

Summary of pion showers in the ECAL + HCAL system

Case 1: Everywhere **Real ECAL**

...

Critic:

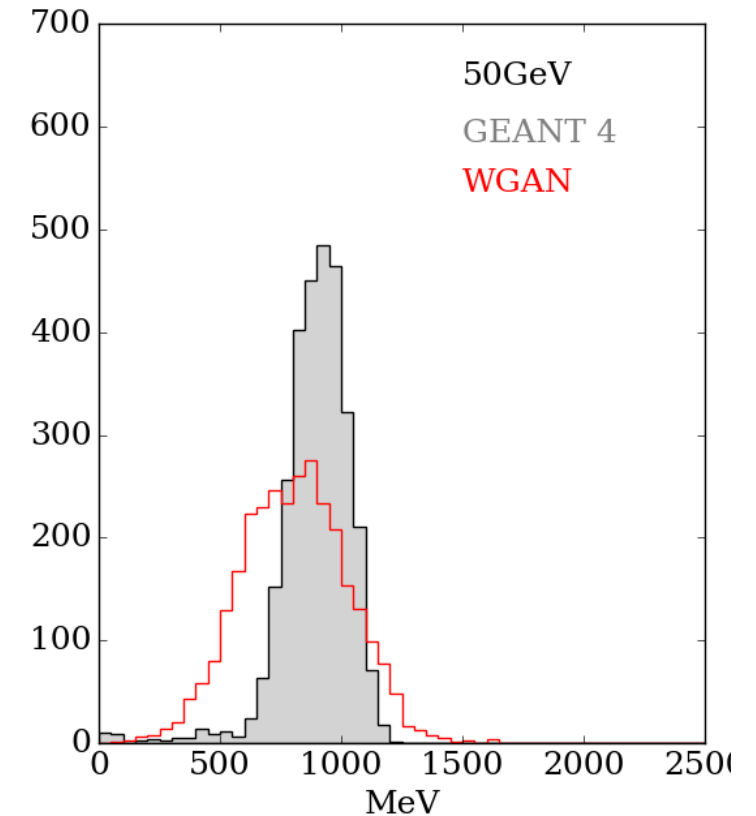
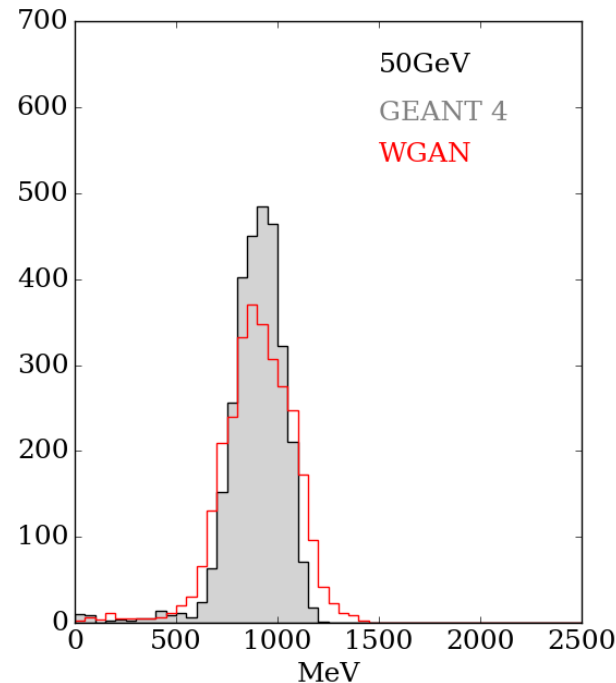
1. REAL: **Real ECAL** + Real HCAL
2. FAKE: **Real ECAL** + Fake HCAL

Generator:

- **Real ECAL** + Fake HCAL

Use **Fake ECAL** during the inference

Use **real ECAL** during the inference



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Case 2: **Fake ECAL** only in generator

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Critic:

1. REAL: **Real ECAL** + Real HCAL
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Generator:

- **Fake ECAL** + Fake HCAL

Case 3: **Fake ECAL** in both

....

Critic:

1. REAL: **Real ECAL** + Real HCAL
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Generator:

- **Fake ECAL** + Fake HCAL

Case 4: **Fake ECAL** everywhere

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Critic:

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