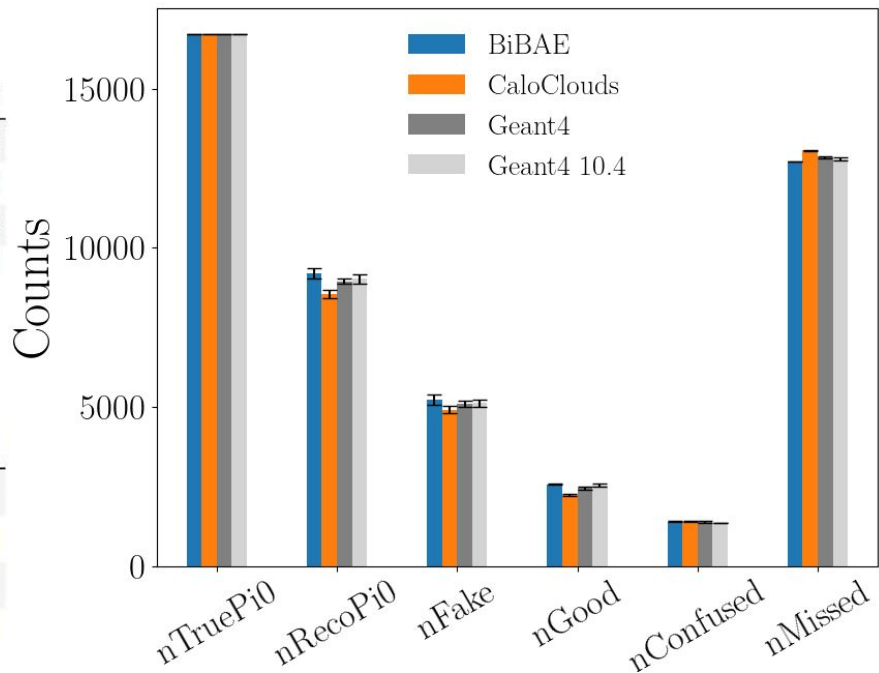
Benchmark: Reconstruction performance

Mean

	Generator	nTruePi0	nRecoPi0	nFake	nGood	nConfused	nMissed
0	BiBAE	16693.0	9192.000000	5219.333333	2576.000000	1396.666667	12720.333333
1	CaloClouds	16693.0	8550.000000	4909.666667	2240.666667	1399.666667	13052.666667
2	Geant4	16693.0	8942.000000	5092.000000	2452.333333	1397.666667	12843.000000
3	Geant4 10.4	16693.0	9021.666667	5117.333333	2545.000000	1359.333333	12788.666667

