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OASIS: Optimal Analysis-Specific Importance Sampling for event generation

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We provide a technique called OASIS to **reduce** the number of simulated events required in a collider analysis to reach a target sensitivity. We achieve this by preferentially focusing the event generation in different regions of phase-space based on their utility to the analysis at hand (and appropriately weighting the events).

OASIS leads to a conservation of resources at all stages of the MC pipeline (including detector simulation) and opens a new avenue for resource-conservation that is complementary to approaches that seek to **speed-up** the simulation pipeline.

Summary

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