



2 EXPERIMENT

Resummation Benchmarking Discussion

September, 2023

Where are we with the paper inputs?

- This is what is available on git:
 - Please let me know if I missed something!

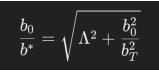
Codes	L1	L2	L3	ATLAS data	Appendix
Cute-MCFM				To do	
Radish		-> But no breakdown of uncertainties yet on git	-> But no breakdown of uncertainties yet on git	To do	To do
SCETLib				To do	To do
DYTurbo		To do	To do	To do	To do
NangaParbat		To do	To do	To do	To do
Artemide	-> the previous benchmarking setup is lost	-	-	-	-

Discussion

- Can we submit the paper by the end of the year?
- Propose to set a hard deadline otherwise we will never converge and really doesn't make sense at this point to delay the paper to next year
- An aggressive timeline example:
 - Let's agree to submit the paper by December 1st this year (the exact date doesn't matter but has to be this year)
 - By October 15th the groups complete the table in slide 1 including writing the appendices. If an individual group is not ready by then we need to understand the reason and if the group thinks they can make it or possibly will not appear in the paper
 - By November 15th all the paper results are generated and discussed. This work will start now as there is already a critical mass of L1/L2/ L3 predictions and the results of the missing groups will be added as ready
 - The documentation of the relevant results sections are completed by December 1st and the paper is submitted
- Can we do this?

Discussion on nonperturbative treatment

- Explicitly added the treatment of nonperturbative effects to the resummation benchmarking setup in Section 3 of the paper:
 - For L1: Use a common ``quadratic" b* prescription (or its momentum-space equivalent) with Lambda = 1 GeV: b_0



- For L2/L3: Everybody uses their own favorite b* prescription, but explicit nonperturbative models stay turned off.
- Important to have a short section in the paper with a description of the missing uncertainties/effects
 - Nonperturbative, heavy flavor effects, etc.