

model_N_comp

December 29, 2022

```
[1]: %cd ../../../../
```

```
/home/jan/FMF/masters
```

```
[2]: saved = "ml_hep_sim/notebooks/article_notebooks/saved/"
```

```
[3]: from ml_hep_sim.notebooks.article_notebooks.test_runs import *
from ml_hep_sim.pipeline.pipes import *
from ml_hep_sim.pipeline.blocks import *

from ml_hep_sim.plotting.style import style_setup, set_size
from ml_hep_sim.stats.stat_plots import two_sample_plot

from ml_hep_sim.data_utils.higgs.process_higgs_dataset import LATEX_COLNAMES, LOG_BIN_RANGES

import matplotlib
from scipy.optimize import curve_fit
import matplotlib.pyplot as plt
from tqdm import tqdm
import copy

set_size()
style_setup(seaborn_pallete=True)
```

```
[4]: num_train=np.logspace(4, 6, 10).astype(int)
```

```
[5]: glow_train = run_glow_pipeline(
    False,
    False,
    False,
    sig=False,
    num_flows=[10],
    num_train=np.logspace(4, 6, 10).astype(int),
)

maf_train = run_maf_pipeline(
```

```

        False,
        False,
        False,
        sig=False,
        use_mog=True,
        use_maf=True,
        num_mogs=[10],
        num_train=np.logspace(4, 6, 10).astype(int),
    )

spline_train = run_spline_pipeline(
    False,
    False,
    False,
    sig=False,
    num_splines=[32],
    name_str="",
    num_train=np.logspace(4, 6, 10).astype(int),
)

```

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100%|          | 10/10 [00:00<00:00, 12576.62it/s]
100%|          | 10/10 [00:00<00:00, 6068.15it/s]
100%|          | 10/10 [00:00<00:00, 4541.75it/s]

```

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[44]: N = 1 * 10 ** 5
device = "cuda"

res = []
k = 5

for i, p in enumerate(spline_train):
    res_k = []
    for j in range(k):
        print(i, j)
        x_ConfigBuilderBlock, _, _, x_ModelTrainerBlock = p.pipes

        x1 = ModelLoaderBlock(device=device)(x_ConfigBuilderBlock,
        ↪x_ModelTrainerBlock)

        x2 = DataGeneratorBlock(N, model_type="flow", chunks=10,
        ↪device=device)(x1)
        x3 = GeneratedDataVerifierBlock(save_data=False, device=device)(x1, x2)

        x4 = DatasetBuilderBlock()(x_ConfigBuilderBlock)

```

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x5 = ReferenceDataLoaderBlock(device=device)(x4)

x6 = StatTestRunnerBlock(use_results=False, add_dim=False)(x5, x3)

pipe = Pipeline()
pipe.compose(x1, x2, x3, x4, x5, x6)
pipe.fit()

res_k.append(pipe.pipes[-1].results)

res.append(res_k)

```

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f410472eb20>!

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f410472e610>!

0 0

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f410472e490>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f410472e2b0>!

WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f410472e550>!

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f410472e520>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f4104760520>!

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f4104760c10>!

0 1

100%|

```

| 10/10 [00:10<00:00, 1.04s/it]
WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f4104760850>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f4104760dc0>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f4104760d60>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
at 0x7f4104c98970>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
0x7f4104879520>!
WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
at 0x7f41045e5b20>!

```

0 2

100%|

```

| 10/10 [00:10<00:00, 1.04s/it]
WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f41045e5c10>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f41045e56d0>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f41045e5760>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object

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at 0x7f41045e5100>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
0x7f40d938eb20>!
WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
at 0x7f40d938eb50>!

0 3

100%|
| 10/10 [00:10<00:00, 1.04s/it]
WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f40d938eb80>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f40d938ebb0>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f40d938ebe0>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
at 0x7f40d938ec10>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
0x7f3f742f9a90>!
WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
at 0x7f3f742f9ac0>!