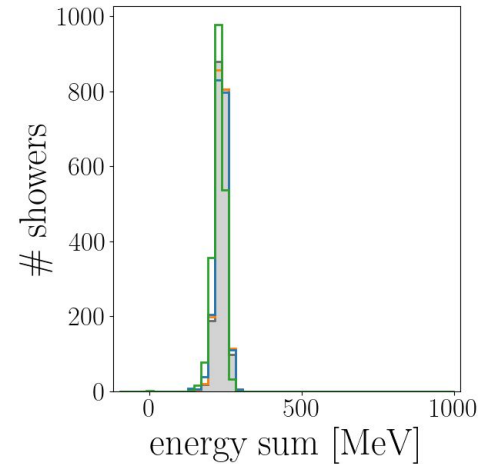
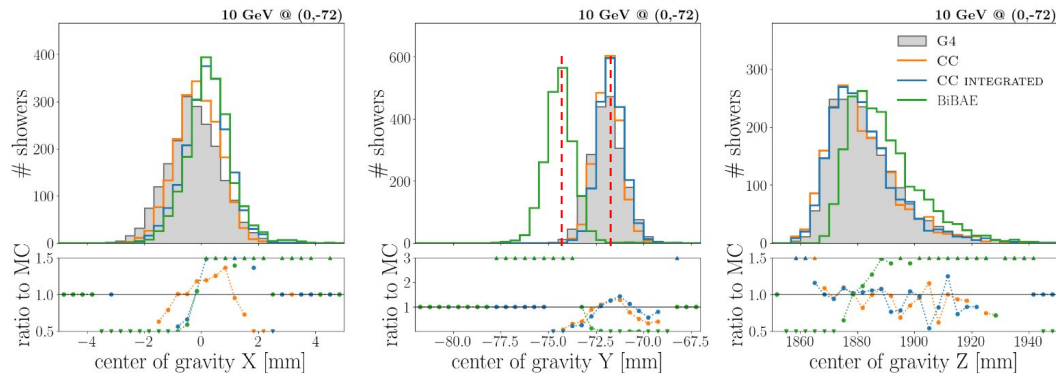
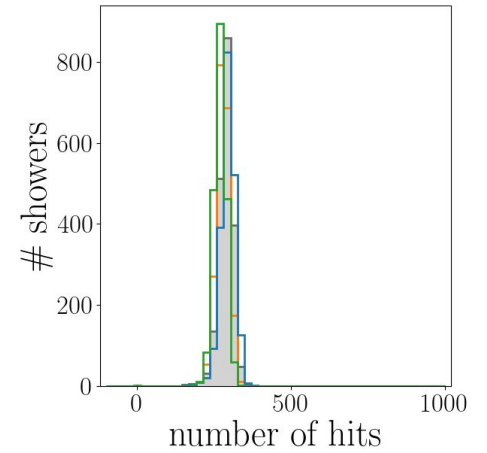
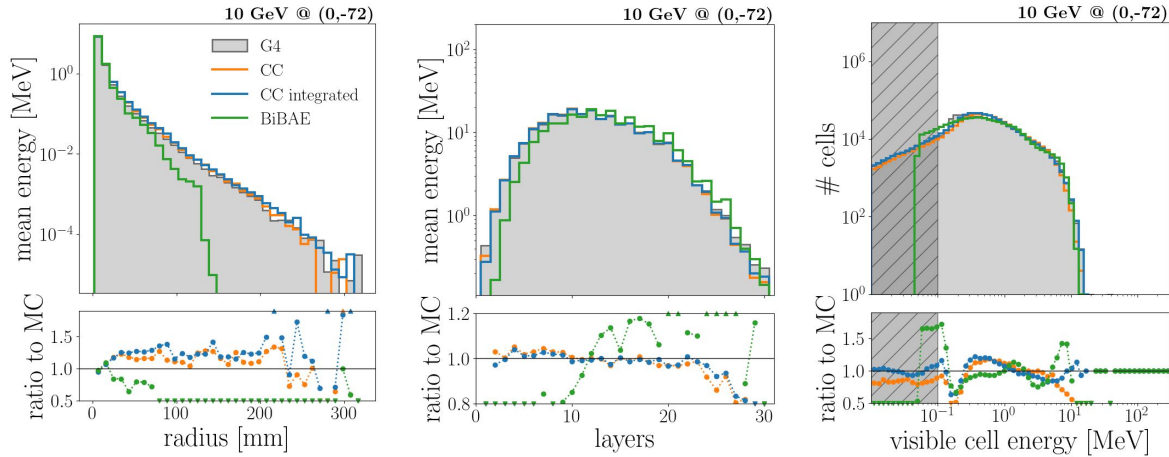
Std

	Generator	nTruePi0	nRecoPi0	nFake	nGood	nConfused	nMissed
0	BiBAE	0.0	159.784230	156.825806	19.467922	19.655364	3.055050
1	CaloClouds	0.0	124.213526	112.824347	22.120880	23.288051	12.342339
2	Geant4	0.0	84.255564	98.239503	40.463976	40.771722	32.511536
3	Geant4 10.4	0.0	146.155169	117.462051	43.034870	12.858201	43.466462



