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Disentangling Jet Categories at Colliders (20'+5')

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The "jet topics" framework identifies (or defines) underlying classes of jets directly from data with little to no input from simulation or theory. Due to a mathematical connection between mixed samples of jets and emergent themes in documents, methods from topic modeling and blind source separation can be used to extract jet topics from data. Any machine-learned jet tagger, treated as a likelihood-ratio approximator, can be directly applied as a jet topic extractor. I apply the jet topics method to extract quark and gluon distributions and fractions from simulated Z+jet and dijet samples, and I discuss the potential for fully data-driven training and calibration of jet taggers.

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