0 4

100%|
| 10/10 [00:10<00:00, 1.04s/it]
WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f3f742f9af0>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK

```

WARNING:root:neg-inf OK
 WARNING:root:pos-inf or neg-inf OK
 WARNING:root:pos-inf or neg-inf or nan OK
 WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
 at 0x7f3f742f9b20>!
 WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
 object at 0x7f3f742f9b50>!
 WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
 at 0x7f3f742f9b80>!
 WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
 0x7f40d909e700>!
 WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
 at 0x7f40d909e730>!

1 0

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
 object at 0x7f40d909e760>!
 WARNING:root:Generated data check...
 WARNING:root:nan OK
 WARNING:root:pos-inf OK
 WARNING:root:neg-inf OK
 WARNING:root:pos-inf or neg-inf OK
 WARNING:root:pos-inf or neg-inf or nan OK
 WARNING:root:Scaled data check...
 WARNING:root:nan OK
 WARNING:root:pos-inf OK
 WARNING:root:neg-inf OK
 WARNING:root:pos-inf or neg-inf OK
 WARNING:root:pos-inf or neg-inf or nan OK
 WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
 at 0x7f40d909e790>!
 WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
 object at 0x7f40d909e7c0>!
 WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
 at 0x7f40d909e7f0>!
 WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
 0x7f40d90c8160>!
 WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
 at 0x7f40d90c8190>!

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100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
 object at 0x7f40d90c81c0>!
 WARNING:root:Generated data check...

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WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f40d90c81f0>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f40d90c8220>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
at 0x7f40d90c8250>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
0x7f40d93710d0>!
WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
at 0x7f40d9371100>!

1 2

100%|
          | 10/10 [00:10<00:00, 1.04s/it]
WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f40d9371130>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f40d9371160>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f40d9371190>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
at 0x7f40d93711c0>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
0x7f40d9366d00>!

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1 3

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
at 0x7f40d9366d30>!
100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f40d9366d60>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f40d9366d90>!

WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f40d9366dc0>!

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
at 0x7f40d9366df0>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
0x7f40d909ec40>!

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
at 0x7f40d909ed30>!

1 4

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f40d909eb80>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f40d909ed60>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f40d909ebe0>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f40d909ec10>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f4104409fa0>!
WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f4104409bb0>!

2 0

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f4104409b50>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f4104409b80>!

WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f4104409df0>!

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f4104409ee0>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f3f74717640>!

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f3f74717610>!

2 1

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f3f747175b0>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f3f74717580>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f3f74717a30>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f3f74717160>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f41042b8e50>!
WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f41042b80d0>!

2 2

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f41042b80a0>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f41042b8070>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f41042b8160>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f41042b8100>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f3fc808f220>!
WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f3fc808f550>!

2 3

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100%|
          | 10/10 [00:10<00:00, 1.04s/it]
WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f3fc808f520>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f3fc808fd60>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f3fc808f280>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
at 0x7f3fc808fca0>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
0x7f40db8e6d90>!
WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
at 0x7f40db8e6970>!

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2 4

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100%|
          | 10/10 [00:10<00:00, 1.04s/it]
WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f40db8e63d0>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f40db8e6fa0>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f40db8e6dc0>!

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WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f40db8e6280>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f40de692ac0>!

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f40de692a30>!

3 0

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f40de692d00>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f40de692fd0>!

WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f40de6925e0>!

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f40de692fa0>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f40de69fe20>!

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f40de69ffd0>!

3 1

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f40de69f460>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f40de69f700>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f40de69feb0>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f40de69ff70>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f41042c8e20>!
WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f41042c8be0>!

3 2

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f41042c88e0>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f41042c8700>!

WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f41042c82e0>!

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f41042c8550>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f40d94d3100>!

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f40d94d33a0>!

3 3

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f40d94d3c70>!

WARNING:root:Generated data check...
 WARNING:root:nan OK
 WARNING:root:pos-inf OK
 WARNING:root:neg-inf OK
 WARNING:root:pos-inf or neg-inf OK
 WARNING:root:pos-inf or neg-inf or nan OK
 WARNING:root:Scaled data check...
 WARNING:root:nan OK
 WARNING:root:pos-inf OK
 WARNING:root:neg-inf OK
 WARNING:root:pos-inf or neg-inf OK
 WARNING:root:pos-inf or neg-inf or nan OK
 WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
 at 0x7f40d94d36d0>!
 WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
 object at 0x7f40d94d38b0>!
 WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
 at 0x7f40d94d3b50>!
 WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
 0x7f41041ede80>!
 WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
 at 0x7f410454b760>!

3 4

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
 object at 0x7f410454bb50>!
 WARNING:root:Generated data check...
 WARNING:root:nan OK
 WARNING:root:pos-inf OK
 WARNING:root:neg-inf OK
 WARNING:root:pos-inf or neg-inf OK
 WARNING:root:pos-inf or neg-inf or nan OK
 WARNING:root:Scaled data check...
 WARNING:root:nan OK
 WARNING:root:pos-inf OK
 WARNING:root:neg-inf OK
 WARNING:root:pos-inf or neg-inf OK
 WARNING:root:pos-inf or neg-inf or nan OK
 WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
 at 0x7f410454bb80>!
 WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
 object at 0x7f410454bc70>!
 WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
 at 0x7f410454b2e0>!
 WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
 0x7f3f7455e100>!