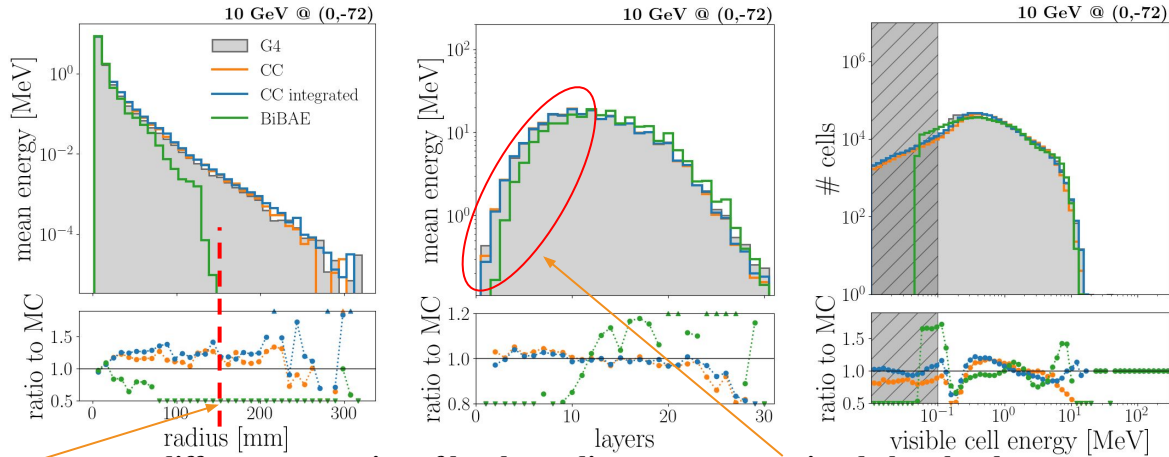
Integration Check

DDML vs Python Inference



Integration Check

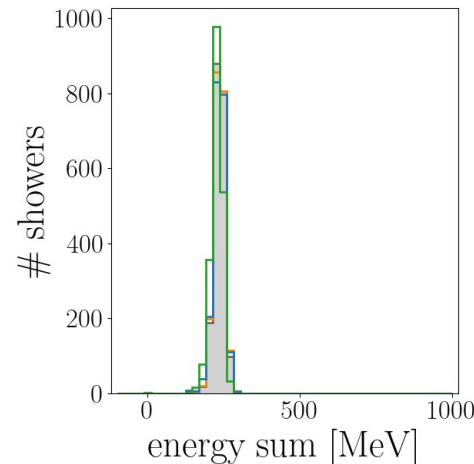
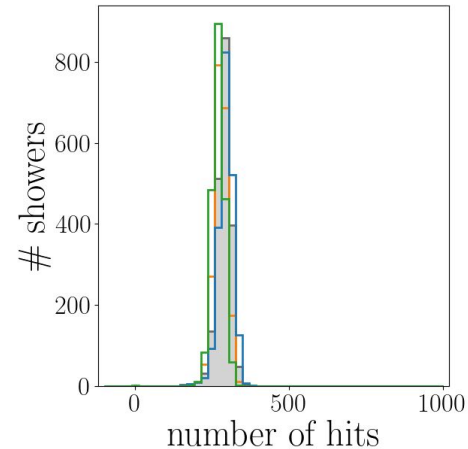
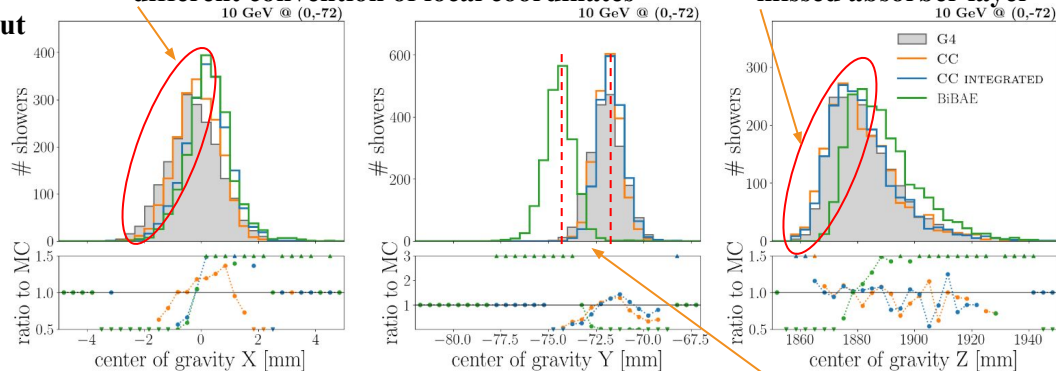
DDML vs Python Inference



