

Statistics-limited targets

Elizabeth Brost October 6th, 2020



Statistics-limited targets for searches and measurements

 The Snowmass process asks us to consider the future of our field: what is the landscape for particle physics analysis going to look like in the post-HL-LHC era?

- I wanted to start this exercise by examining the analyses that will still be stats-limited at the end of the HL-LHC era
- These analyses will benefit directly from improvements to trigger and object reconstruction → "free" effective increase to integrated luminosity (and the focus of this session!)

ATLAS/CMS HL-LHC dataset (3000 fb⁻¹)

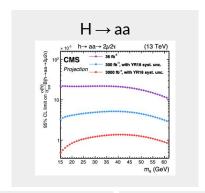
Run 2 \leftarrow Current ATLAS/CMS dataset (~150fb⁻¹)

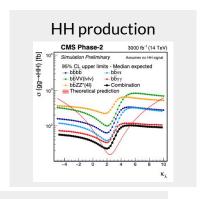
2021 2022 2023 2027 2040 Run 3 Run 4 Run 5 Run 6

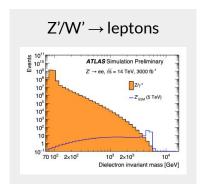
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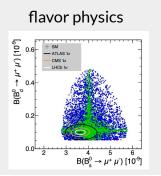
Statistics-limited targets (at the end of the HL-LHC)

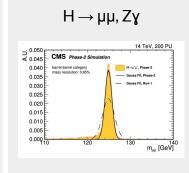


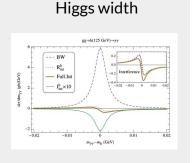












Click the grey boxes for citations!

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