```

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
at 0x7f3f7455e880>!

4 0

100%|
                                | 10/10 [00:10<00:00, 1.04s/it]
WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f3f7455ea60>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f3f7455e4f0>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f3f7455ed30>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
at 0x7f3f7455ee50>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
0x7f3f74744160>!
WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
at 0x7f3f747448b0>!

4 1

100%|
                                | 10/10 [00:10<00:00, 1.04s/it]
WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f3f747445b0>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK

```

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f3f74744a90>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f3f74744d00>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f3f74744550>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f40de727370>!
WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f40de727760>!

4 2

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f40de727d00>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f3f744da580>!

WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f3f744da3d0>!

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f3f744da2e0>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f410489fc10>!

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f410489fc40>!

4 3

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f410489ff10>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK


```

WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f410489f2b0>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f410489f160>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
at 0x7f410489f730>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
0x7f3f747b6100>!
WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
at 0x7f41047f2430>!

4 4

100%|
          | 10/10 [00:10<00:00, 1.04s/it]
WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f41047f2790>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f41047f2b20>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f41047f2be0>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
at 0x7f41047f2d90>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
0x7f40db94a520>!

5 0

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
at 0x7f40db94a220>!

```

```

100%|
          | 10/10 [00:10<00:00, 1.04s/it]
WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f40db94a4f0>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f40db94a5b0>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f40db94a310>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
at 0x7f40db94adf0>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
0x7f40db818430>!
WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
at 0x7f40db8180a0>!

```

5 1

```

100%|
          | 10/10 [00:10<00:00, 1.04s/it]
WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f40db8189a0>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f40db818490>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f40db8187f0>!

```

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f40db818340>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f410472e970>!

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f410472e5e0>!

5 2

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f410472ee20>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f410472eb80>!

WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f410472e130>!

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f410472e190>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f40de5f5430>!

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f40de5f5310>!

5 3

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f40de5f5e80>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f40de5f5700>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f40de5f5e50>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f40de5f5160>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f40de54e040>!

5 4

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f40de54e0d0>!
100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f40de54e7f0>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f40de54ef10>!

WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f41049bd970>!

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f41049bdf10>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f410420dfd0>!

6 0

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f410420d700>!
100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f410420d160>!

```

WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f410420d370>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f410420d9d0>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
at 0x7f410420daf0>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
0x7f410489f880>!
WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
at 0x7f410489f520>!

6 1

100%|
          | 10/10 [00:10<00:00, 1.04s/it]
WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f410489f1c0>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f410489f190>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f410489fb20>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
at 0x7f410489fbb0>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
0x7f41046f1ac0>!

```

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f41046f1af0>!

6 2

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f41046f1df0>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f41046f1ca0>!

WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f41046f14f0>!

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f41046f1eb0>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f40db8a2eb0>!

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f40db8a20a0>!

6 3

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f40db8a2e20>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f40db8a2670>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f40db8a2c40>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f40db8a2d90>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f41046f8b50>!
WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f41046f8b20>!

6 4

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f41046f8d30>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f41046f8460>!

WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f41046f8ac0>!

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f41046f81c0>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f40de6ef5b0>!

7 0

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f40de6efca0>!

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f40de6ef2e0>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f40de6ef640>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f40de6efdc0>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f40de6ef2b0>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f410431f9a0>!

7 1

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f410431f7f0>!

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f410431f2e0>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f410431f070>!

WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f410431f3a0>!

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f410431fac0>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f410496adc0>!

7 2

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f410496ad90>!


