

PROJECT MEETING

22/10/2020

Gross Section Notes from Standard Model

p395

p425

23/10/2020

$$\sigma = \frac{1}{\phi_p} \frac{n_{int}}{t \cdot n_t}$$

ϕ_p = flux = # particles type p / time / area = flux of incoming particles

$\frac{n_{int}}{t \cdot n_t}$ = interaction rate per target particle

n_{int} = # interactions

t = time

n_t = target particles

Monitoring Interview

26/10/2020

START THINGS EARLY

Possible to start writing soon → advice

"The thing that captures the reader most of all is the introduction"

"where we are & where we're heading"

"Sound like an authority"

Especially record details about background reading.

"Work book is mature stepping stone for report"

Attempt to plot measured & sim data together

27/10/2020

Aim to build a template can use for any branches later on when necessary branches specified.

As in measured "Z" directory, Z simulated directory has
mup- k num- PT, ETA, PHI

Z measured = 5840 entries in tree

Z simulated = 338926 entries

TODAY TO DO

① Make code using just measured Z more efficient
→ Tlorentz Vector, set Pt Eta Phi E

② Make plot look nice

→ Test matplotlib in X2Go → Ask Rowan.

→ Else work out ROOT method

③ How many Z simulated entries? → 338926

④ Add simulated data.

⇒ ① created working efficient python code *

Testing matplotlib → introduced numpy as needed array
∴ math ⇒ np

* $mass^2 \Rightarrow mass^2 \text{ const.}$

did not work → Ask Rowan about code on GitHub

④ num-ETA does not exist in simulated data
→ what is num-born-PT
num-dressed-PT

- Stack histograms with THStack
- Normalized histogram?

style stuff: "scat" = scatter plot

"c" = draw smooth curve through histogram bins

S-8.6 - Line, R'U, text

S-8.7 - Tick marks

S-8.8 = LABEL AXES

S-8.5 = Stats box

when defining title

"Histogram title; Xaxis; Yaxis"

After difficulty translating ROOT commands from C to python,
considering many are to C.