Lista calchep

Thales Menezes de Oliveira (UERJ)

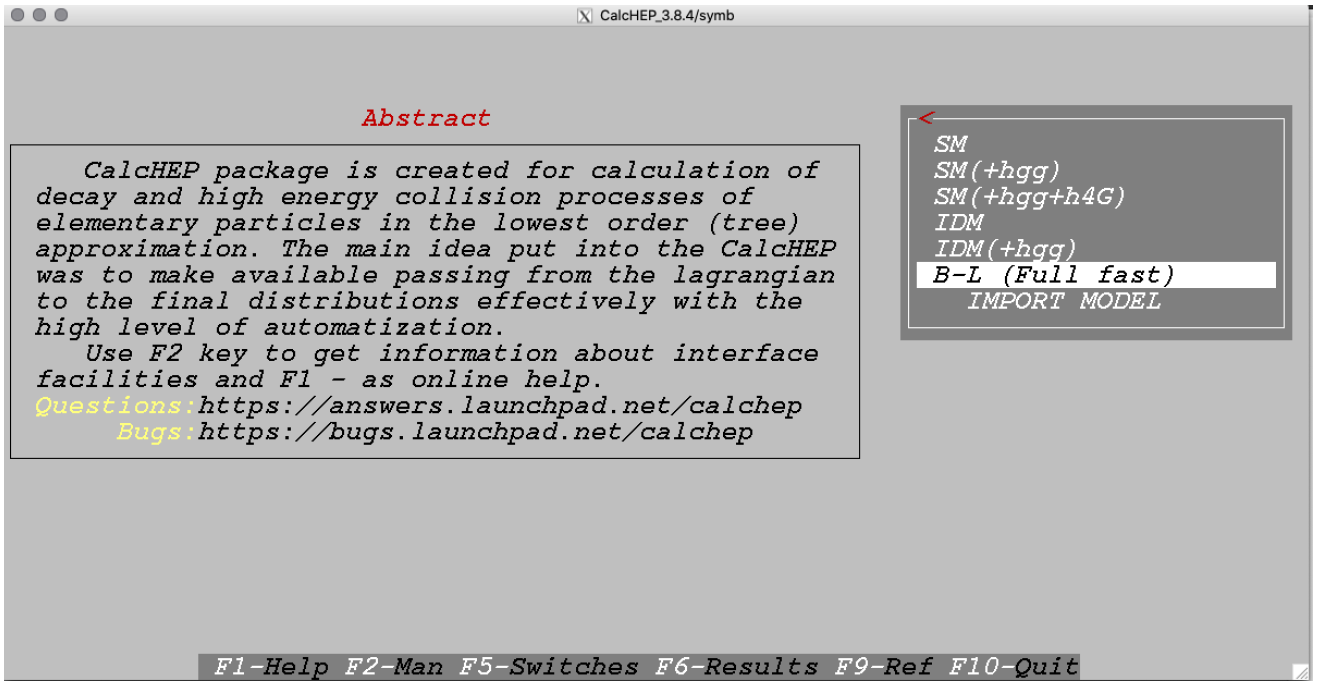
Programa de Pós-Graduação em Física (PPGF)