```

100%|
          | 10/10 [00:10<00:00, 1.04s/it]
WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f410496a7f0>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f410496ab50>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f410496af10>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
at 0x7f410496ae50>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
0x7f41045fba30>!

```

7 3

```

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
at 0x7f41045fb3a0>!
100%|
          | 10/10 [00:10<00:00, 1.04s/it]
WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f41045fb880>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f41045fb250>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f41045fb190>!

```

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f41045fb850>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f40de6b9e80>!

7 4

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f40de6b95b0>!

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f40de6b90d0>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f40de6b9670>!

WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f40de6b91f0>!

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f40de6b9a60>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f40db8ce0d0>!

8 0

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f40db8cef40>!

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f40db8ce7c0>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f40db8ced90>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f40db8ce640>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f40db8ce610>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f40de6f03a0>!

8 1

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f40de6f0e20>!
100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f40de6f0310>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f40de6f05e0>!

WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f40de6f0b20>!

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f40de6f0fd0>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f40d909ebe0>!

8 2

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f40d909ed30>!
100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f40d909ec10>!

WARNING:root:Generated data check...
 WARNING:root:nan OK
 WARNING:root:pos-inf OK
 WARNING:root:neg-inf OK
 WARNING:root:pos-inf or neg-inf OK
 WARNING:root:pos-inf or neg-inf or nan OK
 WARNING:root:Scaled data check...
 WARNING:root:nan OK
 WARNING:root:pos-inf OK
 WARNING:root:neg-inf OK
 WARNING:root:pos-inf or neg-inf OK
 WARNING:root:pos-inf or neg-inf or nan OK
 WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
 at 0x7f40d909ebb0>!
 WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
 object at 0x7f40d909e6d0>!
 WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
 at 0x7f40d909ef70>!
 WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
 0x7f40d90c8d90>!

8 3

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
 at 0x7f40d90c8850>!
 100%|
 | 10/10 [00:10<00:00, 1.03s/it]
 WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
 object at 0x7f40d90c8760>!
 WARNING:root:Generated data check...
 WARNING:root:nan OK
 WARNING:root:pos-inf OK
 WARNING:root:neg-inf OK
 WARNING:root:pos-inf or neg-inf OK
 WARNING:root:pos-inf or neg-inf or nan OK
 WARNING:root:Scaled data check...
 WARNING:root:nan OK
 WARNING:root:pos-inf OK
 WARNING:root:neg-inf OK
 WARNING:root:pos-inf or neg-inf OK
 WARNING:root:pos-inf or neg-inf or nan OK
 WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
 at 0x7f40d90c8ee0>!
 WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
 object at 0x7f40d90c8310>!
 WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
 at 0x7f40d90c8fa0>!
 WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
 0x7f3f7452d520>!

8 4

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f3f7452d850>!

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f3f7452dd00>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f3f7452db80>!

WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f3f7452d310>!

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f3f7452d8e0>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f40db94a430>!

9 0

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f40db94aa60>!

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f40db94a340>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f40db94a760>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f40db94a670>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f40db94aac0>!
WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f40d90c8ee0>!

9 1

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f40d90c8310>!

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f40d90c85e0>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:Scaled data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK

WARNING:root:pos-inf or neg-inf or nan OK

WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object at 0x7f40d90c8fd0>!

WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock object at 0x7f40d90c8f40>!

WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object at 0x7f40d90c8bb0>!

WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at 0x7f40d9692eb0>!

9 2

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object at 0x7f40d9692c10>!

100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock object at 0x7f40d9692fa0>!

WARNING:root:Generated data check...

WARNING:root:nan OK

WARNING:root:pos-inf OK

WARNING:root:neg-inf OK

WARNING:root:pos-inf or neg-inf OK
 WARNING:root:pos-inf or neg-inf or nan OK
 WARNING:root:Scaled data check...
 WARNING:root:nan OK
 WARNING:root:pos-inf OK
 WARNING:root:neg-inf OK
 WARNING:root:pos-inf or neg-inf OK
 WARNING:root:pos-inf or neg-inf or nan OK
 WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
 at 0x7f40d9692f10>!
 WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
 object at 0x7f40d9692c40>!
 WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
 at 0x7f40d9692ca0>!
 WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
 0x7f41044f6610>!

9 3

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
 at 0x7f41044f68e0>!
 100%|

| 10/10 [00:10<00:00, 1.04s/it]

WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
 object at 0x7f41044f6160>!
 WARNING:root:Generated data check...
 WARNING:root:nan OK
 WARNING:root:pos-inf OK
 WARNING:root:neg-inf OK
 WARNING:root:pos-inf or neg-inf OK
 WARNING:root:pos-inf or neg-inf or nan OK
 WARNING:root:Scaled data check...
 WARNING:root:nan OK
 WARNING:root:pos-inf OK
 WARNING:root:neg-inf OK
 WARNING:root:pos-inf or neg-inf OK
 WARNING:root:pos-inf or neg-inf or nan OK
 WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
 at 0x7f41044f6ca0>!
 WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
 object at 0x7f41045fa160>!
 WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
 at 0x7f41045fa520>!
 WARNING:root:fitting #0: <ml_hep_sim.pipeline.blocks.ModelLoaderBlock object at
 0x7f40d9334d60>!

9 4

WARNING:root:fitting #1: <ml_hep_sim.pipeline.blocks.DataGeneratorBlock object
 at 0x7f40d9334cd0>!

