

The TWO “What For?” Questions

The 1st What For

- What do we need differential K-Factors for?
 - Need higher order differential x-secs to obtain these
 - Then why not just use the higher order calculations?
- A theorist's answer
 - To learn how large the higher order correction is!
 - Do we believe lower order more?
 - No!
 - Aren't we going to use the higher order calculation even if the correction is large?
 - Yes, we will!
- So then what do we need differential K-factors for?

The 1st What For cont'd

- An experimentalist's answer
 - We only have event generators at lower order to reflect detector effects!
 - To bootstrap the lower order event generator calculations to higher order corrections
- Do we still need differential K-factors if we have the higher order event generator for full detector simulations?
 - I doubt it!
- So should we focus on getting higher order calculators to event generators?

The 2nd What For

- What do we need the common cuts for?
 - To help theorists to provide calculations with realistic phase space limitations to reflect experiments
 - But we cannot implement full experimental cuts
 - Nor do we want to
- Then what are the common cuts for again?
 - To provide targets for both the experiment and the theory to meet in the middle ground
 - Experimental results will have to be corrected for efficiencies, acceptances and any other effects
 - Theory calculations will reflect some basic phase space effects that the experimental results can be compared to

The 2nd What For cont'd

- So when deciding on the common cuts, perhaps the following should be kept in mind
 - What would be the reasonable basic cuts that experiments can obtain correction factors?
 - Can theoretical calculations be done with these cuts?
 - Are the comparisons with such basic cuts meaningful?
 - Can experimental results be comparable directly to each other?
 - Can the experimental results and the theoretical predictions directly comparable?