Introdução à análise de dados em FAE

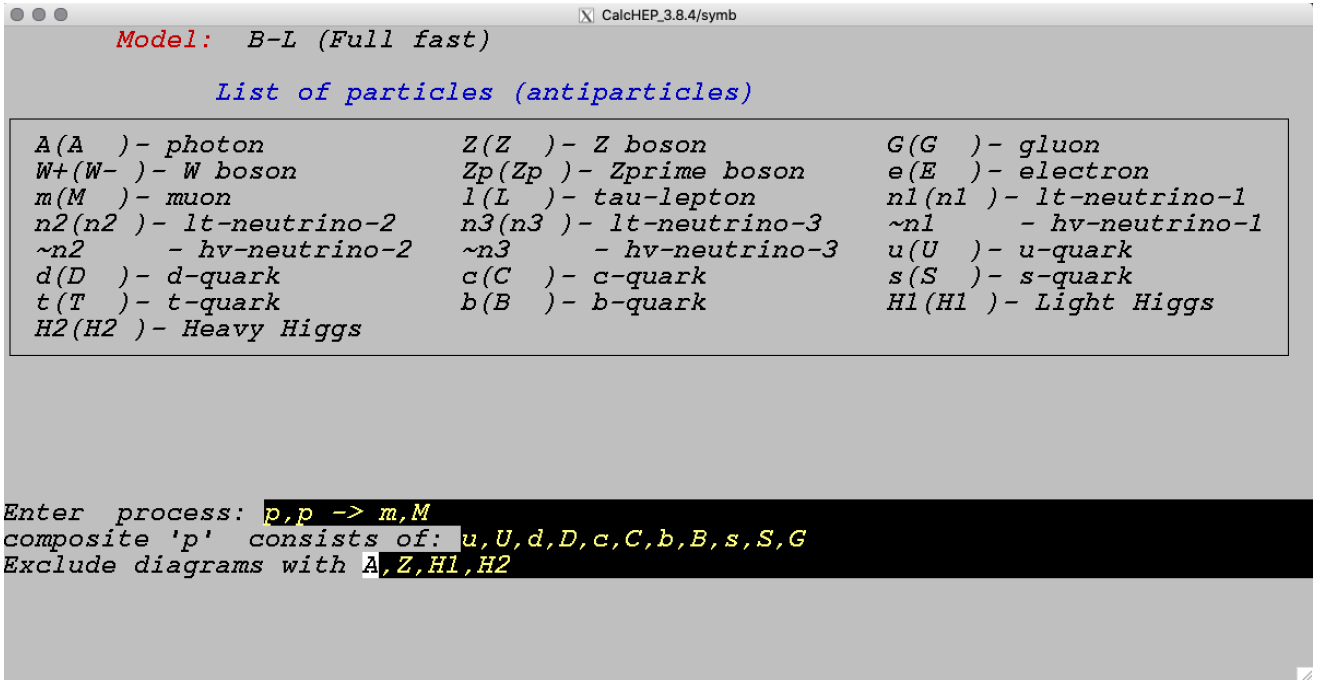
Brazil

18.06.2020

1. Download the model “Minimal Zp models” from HEPMDB
2. Put the model files in the “models” directory (do not forget to rename the files!)



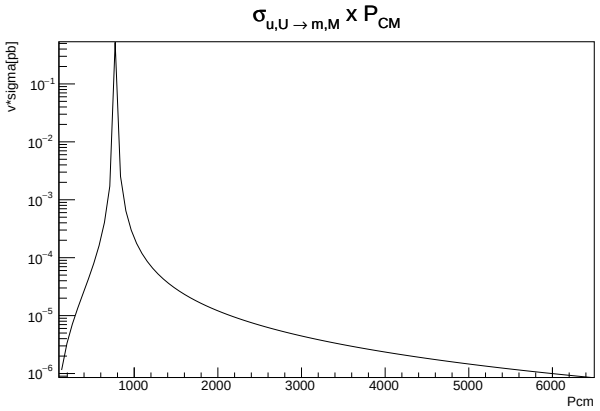
3. Calculate the cross-section for the various sub-process of the process pp $\rightarrow$ Z' $\rightarrow \mu^+\mu^-$. Remove the contributions from the photon and Z bosons and from the scalars H1 and H2 in order to estimate the contribution from Z' only.

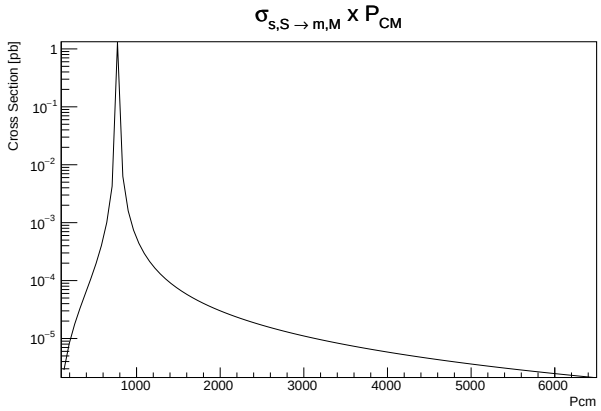


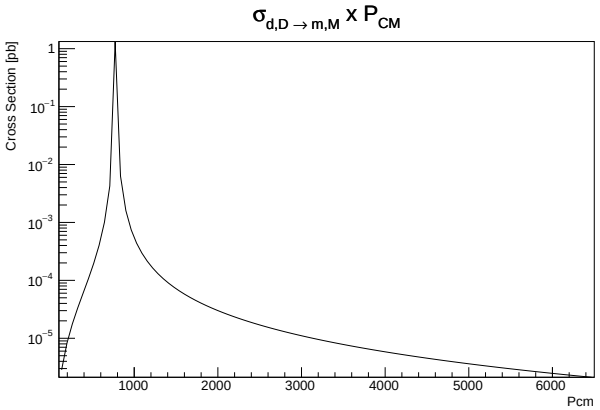
3. Calculate the cross-section for the various sub-process of the process pp $\rightarrow$ Z' $\rightarrow \mu^+\mu^-$. Remove the contributions from the photon and Z bosons and from the scalars H1 and H2 in order to estimate the contribution from Z' only.