```

100%|
          | 10/10 [00:10<00:00, 1.04s/it]
WARNING:root:fitting #2: <ml_hep_sim.pipeline.blocks.GeneratedDataVerifierBlock
object at 0x7f40d9334190>!
WARNING:root:Generated data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:Scaled data check...
WARNING:root:nan OK
WARNING:root:pos-inf OK
WARNING:root:neg-inf OK
WARNING:root:pos-inf or neg-inf OK
WARNING:root:pos-inf or neg-inf or nan OK
WARNING:root:fitting #3: <ml_hep_sim.pipeline.blocks.DatasetBuilderBlock object
at 0x7f40d9334d90>!
WARNING:root:fitting #4: <ml_hep_sim.pipeline.blocks.ReferenceDataLoaderBlock
object at 0x7f40d9334130>!
WARNING:root:fitting #5: <ml_hep_sim.pipeline.blocks.StatTestRunnerBlock object
at 0x7f40d9334ca0>!

```

```

[45]: mean_res_chi2 = []
      mean_res_ks = []
      mean_res_chi2_crit = []
      mean_res_ks_crit = []

      for i in range(len(num_train)):
          inter_chi2 = np.zeros((18, k))
          inter_ks = np.zeros((18, k))
          inter_chi2_crit = np.zeros((18, k))
          inter_ks_crit = np.zeros((18, k))
          for j in range(k):
              inter_chi2[:, j] = res[i][j][0]["chi2"].to_numpy()
              inter_ks[:, j] = res[i][j][1]["ks"].to_numpy()
              inter_chi2_crit[:, j] = res[i][j][0]["crit"].to_numpy()
              inter_ks_crit[:, j] = res[i][j][1]["crit"].to_numpy()

          mean_res_chi2.append(inter_chi2.mean(axis=1))
          mean_res_ks.append(inter_ks.mean(axis=1))
          mean_res_chi2_crit.append(inter_chi2_crit.mean(axis=1))
          mean_res_ks_crit.append(inter_ks_crit.mean(axis=1))

```

```

[46]: s_chi2 = np.array(mean_res_chi2).T
      s_ks = np.array(mean_res_ks).T
      s_chi2_crit = np.array(mean_res_chi2_crit).T

```



```
s_ks_crit = np.array(mean_res_ks_crit).T
```

```
[47]: rr = list(range(0, len(res), 1))
      # rr.append(9)

