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Understanding generative networks via classifier weight distributions

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Well-trained classifiers and their complete weight distributions provide us with a well motivated and practicable method to test generative networks in particle physics. I will illustrate their benefits for distribution-shifted jets, calorimeter showers, and reconstruction level events. In all cases, the classifier weights make for a powerful test of the generative network, identify potential problems in the density estimation, relate them to the underlying physics, and tie in with a comprehensive precision and uncertainty treatment for generative networks.

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