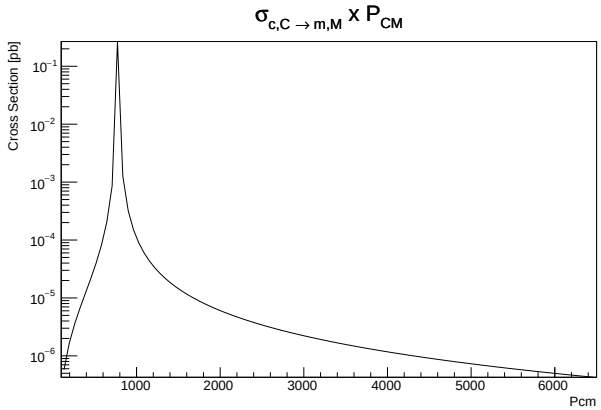
Subprocess	Cross section (pb)
u,U $\rightarrow$ m,M	4.26804×10^{-7}
d,D $\rightarrow$ m,M	2.12124×10^{-6}
c,C $\rightarrow$ m,M	4.26804×10^{-7}
b,B $\rightarrow$ m,M	2.12124×10^{-6}
s,S $\rightarrow$ m,M	2.12124×10^{-6}

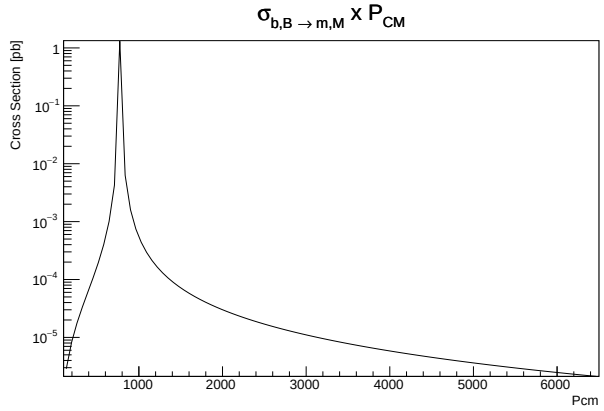
4. Check unitarity using 1D integration option to plot Xsec versus Ecm



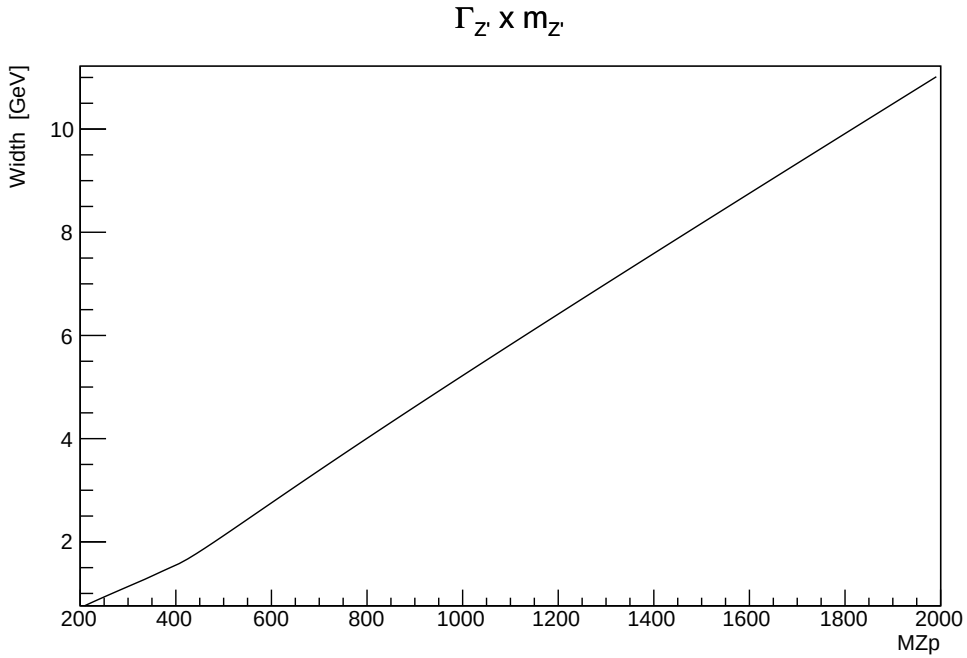








5. Check how the Z' width vary with its mass



6. Calculate the Xsec for the above process using different Z' mass in batch mode. Generate events.

Home
Symbolic Results
Numerical Results
Events Library
Process Library
Help

Thank you for using CalcHEP!
Please cite arXiv:1207.6082

Numerical Sessions

B-L (Full fast)

Done!

Scans	σ (fb)	Running	Finished	Time (hr)	N events
MZp=1000	76.442	0/11	11/11	0.01	1000
MZp=1500	12.351	0/11	11/11	0.01	1000
MZp=2000	2.8761	0/11	11/11	0.01	1000
				0.03	

Remember to clear your web browser cache if the plots are not updating properly. Also, remember to refresh your browser if you started a new run.

7. Using the root tuple from the LHE event file, plot individual muons pseudorapidity, transverse momentum, muon pair rapidity and muon pair invariant mass.