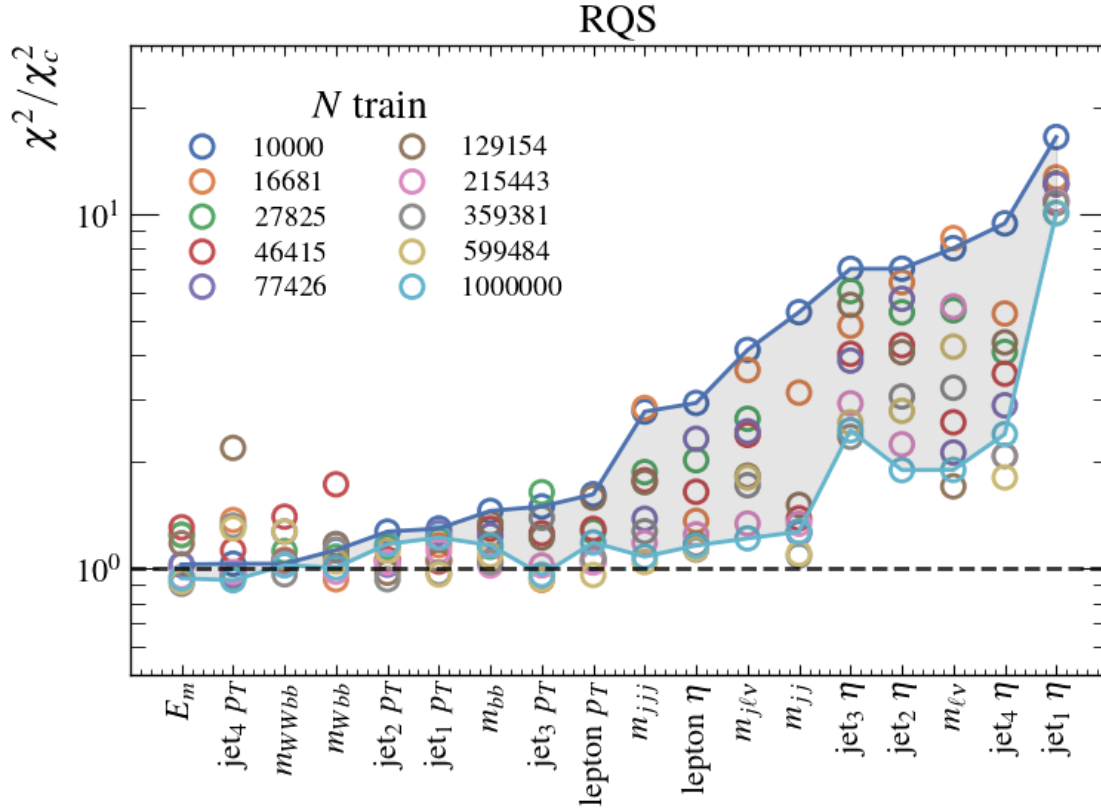
      for c, i in enumerate(rr):
          rat = s_chi2[:, i] / s_chi2_crit[:, i]

          if i == 0:
              idx = np.argsort(rat)
              y1 = rat[idx]
              plt.plot(range(1, 19, 1), rat[idx], color=f"C{c}", lw=2)
              plt.scatter(range(1, 19, 1), rat[idx], facecolor="none",
→label=num_train[i], alpha=1, s=120, edgecolors=f"C{c}", linewidths=2)
          else:
              plt.scatter(range(1, 19, 1), rat[idx], facecolor="none",
→label=num_train[i], alpha=1, s=120, edgecolors=f"C{c}", linewidths=2)

          if i == len(rr) - 1:
              y2 = rat[idx]
              plt.plot(range(1, 19, 1), rat[idx], color=f"C{c}", ls='--', lw=2)

      plt.fill_between(range(1, 19, 1), y1, y2, alpha=0.1, color='k')

      plt.axhline(1, c='k', ls='--', alpha=0.8)
      plt.yscale("log")
      plt.ylim([0.5, 30])
      plt.xlim([0, 19])
      plt.xticks(range(1, len(LATEX_COLNAMES) + 1, 1), np.array(LATEX_COLNAMES)[idx],
→rotation=90)
      plt.legend(title="$N$ train", fontsize=14, ncol=2)
      plt.title("RQS")
      plt.ylabel("$\chi^2/\chi^2_c$")
      plt.tight_layout()
      plt.savefig(saved + "rqs_N_chi2.pdf")
```