different convention of local coordinates

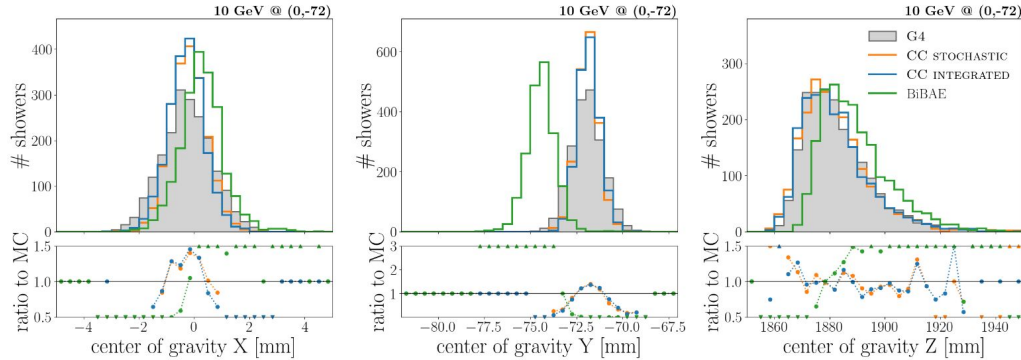
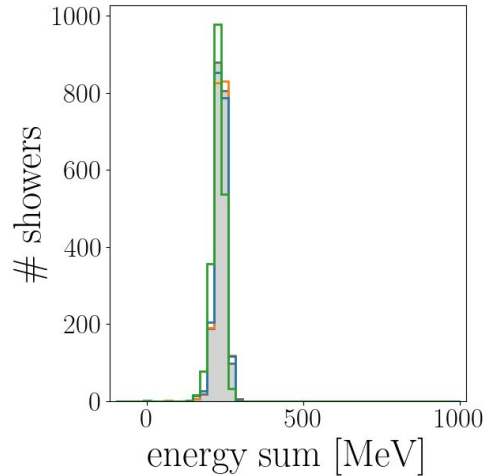
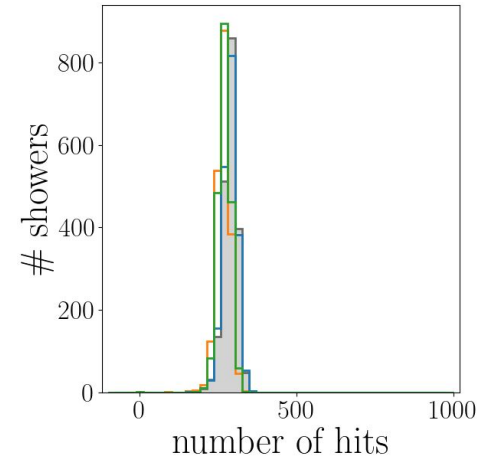
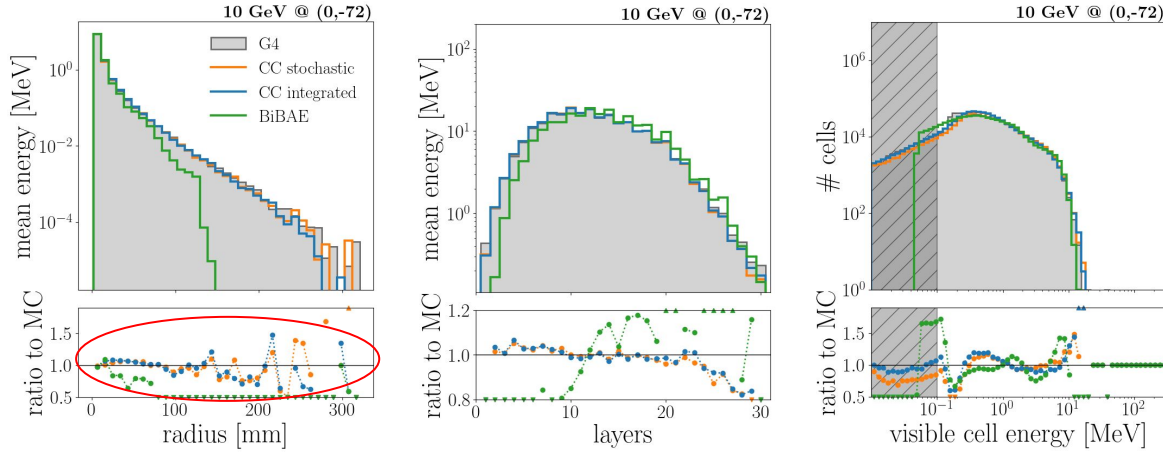
missed absorber layer

box cut



Integration Check

DDML vs Python (Stochastic Inference)



Benchmark: Reconstruction performance

After Fixed Bugs

- Similar performance to BiBAE
- Discrepancy in kinematics and reconstruction needs to be understood (**more performance plots after reconstruction to be done**)
- Need to do more controlled test (**di-photon separation?**)
- Looking into ECAL+HCAL point cloud “PionClouds”