```
[48]: rr = list(range(0, len(res), 1))
      # rr.append(9)

      for c, i in enumerate(rr):
          rat = s_ks[:, i] / s_ks_crit[:, i]

          if i == 0:
              idx = np.argsort(rat)
              y1 = rat[idx]
              plt.plot(range(1, 19, 1), rat[idx], color=f"C{c}", lw=2)
              plt.scatter(range(1, 19, 1), rat[idx], facecolor="none",
→label=num_train[i], alpha=1, s=120, edgecolors=f"C{c}", linewidths=2)
          else:
              plt.scatter(range(1, 19, 1), rat[idx], facecolor="none",
→label=num_train[i], alpha=1, s=120, edgecolors=f"C{c}", linewidths=2)

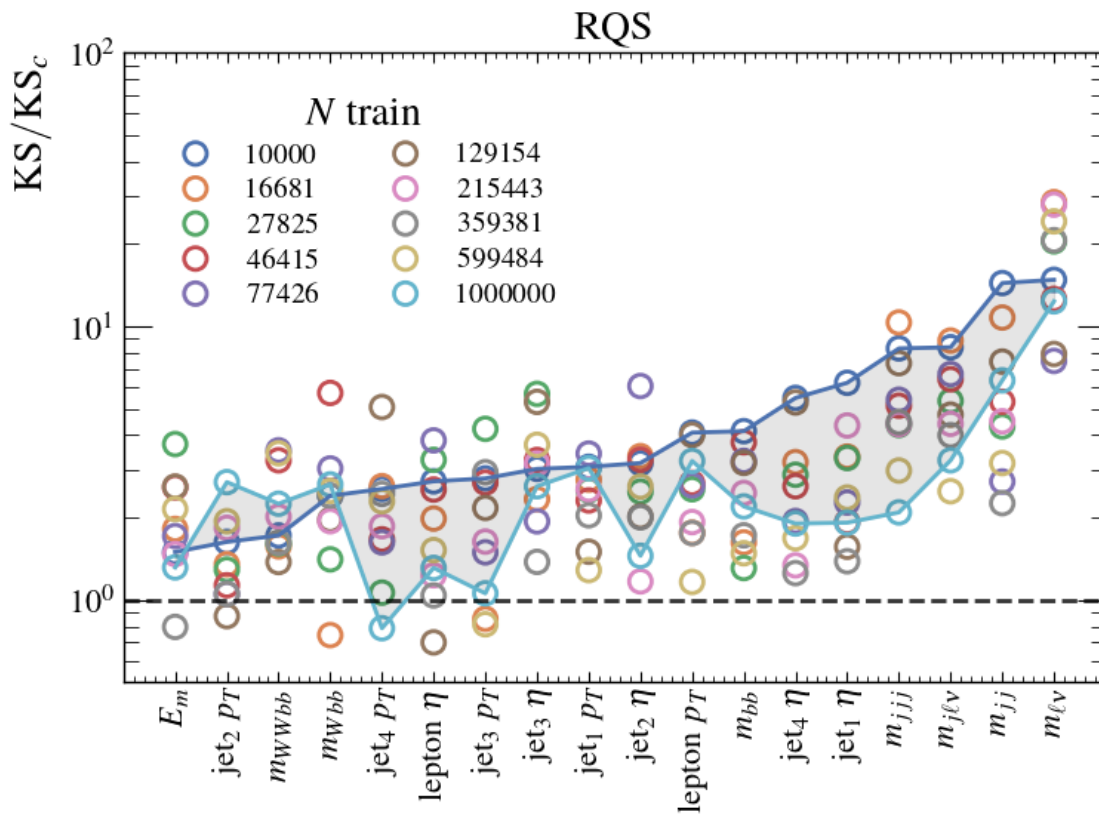
          if i == len(rr) - 1:
              y2 = rat[idx]
              plt.plot(range(1, 19, 1), rat[idx], color=f"C{c}", ls='--', lw=2)

      plt.fill_between(range(1, 19, 1), y1, y2, alpha=0.1, color='k')
```

```

plt.axhline(1, c='k', ls='--', alpha=0.8)
plt.yscale("log")
plt.ylim([0.5, 100])
plt.xlim([0, 19])
plt.xticks(range(1, len(LATEX_COLNAMES) + 1, 1), np.array(LATEX_COLNAMES)[idx],
           rotation=90)
plt.legend(title="$N$ train", fontsize=14, ncol=2)
plt.ylabel("KS/$KS_c$")
plt.title("RQS")
plt.tight_layout()
plt.savefig(saved + "rqs_N_ks.pdf")

```



[]: